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**Scottish Marine Renewables Strategic Environmental Assessment (SEA)**  
Report on Public Consultation Responses

Scottish Government  
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# 1 Introduction

## 1.1 Introduction

This report presents a summary of the responses received from the public consultation exercise carried out as part of the Scottish Marine Renewables Strategic Environment Assessment (SEA). It is being issued prior to publication of the Post Adoption Statement (PAS), which will provide a summary as to how the findings from the SEA and public consultation are being taken into account in the marine energy strategy for Scotland.

In total 30 written consultation responses were received, in addition to the comments received from the consultation events. The content of these responses varied considerably in terms of the issues raised and overall reaction to the SEA. Most comments focused on the approach to the SEA and the assessment methods that were adopted. Specific comments on the detail presented within individual SEA chapters e.g. assessment chapters were also received. A number of responses also included recommendations or suggestions as to how the SEA could be taken forward and used to inform the development of the marine energy strategy.

Whilst the majority of comments received were constructive, a number of comments received highlighted that (whilst a number of SEAs have been undertaken to date, within Scotland and elsewhere across the UK) there are still significant differences of opinion related to what SEA is about, and its purpose. A number of these differences in opinion are to some extent the result of inexperience or misconceptions about the SEA process and its application. For example, some respondents felt that the SEA was meant to be the strategy, whereas the actual purpose of the SEA was to inform the development of the strategy.

The main focus of this consultation report is to provide feedback on the comments received as part of the public consultation exercise and to set out how those comments have informed the development of key recommendations that have been presented to the Scottish Government for consideration in the development of its marine energy strategy. These recommendations are discussed in Chapter 3 of this report.

This consultation report also provides a summary of the key comments received on the SEA process and the approach and methodologies adopted. This is essential for helping to shape and deliver future SEAs and will form the basis for further work. All comments received as part of the public consultation exercise are set out in a matrix presented in Annex A. A summary of the key comments is presented in Chapter 4, with responses provided where appropriate. All detailed comments on the specific chapters presented within the Environmental Report will be addressed in the PAS.

Progress to date and future milestones are outlined below, along with details of how this document fits with the preparation of the statutorily required PAS, and its contents.

## 1.2 Progress to Date

- SEA Environmental Report issued on 30<sup>th</sup> March 2007
- Public consultation undertaken May 2007 to June 2007
  - Shetland = 8<sup>th</sup> May 2007
  - Orkney = 9<sup>th</sup> May 2007
  - Oban = 17<sup>th</sup> May 2007
  - Stranraer = 24<sup>th</sup> May 2007
  - Stornoway = 7<sup>th</sup> June 2007

- Other consultation undertaken included:
  - SEA workshop (Edinburgh) attended by steering group members, stakeholders and developers = 16th May 2007
  - Scottish Renewables Forum (SRF) Marine Energy Conference (Glasgow) attended by developers = 30th May 2007
- Subsequent responses to public consultation received by email and post on 22<sup>nd</sup> June 2007

### 1.3 Future Milestones

- Issue of Consultation Report - November 2007
- Marine Energy Strategy Document from the Scottish Government - TBC
- Post Adoption Statement - TBC: following publication of Marine Energy Strategy Statement

### 1.4 Post Adoption Statement (PAS) Requirements

In order to satisfy the legal requirements of Environmental Assessment (Scotland) Act 2005 the Responsible Authority (the Scottish Government) is required to produce a Post Adoption Statement (PAS). The PAS must be produced as soon as is reasonably practicable after the **adoption** of the plan, programme or strategy (PPS) to provide specified information<sup>1</sup> to Consultation Authorities<sup>2</sup> and the public.

With regard to providing information, the Responsible Authority must inform the Consultation Authorities of the adoption of the PPS and send a copy, as adopted, along with a statement setting out the particulars referred to in Section 18(3) of the Environmental Assessment (Scotland) Act 2005. (In the Scottish Government SEA tool kit, this statement is referred to as the post-adoption SEA Statement)<sup>1</sup>. These particulars include details of how the findings from the SEA have been integrated into the development of the PPS, how comments received from public consultation have also been taken into account in the PPS, reasons for choosing the PPS as adopted and measures to monitor significant environmental effects.

### 1.5 Proposed Structure of Post Adoption Statement (PAS)

The proposed structure for a PAS is outlined below.

#### ***Proposed Structure of the PAS***

##### **Section A: Key findings from the SEA**

- Description of the SEA process
- Summary of key results/findings from the Level 1 and Level 2 Assessment

##### **Section B: Consultation Responses**

- General Comments
  - Summary of general comments on the SEA
  - Summary of how comments have been incorporated into the Marine Energy Strategy
  - Response to key comments (where appropriate)
- Chapter Specific Comments
  - Erratum for comments that relate to text in specific chapters
  - Addition explanation and tables for the Level 2 Assessment looking at different development scenarios – ***note these are to provide greater clarity only. The extractable energy figures presented in the Environmental Report will not be changed.***
  - Section E will be revisited to take into account comments from consultation

<sup>1</sup> Strategic Environmental Assessment Toolkit at <http://www.scottishexecutive.gov.uk/Resource/Doc/921/0039958.doc>

