Membership is available to businesses, who recognise the importance of our work and wish to share in the benefits of our services. Find out more here.

We are extending an invitation to those that share our vision and our ambitions to do business with us –through our advisory services. Find out more here.

You can support our work to promote sustainable energy by supporting our events, publications and campaigning initiatives. Find out more here.
The UK Opportunity

<table>
<thead>
<tr>
<th>Technology</th>
<th>Potential</th>
<th>Deployed</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offshore Wind</td>
<td>200 GW (+400 GW*)</td>
<td>3.7 GW</td>
<td>8-15 GW</td>
<td>18-42 GW</td>
</tr>
<tr>
<td>Tidal Stream</td>
<td>10 GW</td>
<td>~7 MW†</td>
<td>100 MW</td>
<td>1-2 GW</td>
</tr>
<tr>
<td>Wave</td>
<td>27 GW</td>
<td>~4 MW†</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tidal Range</td>
<td>59 GW</td>
<td>0 MW</td>
<td>250 MW</td>
<td>?</td>
</tr>
</tbody>
</table>

* Additional capacity that could be brought online with extensive development of floating offshore wind

† Tidal Stream and Wave deployed figures are cumulative to date. Figures are approximate as many devices are prototypes without tested name plate capacities

1 GW = 1000 MW
The UK Opportunity – Tidal Stream

Tidal Stream - Spring Peak Flow

Tidal Stream – Annual % exceedance 2m/s

Images courtesy of APBmer and Aquaret

Supported by the Regional Growth Fund
The UK Opportunity - Wave

Wave – annual wave height
Wave – winter wave height

Images courtesy of APBmer and Aquaret

Supported by the
Regional Growth Fund
The UK Opportunity – Tidal Range

UK tidal range resource:

- Total: 157 TWh/yr
- Exploitable: 50-? TWh/yr
- Capacity: >12 GW

Carbon Trust 2011 - Black and Veatch + Npower

Image courtesy of Aquaret

High
Medium
Low
Very Low

Supported by the Regional Growth Fund
Technology Development

TIDAL STREAM

WAVE

Supported by the
Regional Growth Fund

delivering sustainable energy
Concept (TRL 1-2) - £100-150K
Concept Validation (TRL 3-5) - £0.5-3m
Prototype (TRL 6-7) - £10m +
Demonstration (TRL 8-9) - £20-40m +
Commercialisation - £100m +

Innovation

Valley of death

Commercial
Proven technology
Warranty
Utility scale
Cost competitive
Mass manufacturing

Supported by the Regional Growth Fund
Wave Hub
Meet the technologies

Offshore & marine
- Key points 2013-14

Wave Hub

- Total Energy Limited
  - Tidal energy limited plan to install their full commercial tidal stream device in summer 2014.

- Swanscombe River Tidal Lagoon
  - 24 MW project submitted to planning in February 2014.

- Bristol Tidal Energy Forum (BTEF)
  - The BTEF is a business forum that provides an unrivalled place for technology developers, industry and supply chain companies, major developers and research institutions. The forum allows businesses to share knowledge to develop the tidal energy sector.

- Total stream in Bristol
  - Bristol boasts the largest cluster of tidal energy technology developers and expertise in the world, including Stavros Marine current turbines, ABDN Total Generations Ltd and as of Autumn 2013, Atlantis Receiver Limited.

- Wave energy technologies
  - The Energy Technologies Institute in partnership with The Glidewell Associates (UK based naval architects).

- Device: A floating offshore wind platform
  - Teleara Tension Leg Platform (TLP) to be used with Ancon Halibute 150 - 6MW offshore wind turbine.

- Deployment date: Anticipated in 2015

- Cornwall Wave Energy Limited
  - An Australian wave energy developer.

- Device: CET 6.1MW device, further plans to expand to 100MW.

- Cornwall is currently testing their CET 5 in Australia.

- Deployment date: Anticipated in 2016

- Falmouth
  - Falmouth Marine Renewable Enterprise Park, situated at the landfall of the West Trench shore line cable, provides 235MWE2 of industrial and office space to support the marine renewable energy sector. Work commenced on site in June 2014.

- Marine Energy renewable group (ME RG)
  - The ME RG is a network of companies working in the marine energy sector dedicated to making the south west an international center of excellence.

- Plymouth University marine science building / GOAST tank
  - GOAST tank is now fully utilised with customers including Rolls-Royce, TotalStream Ltd and University College Cork.

- Energy hub
  - Wave energy technologies
    - The Energy Resources Institute (ERI) is a joint research institute between the University of Plymouth and the University of Exeter.

- Fa4 test
  - The mid-ratio ORE Catapult wave device “Fa4” is not yet fully tested but was commissioned in 2013.

- South West Marine Energy Park (SW MEP)
  - Since the south west’s designation as the UK’s first marine energy park in 2012, Raptor SW has worked with both public and private sector partners to accelerate the commercialisation of the marine energy sector and attract investment to support technology development. The focus and priority given to marine energy is now beginning to generate jobs and commercial opportunities for local companies. The latest edition of the South West Marine Energy and Offshore Wind Supply Chain directory has identified over 350 companies working in the marine and offshore wind energy sector in the south west, spanning all areas of the industry from consultancy and legal firms to project operators, components and manufacturing companies. Leading innovation companies are now working across the UK and around the world.

- South West Marine Energy Park and the Channel islands Marine Energy Group
  - A collaborative agreement has been signed to support project development and promote supply chain collaboration.

- Channel Islands
  - The Channel Islands Marine Energy Group
    - A collaborative agreement has been signed to support project development and promote supply chain collaboration.