

Offshore Energy SEA 3 Consultation  
The Department of Energy and Climate Change  
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By email only to: [oesea3@decc.gsi.gov.uk](mailto:oesea3@decc.gsi.gov.uk)

27 April 2016

Dear Sir or Madam

### **Consultation on UK Offshore Energy Strategic Environmental Assessment 3 Environmental Report**

Thank you for consulting the Natural Resources Body for Wales (Natural Resources Wales) on the above document. The purpose of Natural Resources Wales (NRW) is to ensure that the environment and natural resources of Wales are sustainably maintained, sustainably enhanced and sustainably used now and in the future. Our comments are therefore provided in the context of this remit and our role as a consultation body under the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004, as further amended by paragraph 189 of the Natural Resources Body for Wales (Functions) Order 2013, and as advisers to Welsh Government on the natural heritage and resources of Wales and its coastal waters.

As you are aware NRW has contributed to the Strategic Environmental Assessment (SEA) process as members of the steering group and contributors to stakeholder workshops. We also provided comments on the third Offshore Energy Strategic Environmental Assessment (OESEA3) at the SEA scoping stage. NRW places great importance on engaging with the SEA process and welcomes the structured and open way in which participation has been managed and commends the Department for Energy and Climate Change (DECC) on the comprehensive and rigorous approach it has adopted in carrying out this assessment.

NRW considers that the report has demonstrated that a robust and comprehensive strategic assessment of environmental issues has been undertaken and that this will help to reduce environmental and consenting risks associated with plan implementation.

NRW supports the overall conclusion of the SEA that alternative 3 to the draft plan or programme is the preferred option, with the area offered restricted spatially through the exclusion of certain areas together with a number of mitigation measures to reduce and offset significant effects on the environment.

We have made a number of comments on the plan and in particular on the recommendations for further work in an annex to this letter.

If you have any questions regarding this response please contact our Marine Industries Advice Manager, Andy Hill in the first instance at ([andrew.hill@naturalresourceswales.gov.uk](mailto:andrew.hill@naturalresourceswales.gov.uk) or 03000 653808).

Yours faithfully,



**Rhian Jardine**

**Head of Sustainable Communities**

## General Comments

1. Importantly, the report recognises that there are a range of uncertainties associated with potential effects on receptors that cannot be evaluated in detail in relation to a plan at such a high level, but that nevertheless will need to be addressed by more detailed planning and project level assessment. We are pleased, therefore, to see these captured in the form of recommendations for further work.
2. Only occasionally do other offshore energy planners and developers refer to the information gathered by the SEA. We would encourage measures to facilitate better access to information collated within the SEA (for example on receptors, monitoring impact pathways and mitigation measures) to ensure it is readily available to those producing lower tier assessments of plans and projects that sit underneath this Offshore Energy Plan. Not all information is relevant or prepared at a scale that can be readily used at project level, and NRW acknowledges that there is a wealth of useful information on the SEA website, however much of the information captured by the SEA might usefully be presented in a form that can be used more readily and to improve access and aid navigation (e.g. by subdividing regionally, by activity or by receptor, by including a more detailed contents list and better use of hyperlinks, section descriptions in headers). This is particularly important in the case of mitigation measures relied on by the SEA to allow a conclusion of no significant adverse effect. Although related to Habitats Regulations Assessment (HRA), the Summary of Information documents prepared by The Crown Estate following plan level assessments of their wave and tidal stream leasing rounds might be a useful model to follow<sup>1</sup>.
3. Unless we have specifically commented on a recommendation it should be assumed that NRW is either in agreement or has no comment to make.

## Comments on the Recommendations

### Spatial Considerations

#### 4. Recommendation 1.

Welsh Government are developing a Welsh National Marine Plan (WNMP). Many of the policies in the plan are aimed at managing interactions between marine industries and should help guide decision makers and users of the marine environment in avoiding conflicts between activities. It is our understanding that Welsh Government intend to finalise the WNMP in 2017 which is well within the currency of the Offshore Energy Plan. We recommend that DECC liaise with Welsh Government over the potential interactions between the Offshore Energy Plan and the WNMP and utilise the WNMP once available.

