



ORJIP Ocean Energy

Tidal Lagoon Workshop

03 May 2017

Sponsors

 Llywodraeth Cymru Welsh Government		
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Secretariat

 aquatera environmental services and products	 MarineSpace Making Sense of the Marine Environment™	 EMEC ORKNEY THE EUROPEAN MARINE ENERGY CENTRE LTD
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ORJIP background

- **Offshore Renewables Joint Industry Programme (ORJIP)** is a UK-wide collaborative programme of environmental research with the aim of reducing consenting risks for offshore wind and marine energy projects.
- ORJIP Offshore Wind already established and managed by Carbon Trust.
- **ORJIP Ocean Energy (ORJIP OE) was formed in March 2015** following a significant amount of work that demonstrated that a similar programme was needed for covering wave, tidal stream and tidal range.
- The programme brings together industry, regulators, SNCB's, academia and other key stakeholders (including funders) to work together on key environmental and consenting issues that the respective sectors are facing.

ORJIP Ocean Energy

- The programme sponsors are:



- The programme sponsors have commissioned a Secretariat to manage the programme. The Secretariat is being run jointly by:



- The Secretariat will seek to stimulate the identification and collaborative commissioning of the priority research projects by identifying project leaders and funders from within the network of members. The Secretariat will be the main point of contact for ORJIP Ocean Energy and be managed by a Steering Group.

Progress to date (1/2)

- Steering Group convened and Network formed – Apr 15
- First Call for Evidence circulated – Apr 15
- **First version of Forward Look complete and high priority strategic research projects identified (Wave & Tidal Stream) – July 15**
- Second Call for Evidence circulated – Dec 15
- Draft second Forward Look issued to the Steering Group – Jan 16
- Second Steering Group meeting – Jan 16
- **Call for Evidence circulated for Tidal Range – Mar 16**
- Third Steering Group meeting – May 16
- Attendance at range of conferences and events
- Latest Steering Group meeting – Feb 17

Progress to date (2/2)

- Key links established:



- Representation on industry forums:
 - Ocean Energy Forum – Environment and Consents Group
 - Marine Energy Pembrokeshire Working Group and Consents subgroup
 - Orkney Renewable Energy Forum

Tidal Range Call for Evidence - 2016

- Undertaken **March 2016**
- Call for Evidence (CfE) issued to **>25 organisations**
- Part of an iterative process of identifying key research priorities for the wave/tidal (and now tidal lagoon sector)
- CfE based on **5 questions;**

Question 1a – What do you see as the key strategic EIA/HRA issues/uncertainties for tidal range projects at the array scale at the present time? Are any of these issues relevant to other Ocean Energy industries (Wave/Tidal current)?

Question 1b – For each issue/uncertainty identified, do you see this as a near term consideration, i.e. relevant to demonstration arrays or is it a long term issue that is more relevant to commercial scale projects or is the issue relevant to both?

Tidal Range Call for Evidence - 2016

Question 2 - Are you aware of any research projects recently complete, currently underway or planned that address any of the key strategic issues/uncertainties identified? For each project, please state whether or not the results are currently publically available and if so, please provide details (link or contact).

Question 3 - What do you think are the present key strategic research gaps with regards to each key issue/uncertainty? Do you have any recommendations as to what projects could be undertaken to address these gaps and who might undertake this work?

Question 4 – For each of the projects identified, please identify possible project leads, key participants and possible sources of funding/project funders.

Question 5 – Would you like to be included on the ORJIP Ocean Energy Mailing List to receive updates and other information from the Secretariat?

Tidal Range Call for Evidence - 2016

- Responses received from **11 organisations**

1. Natural England

7. Natural Resources Wales (NRW)

2. Marine Scotland Science

8. Scottish Natural Heritage

3. Tidal Lagoon Power Ltd (TLP)

9. North Wales Tidal Energy Ltd

4. Swansea University

10. Scottish Association Marine Science

5. Plymouth Marine Laboratory (PML)

11. Sea Mammal Research Unit Consulting Ltd (SMR)

6. Reynolds International Ltd

Tidal Range Call for Evidence - 2016

Question 1a – What do you see as the key strategic EIA/HRA issues/uncertainties for tidal range projects at the array scale at the present time? Are any of these issues relevant to other Ocean Energy industries (Wave/ Tidal current)?