<sup>2</sup> SNH, SEPA and Historic Scotland

***Proposed Structure of the PAS (Continued)*****Section C: Mitigation**

As stated above there is a statutory requirement under the SEA Regulations for the responsible authority to demonstrate how measures to mitigate any significant adverse effects identified from the SEA have been incorporated into the policy/strategy. This SEA has identified that there are two levels of mitigation:

- Strategic level mitigation – these comprises measures that mitigate significant adverse effects of the actual policy/strategy
- Project level mitigation – measures that are applied at a project level to mitigate against significant adverse effects e.g. integrated into the EIA process

The recommendations presented in Chapter 3 of this report have been developed specifically to incorporate, where possible, strategic level mitigation measures that could be included in the marine energy policy/strategy to minimise or prevent any significant adverse effects occurring from its implementation. Project level mitigation measures are also discussed in Chapter 3 of this report relation to the recommendation for the preparation of a 'development plan'.

**Section D: Monitoring**

It has been recognised that the maximise the benefits of the SEA the following opportunities for monitoring should also be taken into account in the PAS:

- Proposals for monitoring the implementation of a marine energy strategy
- Opportunities for 'feeding back' information from monitoring into the SEA process

## 2 Consultees

### 2.1 Introduction

The following is a summary of the key organisations/groups/stakeholders that responded to the public consultation on the Scottish Marine SEA.

- Argyll and Bute Council
- Chamber of Shipping
- Comhairle nan Eilean Sair
- Eon UK
- European Marine Energy Centre (EMEC)
- Highlands and Islands Enterprise (HIE)
- Historic Scotland
- Joint Nature Conservation Council (JNCC)
- MARLAB
- Mountaineering Council for Scotland
- Northern Lighthouse Board
- npower renewables
- Orkney – Director of Harbours
- Orkney Islands Council, Economic Development Service
- Orkney Renewable Energy Forum (OREF)
- RSPB
- Royal Yachting Association (RYA)
- Scottish and Southern Energy
- Scottish Enterprise Energy Team
- Scottish Environment Protection Agency (SEPA)
- Scottish Natural Heritage (SNH)
- Scottish Power
- Scottish Renewables Forum (SRF)
- Scottish Sports Association
- Scottish Surfing Federation
- Scottish Sustainable Energy Foundation (SSEF)
- Scottish Water
- Shetland Islands Council
- Sport Scotland
- Whale and Dolphin Conservation Society (WDACS)

A summary of the responses received is presented in Chapter 4 of this report, and the matrix provided Annex A. Copies of the responses received will be placed on the Scottish Marine SEA website: [www.seaenergyscotland.com](http://www.seaenergyscotland.com).

# 3 Moving Forwards

## 3.1 Introduction

Although the responses received from consultation contrasted considerably, they have all proved to be valuable in shaping the recommendations which have been put forward to the Scottish Government for their Marine Energy Strategy. Some respondents have the view that the SEA has placed too much emphasis on the potentially adverse environmental effects of marine renewable energy development and has not identified opportunities for managing overlapping interests. However, others feel the SEA process has established a critical position in raising awareness of what the potential issues may be and that a lot of work still needs to be done to fully understand those environmental effects.

Whilst a large proportion of the comments received were focused on the SEA process, and the results of the assessment, a number of comments received have used the SEA as means of expressing their concerns or identifying issues associated with the future development of marine energy.

Ultimately one of the key messages received from the consultation exercise is that amongst statutory organisations, stakeholders and developers there is general consensus that there is uncertainty as to how the results of the SEA will be used, what they will be used for, how the Scottish Government will support development of the marine energy industry and the form that support will take. This section of the Consultation Report therefore focuses on the key recommendations that were drawn out the findings of the SEA and consultees responses received. These recommendations are presented in Table 3.1 below.

