



UK OFFSHORE ENERGY SEA (UK OESEA2)

Synthesis of Input to SEA Scoping

May 2010

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INTRODUCTION

This report is a compilation summarising the responses received following a scoping exercise undertaken by the Department of Energy and Climate Change (DECC) for the Strategic Environmental Assessment (SEA) of a draft plan/programme for further licensing/leasing rounds for offshore oil and gas, gas importation and storage, CO₂ transport and storage, offshore wind, wave and tidal technologies in UK waters.

The aim of the scoping exercise was both to inform the Consultation Bodies/Authorities and other stakeholders of the draft plan and associated SEA process and to request feedback.

The scoping consultation was undertaken by direct mailing to the statutory Consultation Bodies and Authorities, and OSPAR representatives of adjacent states. Input from other stakeholders was also welcomed and during this period the scoping document was placed on the DECC SEA website (www.offshore-sea.org.uk) with an alert sent to registered users and to various stakeholder fora. The scoping consultation took place during March and April 2010.

The following consultation questions were asked:

Consultation Questions

- 1. Do you have any comments on the proposed approach to consultation?**
- 2. Consultees are invited to highlight additional initiatives which they consider relevant to the draft plan/programme.**
- 3. Consultees are invited draw attention to and provide (where possible) additional information and data sets which they consider of potential relevance to this SEA**
- 4. Are there any objectives that you feel should be included or removed?**
- 5. Are the indicators for each objective suitable? If not please suggest alternatives.**
- 6. Do you have any comments on the sources of potentially significant effect for each of the activities covered by the draft plan/programme, including whether they should be scoped in or out of assessment in the Environmental Report?**
- 7. Do you have any additional information or comments relevant to the SEA?**

Responses were received from 20 organisations listed below:

- Carbon Capture and Storage Association (CCSA)
- Countryside Council for Wales (CCW)
- English Heritage (EH)
- Environment Agency (EA) (response includes views of Environment Agency Wales)
- Historic Scotland (HS)
- Joint Nature Conservation Committee (JNCC)
- Kintyre Development Company Limited (KDCL)
- Natural England (NE)
- Natural Environment Research Council (NERC)

- Northern Ireland Environment Agency (NIEA)
- RenewableUK (RUK)
- Royal Society for the Protection of Birds (RSPB)
- Scottish Environment Protection Agency (SEPA)
- Scottish Natural Heritage (SNH)
- Scottish Power (SP)
- South West of England Regional Development Agency (SWRDA)
- The Coal Authority (TCA)
- The Crown Estate (TCE)
- The European Marine Energy Centre (EMEC)
- World Wide Fund for Nature (WWF-UK)

Stakeholder responses are summarised in this report and full copies of the responses are available on the SEA website. A number of respondents made similar comments and in the interests of brevity these have been combined below for each of the consultation questions asked, with the various organisations indicated by their abbreviations listed above.

The stakeholder scoping input to the SEA process and information base is welcomed and the SEA Team would like to thank stakeholders for their responses. This input will be taken forward into the SEA process, and for this reason this compilation generally does not include responses to the comments made, although in a few instances clarifications have been included in italic text. Factual information (e.g. most responses to questions 2 and 3) is typically accepted by the SEA team and incorporated in the preparation of the Environmental Report. A number of responses require discussion with the SEA Steering Group to arrive at a consensus view (e.g. most responses to questions 4 and 5), which are then incorporated into the Environmental Report. A series of stakeholder meetings are held at the draft Environmental Report stage, at which key conclusions of SEA Steering Group deliberations and the draft findings of the assessment are presented with opportunities for discussion. The minutes of the SEA Steering Group (and the Environmental Report and related documents) are made publicly available on the SEA website.

In April 2010, after the formal scoping period closed, a major incident occurred in the US Gulf of Mexico on which it is felt it is appropriate to comment here as it is of potential importance to this SEA. Whilst working on an exploratory well in deep water approximately 50 miles offshore Louisiana, there was an explosion and fire on the semi-submersible drilling rig Deepwater Horizon. The rig was drilling in a water depth of 5000ft with the oil reservoir at 18000ft. Although the UK has some similar deepwater wells, no deepwater rigs are currently operating in the UK, and current drilling activities are in water no deeper than 600ft. UK regulators are in contact with their counterparts in the United States (the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE)) to understand the cause of the incident and whether there are implications for safety at offshore operations on the UK continental shelf.

