



Department of Energy and Climate Change  
Severn Tidal Power Team  
1 Victoria Street  
London  
SW1H 0ET

### **BWEA Severn Tidal Power Phase One Consultation Response**

The British Wind Energy Association (BWEA) is the leading UK renewable energy trade association. With over 470 corporate members BWEA represents the large majority of the wind, wave and tidal energy companies in the UK.

BWEA is informed by an established and active network of working groups consisting of leading experts in the offshore wind, wave & tidal industry. BWEA is also represented on the Severn Tidal Power SEA Steering Group.

BWEA is therefore suitably placed to comment on Phase One of the Severn Tidal Power Consultation. General comments are described below and comments on the report's specific questions follow.

BWEA hope that our consultation response is useful and constructive. BWEA are fully committed to working with the Government to further our mutual ambitions for maximising renewable energy generation and volunteer the advice of our network of industry working groups.

Please do not hesitate to contact me should you have any questions.

Yours sincerely

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## 1. General comments

A. BWEA welcomes the phase 1 report on Severn Tidal Power and are in full support of maximising production of clean, renewable energy to the national grid. At this stage BWEA does not believe that any of the proposals are sufficiently well understood to be able to declare a preferred option. BWEA support the study and do not hold preference for any of the technologies short listed in phase one. BWEA generally agree with the conclusions drawn from the study to date.

B. BWEA supports the government in all efforts to mitigate climate change through de-carbonising the UK energy supply. BWEA encourage the Government to continue with plans to maximise renewable energy production from all available means.

C. As is declared in the consultation, many issues will need further research in phase 2 of the study. This creates the situation where phase 2 may struggle to deliver a suitable level of understanding on many issues during the timeframe allocated.

D. BWEA are encouraged by the Severn Tidal Power – Embryonic Technologies Scheme and greet this as a positive opportunity for the tidal energy industry. However there is concern that there has not been sufficient time for interested parties to formulate comprehensive responses to the call for expressions of interest.

It is also thought that £500,000 of funding and the limited duration of phase 2 are not sufficient to develop emerging technology projects to a comparative level of technical understanding to conventional barrage technologies.

## ***Overarching questions***

1. *Is the feasibility study taking the right issues into account?*

BWEA felt that the study is tackling the correct issues.

2. *Are there other aspects or other evidence that should be taken into consideration?*

BWEA would like to encourage the SEA to assess options where multiple solutions could be employed. For example, if lagoons increased flow in the surrounding waters then opportunities for tidal stream technologies may be exploited. BWEA recommend that combined options should be addressed in phase 2.

The cost benefits to the UK of a diversified renewable energy mix including high levels of wave and tidal stream and tidal range energy have been analysed by Redpoint on behalf of BWEA. The report looks at a non-specified time in the future where 120TWh of renewable energy is being supplied to the national grid. The results show annual cost savings from a diversified renewables mix could be very significant. With a 60:40 wind:marine scenario this could be as much as 3.3% of the annual wholesale cost of electricity ~ £900M/year.

The report describes five potential benefits of a more diversified renewables mix: a reduced requirement for backup capacity; a reduced requirement for reserve capacity; less 'redundant' investment in renewables; lower carbon dioxide emissions and fuel usage; a possible reduction in the size of the Renewables Obligation.

BWEA would be happy to provide the report to government on request.

3. *Have we given due weighting to the different benefits and impacts under consideration in our analysis?*

BWEA are keen to emphasise that although environmental impacts should be understood as thoroughly as possible, decisions will have to be made on the basis of imperfect data if the UK is to succeed in decarbonising its electricity supply.

The environmental impacts of proposals should be assessed in light of the inevitable environmental change over time through natural causes and through the environmental impacts of not mitigating climate change. The environmental impacts of climate change are becoming better understood with valuable research being carried out by the United Kingdom Marine Climate Change Impacts Partnership (MCCIP).<sup>1</sup>

4. *Do you think that it is better to wait for new and perhaps less environmentally damaging technologies to be developed, or to move ahead more quickly with available proposals?*

It is the opinion of BWEA that there is need for greater understanding of the impacts that various technology options for the Severn will have on achieving 2020 targets. BWEA also feel that more work should be undertaken to investigate the option of installing options that include multiple smaller scale technologies.

#### ***Regional Economic Impacts Study***

5. *Do you agree with the conclusions of the DTZ study and are there any other factors that the feasibility study should be aware of?*

BWEA agree that development within the Severn area will bring socio-economic benefits in many areas. Research is required to assess whether proposals that restrict and delay access for shipping to the Severn estuary ports will bring negative effects that outweigh potential positives.

#### ***Financing and Subsidy Mechanism***

6. *Do you agree with PricewaterhouseCoopers' (PwC) analysis on ownership and delivery of a Severn scheme?*

BWEA is not in a position to comment at this time.