Table 3.1: Recommendations

Subject	Recommendation	Justification
<b>Need for an overarching renewables strategy</b>	<b>That the Scottish Government sets out how marine energy links into a national energy and renewable energy strategy.</b>	<p>There is concern amongst consultees that in the absence of a renewable energy strategy or a wider energy strategy it will be difficult to build confidence and investment in the marine energy industry because the SEA focuses on the environmental issues associated with marine renewable energy development – taken in the wrong context consultees feel that the SEA could damage investor confidence.</p> <p>A renewable energy strategy or overarching energy strategy is considered to be necessary to:</p> <ul style="list-style-type: none"> <li>• Clarify how the SEA is being taken into account in defining how marine energy will contribute to a wider energy mix and therefore how it will be supported by the Scottish Executive</li> <li>• Understanding the potential cumulative effects associated with implementation of an energy strategy which incorporates marine energy in terms of the environment, local communities and economy of Scotland</li> </ul>
<b>Removing Potential Barriers to Development Associated with Research and Monitoring</b>	<b>For the Scottish Government to establish a forum for the co-ordination and facilitation of survey, research and monitoring activities.</b>	<p>The significant data and knowledge gaps were one of the main issues identified by the SEA and consultation.</p> <p>Data and knowledge gaps need to be filled to enable statutory consultees to fulfil their legal obligation to ensure that developments do not have significant effects on the conservation and environmental protection objectives set out in National and European law.</p> <p>However, it is considered by developers and statutory authorities alike that this need to fill the gaps in data and knowledge will form a potential barrier to the development of the marine energy industry due to:</p> <ul style="list-style-type: none"> <li>• Potentially prohibitive financial and time burdens placed on the initial small scale developments</li> <li>• Adoption of a 'precautionary approach' to the assessment of environmental effects, potentially limiting the amount of wave and tidal energy resource that could realistically be exploited</li> <li>• Delay in monitoring and associated findings due to lack of small scale developments being deployed</li> </ul> <p>It is therefore essential to prioritise which data and knowledge gaps need to be filled first to enable the industry to move forward and to identify how the cost of surveying associated with small scale developments can be reduced. This could best be achieved through a research and monitoring forum.</p>
<b>Route Map</b>	<b>The post adoption SEA Statement should contain a route map setting out what needs to be done in order to achieve the Strategy objectives.</b>	<p>Developers and regulatory authorities highlighted a concern that the introduction of licensing rounds at this early stage in the development of the marine energy industry could have detrimental effects due to:</p> <ul style="list-style-type: none"> <li>• Sterilisation of best sites/resource due to inappropriate and unsuitable technologies being deployed</li> <li>• Placing high additional costs on small scale projects</li> </ul> <p>Consultees have also expressed a need for clear direction and guidance for the installation of smaller scale developments which are beyond the demonstration stage but have insufficient investment for full commercial scale development.</p> <p>This could be achieved by a route map which set out <b>what needs to be done</b> to move the industry forward from the demonstration stage to commercial scale developments and a possible future licensing round. This is essential for:</p> <ul style="list-style-type: none"> <li>• Enabling regulatory authorities to take a proactive approach to environmental protection</li> <li>• Informing the research and monitoring forum as it will clearly set out how the monitoring of small scale projects will need to be used to assist future commercial developments</li> <li>• Improving investor and developer confidence</li> </ul>

Subject	Recommendation	Justification
<b>Development Plan</b>	<p><b>The Scottish Government should prepare a Development Plan which would set out how the 'programme of activities' set out in the route map would be delivered.</b></p> <p><b>This could include:</b></p> <ul style="list-style-type: none"> <li>- <b>Locational strategy</b></li> <li>- <b>Site selection criteria</b></li> <li>- <b>EIA guidance</b></li> <li>- <b>Mitigation framework</b></li> </ul>	<p><b>Locational Strategy</b></p> <p>Developers and regulatory authorities (including SNH) have expressed desire/support for a 'locational strategy' which would use the information presented in the SEA to identify sizeable zones or areas where initial development could be focussed. This would be based in current information on the environment and associated effects from the SEA and would require input on non-environmental issues such as operational issues (e.g. location of suitable ports for installation and maintenance) and grid connection issues. Although it is not recommended that the locational strategy identify specific sites for development, it would be supported by site selection criteria which would help guide developers to the most appropriate sites.