The Health and Safety Executive (HSE) is responsible for regulating the risks to health and safety arising from work in the Offshore Industry on the UKCS. Inspectors from HSE's Offshore Division subsequently undertake offshore inspections of well control/integrity arrangements and related safety issues, and also review well designs and procedures. In the UK a safety case regime exists with specific safeguards including:

- The Offshore Installations (Safety Case) Regulations 2005 require written safety cases and risk assessments to be prepared by the operator, and then approved by HSE, for all mobile offshore drilling rigs operating in the UK.

- A system of well notification, where the HSE reviews well design and procedures.
- A requirement for the design and construction of a well to be examined by an independent and competent specialist.
- A scheme of independent verification of offshore safety critical equipment such as blowout preventers to ensure they are fit for purpose.
- Checks that workers involved in well operations have received suitable information, instruction, training and supervision.
- Offshore inspections of well control and integrity arrangements, and related safety issues, by specialist inspectors from HSE's Offshore Division.
- Weekly drilling reports submitted to HSE by operators.

A review has been carried out by DECC which has found that the existing system is fit for purpose, but in light of the Deepwater Horizon spill the regime is meantime being strengthened further:

1. DECC is increasing the oversight of drilling operations through the recruitment of additional inspectors in its Aberdeen office. This will double the number of annual inspections to drilling rigs.
2. In light of the Gulf of Mexico incident, DECC is reviewing the indemnity and insurance requirements for operating in the UK Continental Shelf.
3. Industry trade association Oil and Gas UK has established a new group of regulators and oil companies to examine the UK's strengths and weaknesses in responding to a Gulf like incident. The Oil Spill Prevention and Response Advisory Group (OSPRAG) has met for the first time. DECC is participating in this group and the Secretary of State will be examining its findings closely.
4. The EU has asked companies operating in EU waters to provide assurances that they are working as hard as possible to ensure safe practice and that they are able to take on full responsibilities for environmental and other damage if an incident were to occur.

The Southern part of the North Sea is a gas province and so, although a blowout might in theory occur there it would not result in significant oil spillage. Some other areas of the North Sea contain oil reservoirs which have insufficient pressure to support a blow out similar in nature to the Deepwater Horizon spill. Oil has to be actively pumped up from those reservoirs in order to produce it. But there remain other oil reservoirs, including some in deeper waters to the west of Shetland, where in theory a blowout could occur were the safety measures in place to fail

RESPONSES TO QUESTION 1 – APPROACH TO CONSULTATION

#	Organisation(s)	Comments
1	EA, JNCC	•Support the intention to produce a report of scoping feedback.
2	CCW	•The spring 2011 deadline may be ambitious.
3	HS	•Content with the scope, level of detail proposed for the assessment, and the inclusion of the historic environment.
4	SNH	•Marine Scotland should be added as a statutory consultation body/authority.
5	SEPA	•May find it useful to revisit the responses from SEPA and the other Consultation Bodies on the scoping and Environmental Report for OESEA.