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<sup>1</sup> An updated MCCIP report will be available online [www.mccip.org.uk/elr](http://www.mccip.org.uk/elr) from 28<sup>th</sup> April 2009

7. *Are there any other options for delivery or subsidy that should be considered? Would they be appropriate for all of the tidal power options under consideration?*

BWEA is not in a position to comment at this time.

8. *Government believes that the private sector is best placed to design, build and operate a Severn tidal scheme. Government's role would be to set the conditions in which a scheme could come forward. Do you agree?*

BWEA agree with this statement, however it is noted that a scheme on the scale of the Cardiff-Weston barrage would need significant government support.

9. *What are the impacts and potential risks of tidal intermittency on the balancing and energy market?*

Redpoint have produced a report for BWEA detailing the benefits of a diversified renewables mix including tidal range energy. It would be informative to produce a similar report outlining the impacts of each of the technologies short listed, as well as a combination of smaller developments as an option, would provide greater clarity around this point.

BWEA recommend a change in terminology away from "intermittency" when referring to renewables; not only does it mirror the anti-renewables mantra, but it is technically wrong; intermittent is presence or absence, a characteristic of conventional generators, while the issue with some forms of tidal energy generation is of a constantly varying, yet predictable, output.

10. *Is it worth considering exploring the option of demand management?*

BWEA believe that it is essential to explore this option.

There should also be further discussion on the role of storage on the network. There should be recognition that storage offers the same role as balancing, and when done at a system level should reduce CO2 emissions and potentially decrease balancing costs.

11. *Do you consider that a Severn tidal scheme could impact on investment in other energy supply capacity, and if so in what ways?*

BWEA hold the view that a diverse energy mix that maximises exploitation of all the available resources is required to meet governments 2020 renewable energy targets. In light of this BWEA believe the Severn tidal power project should be part of a larger strategy.

If it is the case that Government have limited, finite capital to invest in renewables as a whole and a situation arises where decisions between supporting renewable energy technologies has to be made then a robust and transparent cost benefit analysis should be carried out before public money is invested.

### ***Short-listing Process***

- 12 *Do you agree with the factors that have been used to determine the short-list for further study?*

The factors used to determine the short-list are relevant to the issues at hand. However it is ambiguous as to how criteria are considered in relation to each other. .

13. *Do you agree that the test of economic feasibility should be relative to the cost of other renewables?*

BWEA are of the view that economic feasibility should be viewed in context with government targets for renewable installation and carbon reduction; currently these factors are not given any weighting. The cost benefits of a diversified energy mix should also be considered (see question 2, Redpoint report).

14. *Do you have any further comments on Parsons Brinckerhoff's Interim Options Appraisal Report? Please support your response with evidence where possible.*

No comment.

## ***Severn Tidal Power Proposals***

15. *Do you agree that the two lagoon options selected for further study represent a good basis for studying the lagoons?*

Yes, however this should not detract from additional lagoon options.

16. *Given the short-listing criteria, are there any proposals on the short-list which are not suitable? Please support your response with evidence where appropriate.*

BWEA views all of the short-list proposals as meeting the criteria for short-listing set out in this report.

17. *Does the short-list represent an appropriate level of ambition given the energy potential of the Estuary?*

BWEA recommend that renewable energy generation from the Severn is maximised through consideration of in-combination solutions.

18. *Are there any other schemes that, in your view, should be short-listed? Please provide appropriate evidence wherever possible and refer to the short-listing criteria.*

BWEA believes that options that allow for the future addition of embryonic technologies should be included.

## ***Strategic Environmental Assessment***

19. *Which plans, programmes or environmental protection objectives are most significant for this strategic-level environmental assessment?*

BWEA believe that contribution to the governments 2020 targets for carbon reduction and renewable energy production are vital. However this should not result in overly detrimental impacts, on the environment, society or economy.

The fundamental trade-off that the Government faces is how to maximise renewable generation while adhering to environmental limits. A series of modest projects may be more likely to receive consent, and therefore actually deliver.

20. *Is there any additional information that could help supplement the baseline data? Any further information relating to the baseline indicators, existing problems and trends over time would be very useful.*

BWEA is not aware of any additional information.

21. *Is there any important information that has not been addressed in view of the SEA scope?*

As previously stated, BWEA are of the view that a combination of smaller technology options should be assessed in phase 2. This modular approach to the development of Severn tidal power spreads project risk and potentially avoids various disadvantages that would be incurred from single larger projects.

22. *Do you agree with the work plan, as outlined in Chapter 6? If not please specify any other areas to be studied.*

The work plan currently outlined does not give sufficient time for embryonic technologies to be developed to a comparable level of understanding. This is important as both tidal reef and tidal fence options have been highlighted as having potentially the lowest environmental impacts. They could possibly be used in conjunction with other technologies.