#### 5. Recommendation 2.

The decision to proceed with designating the proposed new Special Areas of Conservation and Special Protection Areas in Wales has not yet been taken by Welsh Ministers. NRW has launched a consultation on the proposed new sites, with a closing date of 3<sup>rd</sup> May 2016, and this will inform the decision whether or not to designate. The consultation documents nevertheless provide information which describe the new sites and the reasons for designation.

#### 6. Recommendation 3.

NRW welcomes the recommendation that the particular sensitivity of the coastal zone must be taken into account when proposing developments in territorial waters. The tidal range component of the plan in particular means that large scale development at the coast is much

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<sup>1</sup> The Crown Estate Wave and Tidal Leasing. Summary of Information for Habitats Regulations Assessments. The Crown Estate 2016.

more likely than has been the case within the timeframe of previous offshore energy plans. This will necessitate careful consideration of a range of receptors that may be impacted by the plan, subsequent lower tier plans and any resulting projects that may have not been considered in detail previously. In particular, shoreline and flood risk management, water quality management and hydrology, bathing waters, fish and shellfishery management are issues that have not typically been considered in detail by previous assessments of offshore energy plans and projects but are a particular concern in relation to tidal range. Impacts on flood risk management and bathing waters, for instance, have not been considered a potential source of effect in the Environmental Report. Whilst this does not affect the overall conclusions of the SEA it does perhaps reflect the fact that greater attention will need to be paid to such issues as the plan is implemented.

7. Projects resulting from the plan will also need to undertake assessments that are novel to those operating further offshore to address the potential consequences of their proposals for flood risk and shoreline management plans (via Flood Consequence Assessments) and demonstrate compatibility with the requirements of the Water Framework Directive (WFD) and River Basin Management Plans (via WFD Compliance Assessments). As a consequence, SEA Research and Development (R&D) may well need to be re-focused to allow consideration of some of the uncertainties associated with these assessments (see also our comments from paragraph 20 onwards).
8. The evidence provided at a project level to evaluate alternative options and locations is often only based on a very high level analysis. To improve the level of confidence as and when it is concluded that there isn't a less environmentally damaging option, guidance could be developed, particularly for tidal range, on the assessment of alternatives required by the EIA and potentially the HRA and WFD assessments.

## **Managing Environmental Risk**

### **Recommendations 7 and 8.**

9. NRW welcomes the recognition that a precautionary approach will need to be taken where European Marine sites may be affected by plan activities although this recommendation seems only to be applied to birds and mammals. Precaution may well need to be applied when there are uncertainties about other potential receptors and not necessarily confined to European site features but other receptors such as habitats and species protected under the Biodiversity Action Plan (BAP) and Natural Environment and Rural Communities (NERC) Act Section 74. We agree, however, that precaution is particularly relevant when considering birds and mammals. Diadromous fish should also be carefully considered particularly in the case of tidal range.
10. Information gaps remain an issue for consenting both offshore wind and wave and tidal stream technologies which leads to a more precautionary approach (although we would argue that marine renewable technologies are at a much earlier stage of development, and about which there is much more uncertainty than offshore wind). Reliance on precaution can nevertheless be minimized by improving our understanding of potential effects to receptors and NRW welcomes DECC's continued support for research to help understand the effects of these activities.
11. Furthermore, it may be possible to apply the principles of adaptive management in deploying technologies when uncertainties about impacts remain so that we can learn about their effects. This is particularly relevant to new technologies like wave, tidal stream and tidal range. However, before adopting such an approach it would be necessary to exhaust all possible conventional assessment as part of the Environmental Impact Assessment (EIA) process. It should also be recognized that with larger scale developments like tidal range which are deployed once and which will, in effect be permanent, adaptive measures will need to be demonstrably achievable, to avoid incurring adverse effects that cannot be mitigated at a later

date. It may be helpful to develop guidance on adaptive management to ensure that it is applied to newer technologies appropriately.