6	NERC	<ul style="list-style-type: none"> •How does DECC plan to liaise with what the Scottish Government are doing in this area? <i>DECC and the SEA team have a range of existing links with relevant Scottish initiatives (and those in other parts of the UK. Marine Scotland are members of the SEA Steering Group.</i> •How does DECC propose to collate and address all the responses – if it is a selective process, how will the response suggestions that are adopted by DECC be decided on? <i>Through this compilation; where selection is necessary this will be undertaken in discussion with the SEA Steering Group and the conclusions presented at stakeholder meetings (as in previous DECC SEAs).</i> •There needs to be scope to ensure that scientists involved in relevant work have an opportunity to feed into future consultations and into the SEA process.
7	KDCL	<ul style="list-style-type: none"> •Should be timely opportunities for input from stakeholders and the public in addition to the consultation period and a specific process for making stakeholders/the public aware of opportunities for input to SEA. There should be more information on the input process, including how to register as a stakeholder.
8	JNCC	<ul style="list-style-type: none"> •Strongly recommend that the consultation process and timeline considers the action plans of key research groups which DECC are aware of.
9	SNH, SEPA, HS	<ul style="list-style-type: none"> •Content with the 12 week consultation period.
10	RSPB, WWF	<ul style="list-style-type: none"> •Consideration should be given to the external environment and other pressures on consultees. It may have been useful to provide more than the required 5 weeks.
11	RSPB	<ul style="list-style-type: none"> •Question the merits of a closing date during election purdah. •Welcome the publishing of a post-adoption statement and the use of the JNCC Regional Seas.
12	SP	<ul style="list-style-type: none"> •Proposed SEA should coordinate with existing country level SEAs.
13	SP, CCSA	<ul style="list-style-type: none"> •SEA should be completed quickly so that any leasing/licensing can begin.
14	EA	<ul style="list-style-type: none"> •Consultation on the Environmental Report should include key stakeholders in the wave and tidal energy industry, listed within the Marine Energy Action Plan. •DECC have carried out a 'screening study' that attempted to identify where there might be commercial interest in marine and tidal devices. Using this may help to reduce the scope of the SEA. •Pleased to see that input to the SEA is welcomed from other non-statutory consultees. •Recommend holding a scoping workshop and inviting representatives of the DECC chaired Marine Renewable (wave and tidal) Action Plan working groups.
15	JNCC, NE, KDCL	<ul style="list-style-type: none"> •Would appreciate early notification of upcoming stakeholder events.

16	WWF	<ul style="list-style-type: none"> • Greater detail required on timing/content of proposed workshops. • Steering group/stakeholder workshops would benefit being earlier/prior to scoping to inform plan, scope and assessment methodology. • There is a reliance on online communication and no clear information on how those offline will be included. No proposals for localised consultation for those communities that may be affected. • Should be a wider range of consultees, and consultees should include Scottish and Welsh ministers, and in future, MMO, IPC and Committee on Climate Change. • WWF request confirmation that Scottish ministers will be consulted. <i>There will be consultation on this SEA with relevant ministers in the devolved administrations.</i>
17	RUK	<ul style="list-style-type: none"> • Welcome our inclusion in the stakeholder advisory panel and are committed to further engagement with the process.
18	SWRDA	<ul style="list-style-type: none"> • We are broadly supportive of the scope and level of detail set out. • The scoping report consultation was not widely publicised and we did not become aware of the opportunity to provide comment until very close to the deadline. • The SEA website should be updated regularly and the timescales for stakeholder input made more transparent. E-Bulletin updates may benefit the process. • Suggest including the following list of attendees for workshops (contact details provided): <ul style="list-style-type: none"> • The Marine Energy Industry Forum • Ocean Electric Power • Regen South West • Ocean Power Technologies

RESPONSES TO QUESTION 2 – ADDITIONAL INITIATIVES

#	Organisation(s)	Comments
General Additional Initiatives		
1	NE, RUK	• Defra's Charting Progress II.
2	SNH	• Scottish Enterprise and Highlands and Islands Enterprise National Renewables Infrastructure Plan.
3	SNH, WWF	• Other SEAs/feasibility studies, e.g. Marine Scotland Scottish Territorial Waters Wind SEA Environmental Report (available April 2010), The Scottish Government's Marine Renewables SEA (2007).
4	EH	• The High Level Marine Objectives.
5	EH, EA	• Marine Policy Statement and its Appraisal of Sustainability.
6	JNCC, CCW	• The Energy National Policy Statements.

7	JNCC	<ul style="list-style-type: none"> • Policies for energy development offshore in Scotland (e.g. the route map for development of offshore wind). • It would be helpful if it is clarified how energy policy documents/processes interact with the SEA process. • Marine Strategy Framework Directive: It would seem relevant for the development of descriptors for Good Environmental Status to be informed by the strategic evaluation of industry impacts through SEA. • The SEA should be undertaken with consideration for developing marine spatial plans, and how this management of resources could provide measures to manage impacts, monitoring, manage conflicts, etc. Would be relevant to consider how the conclusions and recommendations will be incorporated into spatial planning, ideally referring to potential tools being considered for marine planning (e.g. the MaRS system used by the Crown Estate). • The process followed during OESEA and the definition of the Round 3 plan was not undertaken with full consideration of statutory nature conservation requirements and this should be avoided for future planning. • Would welcome more detail considering the requirements under climate change and sustainable development policies and legislation.
8	CCW	<ul style="list-style-type: none"> • Depending on the development of marine spatial planning for the UK it may be necessary to revisit the way in which information about different marine areas is sub-divided (Regional Seas) so that the outcomes of sectoral planning can be translated efficiently and effectively into marine plans. • Aspirational target capacities specified elsewhere (e.g. in the Welsh Assembly Government's Energy Policy Statement) should be considered when evaluating the scale of development that might be realised. • Planning Policy Wales (2002) should be referred to in relation to SEA topics other than landscape. • Technical Advice Note 14 Coastal Planning, referred to under the Geology topic, should also be referred to under the landscape, biodiversity and other users topics.
9	RSPB, WWF	<ul style="list-style-type: none"> • The Draft National Policy Statements should not be included as relevant initiatives.