</p> <p>Justification for a location strategy is summarised as follows:</p> <ul style="list-style-type: none"> <li>• It would be an effective way to take into account consultation comments and demonstrate good use of the findings of the SEA</li> <li>• Developers feel that it is more viable/attractive to invest in clusters rather than a series of smaller sites spread around the west and north of Scotland</li> <li>• Synergies created by clustering can assist and accelerate the identification of potential impacts</li> <li>• Surveying efforts can be focused in specific areas/zones, thus reducing the burden on individual developers and survey costs</li> <li>• Areas/zones can be linked into hubs and would require one larger grid connection, rather than a series of smaller grid connections</li> <li>• Socio-economic effects can be considered in greater detail</li> </ul> <p><b>EIA Guidance Incorporating Criteria for Selection of Alternative Sites</b></p> <p>It is recognised that there is a need to provide guidance on site selection and the EIA process. This would best be delivered in the form of guidance documents which identify the key issues that need to be considered when selecting a site for development, approaches to surveying and monitoring, opportunities for managing overlapping interests or conflict, recognised or best approaches to impact assessment, and key mitigation measures that may be required. The guidance documents will also be required to clearly set out the key stakeholders/consultation authorities involved in certain areas of marine development and identify approaches for dealing with consultation.</p> <p>The development of site selection criteria and EIA guidance would involve consultation with consultation authorities and developers to ensure that it is practical and appropriate and that it takes necessary regard of technological, grid and socio-economic issues.</p> <p><b>Mitigation Framework</b></p> <p>Project specific mitigation measures have been identified throughout the SEA ER. As currently written they represent the types of mitigation that could in theory be implemented at the project level. However, unless there is a commitment made within the marine energy strategy to implement them as appropriate through the consents process they do not satisfy the requirements of the Act. There is therefore a need to determine whether the measures identified in the ER can be actually be delivered and if so how their delivery would be achieved.</p> <p>There is general concern amongst the consultation authorities that there is no reliable assurance that the mitigation measures identified will be capable of delivery or will be adopted by developers. This point has been raised throughout the SEA process. SEPA and JNCC have provided suggestions as to how the project specific mitigation measures should best be dealt with. In summary it has been suggested that the project specific mitigation measures presented in the ER should be presented in a single document/framework which clearly sets out:</p> <ul style="list-style-type: none"> <li>• The recommended measures – these need to be practical and suitable for adoption by developers</li> <li>• Whether they are legal requirements or standard 'good practice'</li> <li>• Whether there are any specific guidelines available</li> <li>• When they would be required</li> <li>• Who would be required to implement them</li> </ul> <p>Following on from this, there is then a requirement of the Scottish Executive to include in the 'adopted strategy' a policy statement or series of specific policy statements that state the mechanism by which the mitigation measures will be adopted e.g. that adherence to specific guidelines or a certain type of mitigation will be a condition attached to consents for certain type of survey or development consents.</p>
<b>Socio-economics and Effects on Local Communities</b>	<p><b>The Scottish Government should consider undertaking a study into the socio-economic effects of the proposed wave and tidal stream strategy with a particular focus on how the development of an industry would affect local communities as well as the national economy.</b></p>	<p>The SEA has identified that a large proportion of extractable wave and tidal energy is located around the Pentland Firth, Orkney, Shetland and the Western Isles. It was noted during the consultation events in these areas, as well as the written consultation responses, that the socio-economic impacts of developing the marine energy industry in these areas is of significant importance, in particular the opportunities for generating employment. It is therefore recommended that further work is undertaken to identify exactly how these island communities would be affected by the development of a marine energy industry. In addition, the contribution of wave and tidal power to the national economy should be investigated in greater detail.</p>
<b>Grid Network</b>	<p><b>The Scottish Government should consider undertaking a study into grid capacity and connection and that where possible this study should be integrated into the Development Plan discussed previously, in particular the locational strategy and site selection criteria</b></p>	<p>In order to achieve the 2020 renewable energy target, a significant proportion of that renewable energy will probably need to be derived from wind power. Grid regulation does not currently permit capacity to be reserved for marine renewables alone and it may not be viable in any event to develop infrastructure on that basis. Equally, the unfavourable network user charges imposed upon developers in island areas will act as a substantial deterrent to commercial development. The potential effects of establishing a cable network for the carriage of marine generated electricity should not be considered in isolation (<b>Economic Development Service, Orkney Islands Council</b>). A number of consultees have identified the grid as being a major significant barrier to the development of the marine energy industry. It has been highlighted throughout the responses that it is not only essential to carry out studies into grid capacity but that these need to be looked at in relation to the various energy sources (marine, wind etc) to ensure that demand is met by supply.</p>