**Recommendation 9.**

12. Tools for assessing cumulative effects of noise on the mortality of marine mammals are not well developed. Whether or not Potential Biological Removal complies with the Habitats Directive is a matter of debate and the role of other tools based on other approaches such as ASCOBANS and International Whaling Commission population decline limits for marine mammals is uncertain. NRW therefore welcomes the recommendation that work to develop criteria to determine and regulate the cumulative effects of noise should be prioritised. This is an issue that affects many technologies and as a UK wide issue it might be something that the SEA R&D programme could address.
13. We agree that the Marine Noise Register is an important precursor to effective management of noise and are fully supportive of it, also that further work is needed to establish criteria of acceptable impact. However, the limitations to the data that are recorded in the registry should also be recognised. It does not require any reporting of source level or frequency range, will not record other noisy activities e.g. operational turbine noise, high frequency Acoustic Harassment Devices (AHDs) and does not require any kind of forward look to enable planning, all of which would be precursors to effective noise management.

**Recommendation 12.**

14. The plan for offshore energy development is at a very high level which does not allow for very detailed analysis of the issues associated with each of the technologies at specific locations. Tidal range developments, in particular, have the potential to have environmental impacts over large areas and, whilst some risks may be avoided or mitigated by careful siting of individual deployments (or through operation controls), it may not be possible to mitigate or compensate for others. Planning the deployment of these technologies, to ensure that they are deployed in locations that are 'appropriate' and take count of environmental risk, is therefore critical. We agree therefore that more detailed analysis/assessment of tidal range locations (which are mostly now known) is desirable before sites are leased and at an appropriate geographical scale.
15. Furthermore, large scale tidal range developments will raise a number of issues that, in some cases, would be better addressed strategically rather than at the project level. For example, the cumulative and/or in-combination effects of multiple developments in the Severn estuary (and possibly at other locations) and the possible need for measures to compensate for potential adverse effects on European Marine sites have already been identified by the Severn Tidal Power Feasibility Study as significant challenges. Furthermore, the identification of compensation for tidal range development may conflict with existing arrangements for delivering compensation for other schemes such as that required for shoreline management plans. The combined effects of tidal range development and shoreline management planning may also result in increased coastal squeeze that will have implications for important habitats and species including those that are features of European Marine sites. It would be difficult for an individual developer to address these issues effectively. We note the announcement by UK Government of a review into the feasibility of tidal lagoons and we are hopeful that this process will carefully consider the benefits of a coordinated and planned approach to development that is more efficient and effective for industry, regulators and advisors.

**Recommendation 13.**

16. NRW welcomes the recognition that further clarity on cumulative effects assessment is needed as this is likely to be a major challenge for future consenting of a number of offshore energy technologies, especially tidal stream and tidal range.

17. The SEA makes reference to the roles of risk-based approaches to consenting and adaptive management in minimising and managing environmental risk. These terms are increasingly used within the marine energy sector with little shared understanding or agreement for what they mean in practice. NRW believes that the SEA recommendations could usefully recognise this and consider how they might be developed in a consistent, transparent and proportionate manner for each of the sectors.
18. The amount of site characterisation data necessary to interpret the potential risk of development of the different technologies should be explored, particularly to support assessment of mobile species but also other receptors such as physical processes. It is sometimes the case that conventional approaches to gathering data (e.g. two years mammal and bird data) is insufficiently robust to be of value in the consenting process. A cross-sector review is something the SEA R&D programme might usefully undertake to inform development of good practice recommendations.

## **Improving the marine management information base**

### **Recommendation 18.**

19. We agree that there is a need to enhance our strategic level understanding of biodiversity and its patterns in UK waters to inform considerations of site integrity. The integrity of our MPA network as a whole, as well as on a site by site basis, should also be considered.