10	WWF	<ul style="list-style-type: none"> • Question whether title of chapter represents its purpose and requirements of SEA regulations. • Request clarification of how and why the term 'initiative' has been used to form the lists. Chapter includes things outside beyond plans/programmes. • Some initiatives are relevant to a number of topic areas and should be repeated accordingly. It is sometimes not clear if an initiative is included because it has objectives or requirements relevant to that topic and/or if it has an impact on that topic. • Not clear how OESEA2 will address the requirements of the SEA Regulations, in particular in outlining and considering the relationship between the objectives of the draft plan/programme and the listed plans/programmes and the influence that they will have on each other. • The Environmental Impact Assessment Regulations and Directive • The Planning Act 2008 • The Aarhus Convention • Planning Policy Statement 22: Renewable Energy.
Biodiversity, Habitats, Flora & Fauna		
11	RSPB	<ul style="list-style-type: none"> • The WSSD (<i>World Summit on Sustainable Development</i>) commitment to representative networks of MPAs by 2012. • The OSPAR list of threatened and declining species. • Relevant EIA legislation. • The WFD with respect to achieving good ecological status in transitional waters. • The recommendations of the Review of Marine Nature Conservation. • Many conservation sites (National and European) have not been identified yet and as a minimum should collate all available information on likely future designated sites.
12	RSPB, SNH	<ul style="list-style-type: none"> • EC Birds Directive 2009/147/EC.
13	SNH	<ul style="list-style-type: none"> • Draft list of Priority Marine Features within Scottish waters (available June 2010).
14	NERC	<ul style="list-style-type: none"> • NERC is currently in the development phase for a new strategic programme in collaboration with Defra which has a high level scientific goal to "Understand the environmental benefits and risks of upscaling marine renewable energy schemes on the quality of marine bioresources (including biodiversity) and biophysical dynamics of open coasts".
15	JNCC	<ul style="list-style-type: none"> • Regulations should now be referred to as the Conservation (Natural Habitats &c.) Regulations 2010 for inshore waters of England and Wales; and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2010 for UK offshore waters (including off Scotland).
16	WWF	<ul style="list-style-type: none"> • Local Biodiversity Action Plans. • Wales Biodiversity Framework.
17	EA	<ul style="list-style-type: none"> • Environment Strategy for Wales and One Wales, One Planet: Sustainable Development Scheme for Wales.
18	CCW	<ul style="list-style-type: none"> • Sites of Special Scientific Interest (SSSI) and Nationally