# 4 Summary of Consultation Responses

The consultation responses received can be split into three key areas:

- General comments on the SEA as a whole
- Detailed technical comments on specific chapters
- Recommendations or suggestions for using the SEA to inform the development and implementation of the marine energy strategy

Table 4.1 below presents the key general comments received on the SEA as a whole and our responses to those comments. The detailed technical comments will be addressed in an erratum to the SEA Environmental Report. This erratum will form part of the final Post Adoption Statement (PAS). The recommendations made by consultees for using the SEA to inform the development of the marine energy strategy were discussed in previously in Chapter 3.

**Table 4.1: Summary of the General Comments on the Scottish Marine Renewables SEA**

Topic/Subject	Comments	Response
<b>SEA is a valuable starting point</b>	The SEA is a valuable starting point and a valuable source of information. However there is general consensus that the SEA is only a preliminary study and the next stage of work needs to be more focused on providing guidance to developers and decision makers.	<ul style="list-style-type: none"> <li>Recommendations set out in Chapter 3 of this report identify how the SEA can be used to inform the development of the marine energy strategy and supporting 'route map and development plan' which gives more focus to providing guidance to developers and decision makers.</li> </ul>
<b>Too precautionary V not precautionary enough</b>	<p>In general there was concern from developers that the approach to the assessment of potential effects and the resulting calculation of extractable energy was too precautionary and could have a negative effect on investor confidence.</p> <p>However, statutory consultees felt that, in particular, the calculation of extractable energy was not precautionary enough (especially the upper thresholds) given the limitations in data and understanding and concerns over the suitability of the suggested mitigation measures and the lack of guarantee that the measures suggested would be implemented by developers.</p>	<ul style="list-style-type: none"> <li>Due to data gaps a precautionary approach was adopted for this SEA. By adopting this approach we have been able to identify where the significant gaps in data and knowledge on interactions exists.</li> <li>This information can be used to establish a prioritised programme of research, surveying and monitoring that includes opportunities for funding (as set out in Chapter 3).</li> <li>This prioritised programme of research, surveying and monitoring would reduce the potential financial and timing burdens on small scale projects associated with data collection/research and monitoring.</li> <li>It will also help to increase the level of confidence in the assessment of impacts which could in the future lead to an increase in the energy resource available.</li> <li>An assessment of a wider variety of development scenarios will be included in the PAS (see later comments on Level 2 Assessment).</li> <li>It is important to note that the estimates of extractable energy provided are only a starting point. The approach taken was precautionary but also tried to be pragmatic by looking for opportunities where it is likely that development could occur.</li> </ul>
<b>Too long and detailed V comprehensive and robust</b>	<p>A number of developers (particularly SRF and OREF) felt that the SEA was too long, too detailed, to project specific and did not focus on strategic issues.</p> <p>Where as a number of the consultation authorities (SNH, SEPA and RSPB) felt that the SEA was comprehensive and relatively robust (particularly the Level 1 Assessments). RSPB felt that the SEA had tried to address many issues of concern and was satisfied that the issues of importance were addressed early on.</p> <p>However, JNCC, SNH and SEPA felt more detail and transparency was required for the Level 2 Assessment in terms of how the amounts of extractable energy were calculated (<i>further detail relating to this is presented below</i>).</p>	<ul style="list-style-type: none"> <li>Given the number of uncertainties and unknowns about the industry (unlike for example offshore wind) it was felt to be more appropriate to undertake a more detailed assessment as it is not possible to know what the potential 'strategic' issues are without understanding what the potential project level effects are.</li> <li>The approach taken provides clear, traceable evidence as to what the significant issues actually are. Due to the unknowns, it would not have been possible, or correct, to screen out issues without demonstrating that there are no likely significant effects.</li> <li>Additionally, the level of detail of the assessment was required to enable an the 'significance' of effects to be determined - this is a KEY aspect of the SEA process.</li> <li>The approach taken will now enable future work (possibly developed under the marine strategy) to focus on the key strategic issues with the confidence that all potential issues have already been addressed.</li> <li>Further information relating to how the amounts of extractable energy were calculated in the Level 2 assessment will be presented in the PAS.</li> </ul>
<b>Positive impacts and trade offs</b>	<p>In general there is a feeling amongst developers that there should have been greater emphasis on the positive impacts of developing marine energy in terms of climate change and other SEA topics.</p> <p>It was also felt , amongst developers, that the SEA should also have placed more emphasis on managing overlapping interests and identifying opportunities for 'trade offs' amongst different sea users.</p>	<ul style="list-style-type: none"> <li>The SEA focused on identifying potential 'issues' that would need to be addressed to enable development. Consequently the focus was more on negative impacts than positive impacts.</li> <li>In some circumstances positive impacts are not clear cut. For example the creation of new habitat on marine devices could be a positive effect. However it could also be a negative effect where it encourages the creation of habitats that are not normally present in the area, or the introduction on new species which could affect other 'naturally' occurring species. Some effects that are considered to be positive by some people e.g. the restriction of fishing in some areas due to the presences of devices could have a positive effect on rebuilding fish stocks, could be seen as a negative effect for others e.g. exclusion of fishermen from key fishing grounds.</li> <li>It is acknowledged that there is a need to include information in the PAS on the benefits of marine energy in the context of climate change and positive impacts (including arguments for and against positive impacts).</li> <li>In term of managing overlapping interests or trade-offs it is important to emphasis the fact that for some topics there are 'legal' obligations that must be adhered to e.g. Habitats Directive where development in Natura sites for example could only occur where there are imperative reasons of overriding public interest and it has been demonstrated that there are no alternatives.</li> <li>It is also important to note that 'trade offs' are not a clear cut as assumed by some people e.g. it is assumed that in some locations shipping routes could be modified to accommodate marine developments (based on their positive contribution to combating climate change). However, the re-routing of vessels could actually lead to an increase in carbon emissions by increasing the amount of fuel consumed on the resulting longer routes.</li> </ul>
<b>Socio-economic</b>	Developers and local council's felt that the SEA should have had more emphasis on socio-economic issues, in particular relating to the employment opportunities that growth of the industry would create.	<ul style="list-style-type: none"> <li>A detailed socio-economic assessment of the marine energy industry was beyond the scope of the SEA and would have required greater understanding of where development is likely to be located.</li> <li>There is scope to include some text in the PAS on the fact that the growth of the marine energy industry may lead to the creation of jobs and help to sustain communities.</li> <li>Opportunities for looking at the socio-economic impacts of the marine industry in greater depth were identified in the recommendations (Chapter 3).</li> </ul>