Key Responses (1/2):

- Range of basic **EIA / HRA pressure pathways** identified, including; Geomorphological issues (local and regional-scale); Loss of habitat; Alteration of benthic habitat; Disturbance and / or displacement effects (construction and operation / noise and visual); Barrier effects (construction and operation / noise and physical); In-combination effects; and Introduction of invasive non-native species;
- Role of **adaptive environmental management plans** and practices;
- Efficacy of **mitigation measures and habitat enhancement schemes**
- Effects of projects **outside of basin** (regional-scale).

Tidal Range Call for Evidence - 2016

Question 1a – What do you see as the key strategic EIA/HRA issues/uncertainties for tidal range projects at the array scale at the present time? Are any of these issues relevant to other Ocean Energy industries (Wave/ Tidal current)?

Key Responses (2/2):

- Need to define **clear characterisation baselines** during EIA / HRA against which pre-construction conditions, and construction effects can be judged;
- Desire for **SNCBs to better apply experience**, case studies, and assessments from other sectors, where issues are equally applicable to aspects of tidal range projects;
- Need to agree **best modelling techniques** regarding **entrainment** and **strike rate / mortality** of fish / marine mammal species;
- **Better understanding of the populations** and **distribution of sensitive species** potentially at risk.

Tidal Range Call for Evidence - 2016

Question 1b – For each issue/uncertainty identified, do you see this as a near term consideration, i.e. relevant to demonstration arrays or is it a long term issue that is more relevant to commercial scale projects or is the issue relevant to both?

Key Responses (1/1):

- Overwhelming response was that the issues and uncertainties identified in response to Question 1a were related to **both commercial-scale developments and demonstration arrays**;
- **No consultee indicated that addressing an issue at demonstration scale, would mitigate the requirement to consider the issue when at a commercial-scale.**

Tidal Range Call for Evidence - 2016

Question 2 – Are you aware of any research projects recently complete, currently underway or planned that address any of the key strategic issues/uncertainties identified? For each project, please state whether or not the results are currently publically available and if so, please provide details (link or contact).

Key Responses (1/1):

- Wide range of projects already being undertaken identified by consultees;
- This has provided a very useful “baseline” of existing work and will enable ORJIP OE to prioritise future research requirements based on (a) existing projects and (b) outputs of this workshop process

Tidal Range Call for Evidence - 2016

Question 3 – What do you think are the present key strategic research gaps with regards to each key issue/uncertainty? Do you have any recommendations as to what projects could be undertaken to address these gaps and who might undertake this work?

Key Responses (1/1):

- Range of research / knowledge gaps which could be broadly grouped into four main themes. These were used to inform today's workshop....

1. Physical processes;

2. Biological receptors;

3. Consideration of geomorphological system-scale / ecosystem-scale effects and responses; and

4. Efficacy of mitigation measures / compensation habitat schemes.

Tidal Range Call for Evidence - 2016

Question 4 – For each of the projects identified, please identify possible project leads, key participants and possible sources of funding/project funders

Key Responses (1/1):

- Range of potential projects identified
- Potential project leads/funding sources included;
 - Welsh and UK Governments;
 - DECC;
 - NRW
 - Collaboration with industry partners (e.g. offshore wind farm / tidal range developers);
 - WEFO
 - Defra;
 - Welsh Water
 - NERC;

Hendry Review - 2016

- ORJIP OE provided a formal response to the Hendry Review process in 2016
- Key elements of the ORJIP OE submission built upon comments obtained via the CfE process (Mar/Ap 2016)
- ORJIP OE subsequently invited to recent meeting (Mar 17) between Charles Hendry and selected eNGO's (hosted by the Wildlife Trusts) in London
- Key issues remain within the eNGO community, many of which could be addressed via the type of research projects that will be identified via the ORJIP OE process (including this workshop)

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