		<p>Protected Species that receive statutory protection under the Wildlife and Countryside Act 1981 (as amended). Notably, a number of intertidal SSSIs have been notified in Wales, extending to either Mean Low Water, or in some cases, Lowest Astronomical Tide, and a number of marine species listed on Schedule 5 of the WACA are present in Welsh waters.</p> <ul style="list-style-type: none"> • Regulation 33 documents and management schemes for marine Natura 2000 sites and Management Plans for intertidal SSSIs. • Biodiversity protected by the Natural Environment & Rural Communities Act 2006, in particular the list of species of principal importance designated under Section 42 of the Act. A number of marine habitats and species are included on this list.
Geology & Substrates		
19	RSPB	<ul style="list-style-type: none"> • CRoW Act 2000. • EU Marine Strategy Framework Directive (MSFD) descriptor 7 ('permanent alterations of hydrographic conditions does not adversely affect marine ecosystems').
20	EA	<ul style="list-style-type: none"> • Supplement to PPS25 on development and flood risk.
21	CCSA (also relevant to Water Environment)	<ul style="list-style-type: none"> • London Convention amendment to allow CO₂ storage in geological formations, for the purposes of CCS. Note the prohibition of transboundary transport of CO₂ under Article 6 of the Protocol to the London Convention has yet to be resolved (although an amendment has been put forward).
22	EH	<ul style="list-style-type: none"> • Planning Policy Statement 5 – Planning for the Historic Environment.
Air Quality		
23	WWF	<ul style="list-style-type: none"> • Contributions which increase emissions must also be considered and not only reductions.
Landscape/Seascape		
24	CCW	<ul style="list-style-type: none"> • English Heritage Historic Landscape Characterisation.
25	CCSA	<ul style="list-style-type: none"> • Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4).
26	NIEA	<ul style="list-style-type: none"> • The Nature Conservation and Amenity Lands (NI) Order 1985 • Seascope Assessment carried out for the Northern Ireland as part of the Draft Offshore Renewable Energy Strategic Action Plan 2009-2020 produced by the Department Of Enterprise, Trade and Investment, Northern Ireland (DETI).
27	SP	<ul style="list-style-type: none"> • Seascope guidance documents should be listed and referenced.
28	EH	<ul style="list-style-type: none"> • Amend PPG15 to Planning Policy Statement 5. In paragraph 2.3.2 (Implications for SEA) more attention should be given to mitigation strategies as necessary to support the SEA objectives.
Climatic Factors		
29	SEPA	<ul style="list-style-type: none"> • Scotland's Climate Change Adaptation Framework (weblinks provided).
30	JNCC	<ul style="list-style-type: none"> • The climate aspects which we consider important for consideration in assessment of the plan, are: <ul style="list-style-type: none"> • How the aspects of the plan contribute negatively /

		<p>positively to climate change.</p> <ul style="list-style-type: none"> • The effects of climate change on the environment; how these may act cumulatively with impacts arising from the plan, and how these will affect consequent impact assessment e.g. through affecting the baseline against which projects are assessed. • Welcome an SEA which looks comprehensively at how other energy initiatives to address demand and efficiency of use are considered when evaluating the need for specific development scenarios.
31	WWF	<ul style="list-style-type: none"> • The IPPC Fourth Assessment Report (AR4). • The Committee on Climate Change Report: Scotland's path to a low-carbon economy. • The Committee on Climate Change Report: Building a low-carbon economy – the UK's contribution to tackling climate change.
32	EA	<ul style="list-style-type: none"> • Welsh Assembly Government's 2010 Energy Policy Statement.
Water Environment		
33	RSPB	<ul style="list-style-type: none"> • Consider the implications of oil platform location with respect to the outcome of oil spill modelling scenarios and regional response capabilities.
34	SEPA	<ul style="list-style-type: none"> • Scotland and Solway Tweed River Basin Management Plans, which cover waters to 3nm.
35	EA	<ul style="list-style-type: none"> • Water Resources Act 1991. • Water Framework Regulations 2003. • Environment Act 1995 relevant to the Environment Agency's powers and duties in relation to controlled waters. • Environmental Liability Directive. • IPPC Directive. • The WFD's objective is 'good ecological status/potential' not 'environmental status'.
36	NIEA	<ul style="list-style-type: none"> • Environmental Impact Assessment Directive 85/337/EEC: <ul style="list-style-type: none"> • Marine Works (Environmental Impact Assessment) Regulations (SI2007/1518) • Offshore Petroleum Production and Pipe lines (Assessment of Environmental Effects) Regulations (S.R. 1999/360) as amended by S.R. 2007 No.933 • Integrated Pollution Prevention Control Directive (2008/1/EC): <ul style="list-style-type: none"> • Pollution Prevention and Control Regulations (Northern Ireland) 2003 (S.R. 2003/46) as amended by S.R. 2004 No. 507, S.R. 2005 No.285, S.R. 2005 No. 454, S.R. 2006 No. 98 and S.R 2007 No. 245 • Offshore Combustion Installation (Prevention and Control of Pollution) S.I. 2001/1091) as amended by S.R. 2007 No.938.
Population & Human Health		
37	RSPB	<ul style="list-style-type: none"> • High Level Marine Objectives (HLMOs) with reference to population and human health. • Should recognise health and well-being benefits of a healthy, functioning marine environment.
38	CCSA	<ul style="list-style-type: none"> • Health & Safety Executive (HSE) regulations for CCS projects.