Topic/Subject	Comments	Response
<b>Conflict resolution</b>	It was felt that one of the roles of the SEA was to identify what the major constraints are to development where resolution is required and to establish a coordinated or collaborative approach to addressing major constraints at a Government and project level.	<ul style="list-style-type: none"> <li>The need for 'conflict resolution' has been recognised as one of the key recommendations for the marine energy strategy (see Chapter 3). For example some level of conflict resolution could be addressed through the development of a locational plan and site selection criteria. The establishment of a research and monitoring forum would lead towards increasing collaborative working.</li> <li>However, there is also some element of 'conflict' that needs to be resolved at the strategic Government Policy Level. The resolution of these issues is beyond the scope of this SEA.</li> </ul>
<b>Study Area</b>	SEA study area should have extended beyond the 12nm limit.	<ul style="list-style-type: none"> <li>Whilst it is accepted that the waters beyond the 12nm limit have a huge potential resource of marine energy (particularly wave) the SEA boundary was set at the 12nm limit. This limit was agreed by the Steering Group (who included representatives from industry) as it felt that in terms of looking towards 2020 it was most likely that developers would look for sites that are accessible and close to land for economic reasons and in terms of technical feasibility associated with the deployment and maintenance of arrays.</li> <li>It is likely that the potential impacts identified will be similar in waters beyond the 12nm limit as those identified in the SEA area.</li> <li>Additionally, significant data gaps were identified for the SEA area. These data gaps are likely to be much more extensive in waters beyond the 12nm limit, severely limiting the potential to have any confidence in the assessments made in this area at this time.</li> </ul>
<b>More consultation required V SEA an example of good practice in terms of consultation</b>	<p>Some developers felt that the SEA needed more consultation with key stakeholders and project developers as well as technology developers.</p> <p>However, by contrast RSPB included the SEA as an example of good practice in consultation within their recent publications '<i>Strategic Environment Assessment – learning from practice</i>'.</p>	<ul style="list-style-type: none"> <li>At the time that the initial consultation into the scope of the SEA was undertaken there were very few 'project developers' therefore the focus was on technology developers.</li> <li>There were extensive opportunities for consultation with industry through the Steering Group (of which two representatives were from SRF and EMEC) and the developer workshop which was run in conjunction with EMEC.</li> <li>The scoping report was issued on the website for consultation. Over 100 people were notified by email that the scoping report was available for comment. Of that no more than 10% replied.</li> <li>As part of the public consultation exercise, a number of project developers were notified by email that the Environmental Report was available for download from the SEA website. Additionally an 'SEA' workshop was held in Edinburgh on 16<sup>th</sup> May 2007 as part of the consultation. A large number of project and technology developers were invited to this event (in total 60 people were invited to attend this workshop. 15 attended).</li> </ul>
<b>Informing development of the marine energy strategy</b>	<p>It is felt amongst developers and consultation authorities that the SEA does not succeed in offering proposals for the development of the marine strategy.</p> <p>Developers feel that this is because the SEA was too detailed and project specific and did not focus on strategic issues.</p> <p>Consultation authorities feel that the data and knowledge limited the ability of the SEA to offer proposals for the development of the marine strategy.</p>	<ul style="list-style-type: none"> <li>The focus of the SEA was to 'inform' development of the marine strategy. It was never an aim of the SEA to actually set out proposals for the development of the strategy – this is not the purpose of the SEA.</li> <li>The focus of this consultation report is to discuss the key recommendations that have been identified from the SEA and the consultation exercise for using the SEA to inform the development of the marine strategy</li> <li>Details of the recommendations are presented in Chapter 3.</li> </ul>
<b>Grid Capacity and Connections</b>	<p>A number of responses highlighted grid capacity as a major area of concern with regard to the future development of marine energy.</p> <p>In particular concern was raised over how marine energy would be dealt with in regard to the wider energy mix and the potential prioritisation of capacity for more established forms of energy e.g. wind.</p> <p>Whilst the majority of response recognised that the issue of grid capacity was out with the scope of the SEA, they still highlighted the urgent need for studies into grid capacity to be undertaken and for these to be linked to the SEA process and the Marine Energy Strategy.</p> <p>It was also identified that further consideration of the environmental effects associated with grid connections is also required.</p>	<ul style="list-style-type: none"> <li>It is acknowledged that, although the grid issue was outside the remit of the SEA, it is an important issue. However it is not simply something that the Scottish Executive can address but that coordinated working with Ofgem and National Grid is required. Further consideration of grid issues was presented in Chapter 3 of this report.</li> </ul>
<b>Level 1 Assessment – Chapter Specific Comments</b>	<p>The most detailed comments (chapter specific) were provided on the following:</p> <ul style="list-style-type: none"> <li>Marine Mammals</li> <li>Fish and Shellfish</li> <li>Commercial Fisheries</li> <li>Shipping and Navigation</li> <li>Recreation and Tourism</li> <li>Seascape</li> </ul> <p>The majority of comments were constructive, in most cases providing additional information or clarification.</p> <p>In terms of omissions – the Scottish Surfing Federation felt that the effects of wave devices on swell and wave size should have been considered in terms of surfing.</p>	<ul style="list-style-type: none"> <li>Comments on specific chapters will be dealt with in the PAS.</li> </ul>