### **Recommendation 20.**

20. Recognition of the need to fill evidence gaps associated with seabed topography is welcomed. It is also necessary to consider other key strategic baseline evidence gaps in relation to physical processes that would assist with strategic planning for newer technologies such as tidal range. These would include, for example, better wave data and longer term records of intertidal morphology.
21. The research undertaken by the OESEA has been of considerable value in helping to reduce uncertainty, though with limited focus to date on wave and tidal technologies. As the range of marine renewable technologies diversifies NRW would encourage DECC to continue to evolve the research programme as far as stretched budgets allow. Understanding the evidence gaps for tidal range is not well developed although work to identify these is now underway through the Offshore Renewables Joint Industries Programme for Ocean Energy (ORJIP OE). It is our view that the marine energy element of the OESEA research programme should be guided by the evidence prioritisation work that ORJIP OE has undertaken for wave and tidal stream developments and will soon undertake for tidal range.
22. The emergence of tidal range in particular has highlighted a number of key gaps in our knowledge of the implications of these developments. We welcome the extension of the scope of ORJIP OE to include tidal range and have provided support to the programme secretariat to facilitate this. We recognize it will take some time for the current 'Call for Evidence' to result in a prioritisation of research requirements for tidal range, but this should be described in a Forward Look, similar to that provided for the wave and tidal stream sectors<sup>2</sup>. NRW is preparing our response to the ORJIP Ocean Energy Call for Evidence and we will forward this to you when it has been finalised. In the meantime, in Annex 2 we have summarised some of the main areas of research that NRW considers necessary to fill the evidence gaps associated with planning, consenting and assessment of tidal range technologies. NRW would be happy to discuss any of the above areas with you in formulating the OESEA research programme.

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<sup>2</sup> The Forward Look; an Ocean Energy Environmental Research Strategy for the UK. ORJIP Ocean Energy. 2016.

## **Annex 2.**

Summary of evidence gaps likely to impact on planning, consenting and assessment of tidal range. Note these are not listed in any order of priority. More detailed information will be included in NRW's submission to the Call for Evidence about tidal range issued by ORJIP Ocean Energy. This submission will be forwarded separately when complete.

### Impact assessment

- Physical processes (e.g. baseline data: wave data, intertidal morphology; effects on sediment budgets/transport within and between sediment cells, assessment and modelling methodology for establishing long-term morphological change and future prediction and modelled scenarios for sediments and habitats, procedures for establishing extent of far field effects).
- Fish (behavior: movement patterns, habitat usage, life history, migration routes, model predictions and confidence, use of hydraulic cues; fish passage through/collision with turbines, entrainment, climate change resilience, hearing ranges, noise effects, barrier effects, economic value, stock assessment, impacts on fish elements of hydrologically connected WFD waterbodies).
- Birds (survey data requirements, consequences of disturbance, mortality thresholds, collision risk, effects of habitat loss/alteration, modelling acceptable losses to populations, apportioning impacts of non-breeding seabirds to protected sites).
- Coastal flood risk/climate change effects (balancing benefits against impacts; sea level rise and coastal squeeze implications; ecosystem resilience).
- Non-natives (stepping stone effects, impacts of artificial structures, rates and modes of introduction and spread).
- Plankton (impacts of turbine passage, lagoon retention).
- Mammals (survey data requirements, consequences of disturbance, mortality thresholds, collision risk, effects of habitat loss/alteration, entrapment, effects of underwater noise).
- Mobile species (establishing the applicability of Collision Risk Modelling developed for tidal stream projects to tidal range, assessing displacement).
- Habitats and Species (direct, indirect and in-combination impacts: for example habitat impoundment, changes to tidal range; contribution to wider ecosystem health).
- WFD compliance assessment and derogation processes (thresholds of acceptable change, relationship between impacts on migratory fish and WFD status; derogation: identification of best environmental options, quantification of ecosystem service value of waterbodies)
- Water Quality (effects of water retention and flushing rates)
- Decommissioning (information requirements for plans and projects at application, predicting future status of the environment and effects over the very long term)

### Mitigation

- Good design practice and construction methods (e.g. to minimise impacts of artificial structures, maximise colonisation by desirable species, design to maximize flood benefits etc.).
- Effectiveness of fish passage and fish introduction.
- Development of compensatory habitat offset mechanisms for effects on European Marine sites.
- Mitigation, enhancement and costs-benefit for hydromorphological alterations
- Evaluation of compensation / mitigation / enhancement effectiveness.

### Compensation

- Identification of habitat or other resource of appropriate type, value and scale.
- Effectiveness of habitat creation and restoration and other more innovative measures (for example reduction mammal bycatch to offset effects on mammals from other sources).
- Prediction of environmental responses to compensatory measures over varying timescales.
- Interactions with other compensation schemes (e.g. for Shoreline Management Plans).