39	SWRDA	<ul style="list-style-type: none"> The regional economic and spatial strategies of the relevant Regional Development Agencies should be acknowledged, thereby taking into account the positive socio-economic impacts that the development of the marine energy sector would have on populations. The STP SEA has, under this section, considered employment impacts and impact on local economies.
Cultural Heritage		
40	HS	<ul style="list-style-type: none"> Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997.
41	NIEA	<ul style="list-style-type: none"> The Historic Monuments and Archaeological Objects (NI) Order 1995. The Planning (NI) Order 1991. Note that scheduling under Historic Monuments legislation extends into the inter-tidal area and potentially beyond.
42	EH	<ul style="list-style-type: none"> National Heritage Act 2002 English Heritage Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment (published 2010). May wish to reassess the detail provided about the Draft Heritage Protection Bill given that it was not included in the Parliamentary session 2009/10. Add reference to the Marine and Coastal Access Act 2009, Part 3 (Marine Planning), section 54 (Duties to keep relevant matters under review) which is inclusive of historic or archaeological characteristics Historic Environment Guidance for the Offshore Renewable Energy Sector (COWRIE 2007).
Other Users & Material Assets		
43	RSPB	<ul style="list-style-type: none"> WSSD commitment to maintaining/restoring fish stocks to levels that can produce the maximum sustainable yield by 2015. Correct reference to EU Integrated Maritime Policy. UK Sustainable development strategy and the HLMOs. The Marine (Scotland) Act 2010. Reference conflicts between activities and cumulative effects. Scottish Government: The Carbon Capture and Storage Roadmap. MEHRAs (marine environmental high risk areas). The Renewable Energy Strategy. Welsh Assembly Government's 2010 Energy Policy Statement. WAG Marine Renewable Energy Strategic Framework.
44	EA	<ul style="list-style-type: none"> Technical Advice Note 15: Development and Flood Risk (Wales).
45	WWF	<ul style="list-style-type: none"> DECC guidance, 'Carbon Capture Readiness: A guidance note for Section 36 Electricity Act 1989 consent applications.
46	CCW, WWF, EA, RUK, SWRDA	<ul style="list-style-type: none"> Marine Energy Action Plan.
47	CCSA	<ul style="list-style-type: none"> Energy Act 2008 and Energy Act 2010.

		<ul style="list-style-type: none"> • DECC Clean Coal Industrial Strategy. • Set out in more detail how the SEA will consider the large number of varying and sometimes competing current and future activities that take place in the UK marine environment, and how overarching national objectives will be taken into account when considering these activities.
48	NIEA	<ul style="list-style-type: none"> • Draft Offshore Renewable Energy Strategy Action Plan 2009-2020 (DETI) for Northern Ireland.

RESPONSES TO QUESTION 3 – ADDITIONAL INFORMATION AND DATA SETS

#	Organisation(s)	Comments
General Comments		
1	NERC	<ul style="list-style-type: none"> • NERC commissioned two scoping studies in 2009 looking into environmental opportunities and benefits that can be associated with marine renewable energy installations. (http://www.nerc.ac.uk/research/themes/tap/reports/2008/marine.asp)
2	JNCC	<ul style="list-style-type: none"> • Recommend adequate integration between key groups, e.g. the Offshore Renewables Research Steering Group, the Crown Estate's Enabling Actions, Scottish Governments Marine Environment Spatial Planning Group and other groups, the Marine Alliance for Science and Technology in Scotland (MASTs), etc. • JNCC will endeavour to provide the SEA team with information such as areas of search or boundary proposals, when appropriate.
3	JNCC, SEPA	<ul style="list-style-type: none"> • Other SEAs around the UK e.g. the SEA for Offshore Wind in territorial waters off Scotland.
4	CCW	<ul style="list-style-type: none"> • Baseline fails to provide a sufficiently comprehensive overview of inshore and coastal areas. • It is not clear what existing sources of information have been used to compile the baseline, which does not make it easy to be clear about which additional information consultees should highlight. • Research reports produced under the Marine Renewable Energy Strategic Framework (Wales)
5	CCW, RUK	<ul style="list-style-type: none"> • Draft reports under Charting Progress II.
6	SEPA	<ul style="list-style-type: none"> • All of SEPA's key datasets are published on our website.
7	EA	<ul style="list-style-type: none"> • The SEA will need to address uncertainties and potential risks associated with wave and tidal generation recognising the lack of detailed site information for much of the England and Wales coastal zone • Reference to the risk of Accelerated Low Water Corrosion (ALWC) – a phenomenon affecting steel structures (like sheet piling of harbour structures) in intertidal areas.
8	WWF	<ul style="list-style-type: none"> • Provided a list of data collated to inform the WAG regional MCZ project.