Topic/Subject	Comments	Response
<p><b>Mitigation Measures</b></p>	<p>There is general concern amongst the consultation authorities e.g. SNH, SEPA, RSPB and JNCC that there is no reliable assurance that the mitigation measures identified are capable of delivery or will be adopted by developers. This point has been raised throughout the SEA process.</p> <p>Developers feel that the mitigation measures presented in the SEA are too focused on avoidance of sensitive areas or areas where there are other users of the sea and that the SEA should have looked more at the opportunities for managing overlapping interests.</p> <p>Further clarification is required as to which mitigation measures developers are expected to adhere to so that these can be addressed through planning applications and consent conditions.</p> <p>SEPA and JNCC suggested that more information is required to support the mitigation measures (see Chapter 3).</p>	<ul style="list-style-type: none"> <li>• As discussed in Chapter 3 there are two type of mitigation: strategic and project specific.</li> <li>• Strategic mitigation measures are policies or proposals contained within the marine energy strategy that set out how the Scottish Government will avoid, reduce or remedy adverse effects on the environment. It has been identified the recommendations set out in Chapter 3 could form the basis for these 'strategic' level mitigation measures.</li> <li>• Project level mitigation measures are measures that could be directly applied to individual developments to avoid, reduce or remedy adverse effects on the environment.</li> <li>• Presented within the SEA are a series of project specific mitigation measures that could, in theory, be implemented at a project level.</li> <li>• However, there is a need to address the practicalities of these mitigation measures and the mechanisms by which they would be secured.</li> <li>• One option for securing the implementation of project specific mitigation measures is through policy statements incorporated in the strategy (or part of a document relating to that strategy e.g. development plan) that state the mechanisms by which mitigation measures will be adopted e.g. adherence to specific guidelines or through consent conditions.</li> <li>• However, it is acknowledged that further work is required to actual determine the practicalities of certain mitigation measures. The development of a mitigation framework as suggested in Chapter 3, moves towards solving these problems.</li> <li>• It is also acknowledged that it is also important to identify opportunities for managing overlapping interests. This will be looked at in more detail as part of the mitigation framework.</li> <li>• However, it is important to note that, as identified in the Level 2 Assessment, it is possible to meet the Scottish Government's targets for marine energy whilst avoiding sensitive areas and other sea users. And although developers consider the amount of extractable energy presented in the SEA to be overly cautious, there is still a need for the marine energy industry to demonstrate that the resource that has been identified is capable of being developed by 2020.</li> </ul>
<p><b>Level 2 Assessment</b></p>	<p>Developers and local authorities/Government felt that the estimates of extractable energy from the Level 2 Assessment are too conservative, the parameters applied to define constraints are overly cautious and the footprints for arrays are too small.</p> <p>Where as consultation authorities (SNH, JNCC and RSPB) felt that the upper level of the assessment of extractable resource was insufficiently precautionary due to the significant gaps in data and understanding of potential impacts. In particular they felt potential impacts on mobile species had been under estimated.</p> <p>Concern was also expressed by consultation authorities over the maps presented in the Level 2 Assessment as they felt a lack of information in certain areas could be misinterpreted as areas where there are no constraints, therefore increasing the risk of developers being directed to unsuitable sites.</p> <p>Developers also felt that Level 2 should have focused more on managing overlapping constraints rather than avoiding areas where negative impacts had been identified in the Level 1 Assessment.</p> <p>Consultation authorities felt that more transparency was required in how the amounts of extractable energy were calculated. The MCA suggested that physical constraints and known environmental constraints could be expressed as a percentage of the overall wave and/or tidal resource in area. Buffer zones could also be associated with certain constraints. This could assist with managing overlapping interests.</p> <p>Consultation authorities and developers felt that the Level 2 Assessment needed to look more at different development scenarios e.g. array size and configuration (spacing and layout). The Level 2 Assessment also needed to consider how the industry would evolve over time e.g. small scale developments to large scale developments in different locations.</p> <p>It was also identified that there is a need to have a greater understanding of the resource. Developers felt that this could have been achieved through greater consultation with project developers rather than technology developers and drawing on work done elsewhere</p>	<ul style="list-style-type: none"> <li>• It is acknowledged that the Level 2 Assessment did not cover an extensive range of development scenarios (either in terms of technology development (small projects to commercial) or in terms of array sizes, configurations and the spacing between devices).</li> <li>• The reason for this is that at the time that the report was produced, the only forthcoming information available regarding array footprints was from the BWEA (again there was no information provided by the Steering Group in terms of likely array sizes). This information was felt to be the status of development at that time based on current understanding and technological developments. The figures are still considered to be realistic based on the fact that there is no current evidence to prove otherwise.</li> <li>• The Level 2 Assessment will be revisited in the PAS to address the possible difference in array sizes, configurations and spacing between devices.</li> <li>• The recommendations presented in Chapter 3 consider the need to look at how small scale projects will progress to commercial developments (this point was raised by developers and consultation authorities)</li> <li>• In response to comments on the transparency of the calculations presented in the Level 2 Assessment – this will also be addressed in the PAS.</li> <li>• As mentioned previously, due to data gaps a precautionary approach was adopted for this SEA.</li> <li>• As these gaps are filled, through monitoring and research (see recommendations in Chapter 3) there will be opportunities to revisit the assessment, and in some situations the amount of extractable resource may increase (e.g. where there are current data gaps a worst case scenario has been assumed e.g. a constraint is present. As data gaps are filled and understanding increases it may be concluded that there actually are no constraints present in that area, therefore increasing the area of resource that could be developed).</li> <li>• The concerns over the maps have been acknowledged and clearer caveats regarding data gaps will be added to the maps as part of the PAS.</li> </ul>
<p><b>Data Gaps</b></p>	<p>It has been recognised by developers and consultation authorities that data gaps are a major shortfall to the SEA and that there is a need to develop a structured, prioritised programme of research and studies to fill data gaps.</p> <p>Further information relating to data gaps is presented in Chapter 3.</p>	<ul style="list-style-type: none"> <li>• Opportunities for addressing data and knowledge gaps are discussed in the recommendations set out in Chapter 3 of this report.</li> </ul>

Topic/Subject	Comments	Response
<b>Cumulative Impacts</b>	<p>A number of consultees including developers, local authorities and consultation authorities felt that cumulative impacts had not been adequately covered by the SEA. However, most people acknowledged that this was due to data and knowledge gaps.</p> <p>SRF and OREF felt that the main purpose of the SEA was to assess cumulative effects and that this had not been undertaken and therefore the SEA was incomplete.</p> <p>In terms of the detailed comments on seascape, attention was drawn to the need for the SEA to consider the cumulative effects in relation to fish farms, oil rigs and offshore wind farms, not just other wave and tidal devices.</p>	<ul style="list-style-type: none"> <li>As noted in the responses received, the ability of the SEA to undertake a detailed assessment of cumulative effects was limited by gaps in the data that was available at the time of the study and an understanding as to how devices interact with the environment.</li> <li>It is acknowledged that as data and understanding increases it will be possible to assess cumulative effects with greater confidence.</li> <li>It is also acknowledged that there is a need to consider cumulative effects. Opportunities for more a detailed cumulative assessment are identified in the recommendations (Chapter 3) in relation to the proposals for a locational strategy.</li> </ul>
<b>Moving Forward</b>	<p>See Chapter 3 for detail relating to:</p> <ul style="list-style-type: none"> <li>Future policy</li> <li>Licensing rounds</li> <li>Collaborative working</li> <li>Data research and monitoring</li> <li>Future studies e.g. development plan</li> </ul>	<ul style="list-style-type: none"> <li>See recommendations in Chapter 3.</li> </ul>
<b>Other comments</b>	<p>OREF felt that the SEA should have been more strategic identifying and dealing with large complex issues that can only be resolved at a strategic Government policy level.</p>	<ul style="list-style-type: none"> <li>It is acknowledged that this SEA is more detailed and project focused than 'typical' SEAs.</li> <li>However as noted previously, and identified throughout the SEA and subsequent comments, this was due to the complexity of the environment, data gaps and a limited understanding of how wave and tidal devices interact with the marine environment.</li> <li>Taking a very high level strategic approach would have, undoubtedly, led to some potentially significant impacts being overlooked, particularly as it is felt by a number of the consultation authorities (JNCC, SNH, RSPB and SEPA) that even with the level of detail that this SEA has gone into, there is a risk that due to the gaps in data and understanding some potentially significant impacts may have been overlooked or underestimated.</li> <li>It is appreciated that it may have been possible to state at a high level, that, for example, there is likely to be conflict between shipping and wave and tidal developments.</li> <li>However it is highly likely that adopting an approach like this would have had serious repercussions on the marine energy industry by putting developers at significant risk of having to incur the costs of undertaking very detailed, costly and timely EIAs to cover a range of topics which may have been overlooked by a very high level strategic study.</li> <li>It is also acknowledged (see Chapter 3) that some issues can only be resolved at the strategic Government policy level. However, whilst recommendations can be made as to how these issues can be resolved, the actual mechanisms for resolution are well beyond the scope of this SEA.</li> </ul>
	<p>SEA should have focused on streamlining the consenting process.</p>	<ul style="list-style-type: none"> <li>This unfortunately is a misconception about the purpose of an SEA and the SEA process. The focus of this SEA is to look at the environmental effects associated with wave and tidal developments.</li> <li>The issues associated with the consenting process, whilst they influence the deployment of wave and tidal devices/arrays, are being reviewed and streamlined under the Marine Bill through marine spatial planning. This does not form part of this SEA.</li> </ul>
	<p>A number of responses felt that the SEA had been carried out too early in development of marine energy industry and as a result consider that further studies (e.g. additional SEAs) will be required as the industry develops and data and knowledge gaps are filled.</p>	<ul style="list-style-type: none"> <li>It is acknowledged that the SEA has been carried out at an early stage in the development of the marine energy industry.</li> <li>However, the basis for carrying out the SEA at this stage was to be pro-active rather than reactive.</li> <li>The SEA has enabled data gaps to be identified and will help to develop a prioritised programme of research and monitoring (see Chapter 3) from the outset.</li> <li>It has also raised the awareness of the potential environment effects associated with wave and tidal developments.</li> <li>This will increase environmental protection, whilst reducing the financial and time burdens on initial small scale developments as it will help developers identify sites where there are limited constraints and also focus any studies and surveys that will need to be undertaken as part of a development consents.</li> </ul>
	<p>SEA Steering Group misguided the SEA process.</p>	<ul style="list-style-type: none"> <li>The Steering Group comprised a range of representatives including JNCC, SNH, Crown Estate, SEPA, MCA, SRF, EMEC, RSPB, FRS, MoD, CoSLA and Historic Scotland.</li> <li>There were a number of Steering Group meetings held throughout the SEA process, and whilst it is accepted that due to time constraints it wasn't possible for all members to provide detailed comments on all specific chapters of the Environmental Report, all members did have equal opportunity to influence the SEA in terms of approach, scope, structure of the Environmental Report and the assessment methodology.</li> </ul>

# Annex A: Consultation Responses Matrix