9	NIEA	<ul style="list-style-type: none"> • The Environmental Report for the SEA of the Draft Offshore Renewable Energy Strategy Action Plan 2009-2020 (DETI) for Northern Ireland. http://www.offshoreenergyni.co.uk/Home.html • The UK Department of Trade and Industry (DTI) SEA for Offshore Oil and Gas Licensing. www.offshore-sea.org.uk
10	RUK	<ul style="list-style-type: none"> • Marine Environment Data Information Network (MEDIN) • Crown Estates spatial planning tool – MaRS.
11	SNH	<ul style="list-style-type: none"> • Recommend information and datasets on each of the topics outlined within the SEA's Regulations are updated as necessary for OESEA2 and provided in full as an Appendix to the environmental report.
12	CCSA	<ul style="list-style-type: none"> • Prospectivity: British Geological Survey on behalf of BERR (2006), setting out the CO₂ storage potential in the UK. This work is due to be updated in the near future, particularly to give greater clarity on the storage capacity of saline aquifers.
13	SWRDA	<ul style="list-style-type: none"> • Would be useful to draw information from the following (contact details provided are not reproduced here): <ul style="list-style-type: none"> • Severn Tidal Feasibility Study. • Offshore Renewables Resource Assessment and Development (ORRAD) project. • Seapower SW Review. • Wave Hub. (http://www.southwestrda.org.uk/working_for_the_region/areas/cornwall_the_isles_of_scilly/wave_hub/documents.aspx) • Peninsula Research Institute for Marine Renewable Energy (PRIMaRE). • Long term wave energy study.
Likely Evolution of the Baseline		
14	NERC	<ul style="list-style-type: none"> • Assertion that shellfish distributions will be stable due to their link with sediment type may not be the case due to unforeseen effects of larger-scale renewable technologies on sediment dynamics and distribution.
15	RSPB	<ul style="list-style-type: none"> • There should be a section on marine flora, and the importance of some marine and coastal habitats including saltmarshes, seagrass beds and seaweeds, as carbon sinks. • Information about plankton regime shift in the North Sea should be covered under Plankton, not benthos. • Clarify that changes in North Sea fish stocks are the result of (primarily) climate change and unsustainable fishing. • Note that shellfish are susceptible to acidification. • Use most up to date data e.g. JNCCs (2009) UK Seabirds in 2008. • Say that fully marine conservation sites will be designated rather than the 'potential exists' – also refer to OSPAR MPAs. • Make reference to localised impacts of marine aggregate extraction and navigation dredging. • Water environment should provide information on localised CCS impacts from salt/halite extrusion. • Are there impacts from the improvements to the onshore grid and grid connections that may influence the location of offshore generating installations?

16	SNH	<ul style="list-style-type: none"> Sites and species of nature conservation importance: Scottish Government is in the process of considering whether to consult on two sites in the Western Isles.
17	CCSA	<ul style="list-style-type: none"> Material assets sub-section should be updated to reflect the promotion of CCS through the Clean Coal Industrial Strategy, as well as UK and international developments in CCS.
18	NERC	<ul style="list-style-type: none"> Understandably, a qualitative approach is taken, however quantitative indicators would be possible to define, and use strategically, if the necessary research is carried out early on. Without such fundamental research, knowledge of the evolution of the baseline (which will undoubtedly change, possibly fundamentally) over time will remain qualitative and uncertain.
19	EA	<ul style="list-style-type: none"> Include a reference to increased storminess in the water environment section.
Environmental Problems Relevant to Offshore Oil & Gas Licensing and Wind Leasing		
20	EA	<ul style="list-style-type: none"> Acidification of our oceans is also an issue under climate change. "Contamination of water and sediments": should be a reference to plastic detritus. "Damage to Important Benthic Habitats": section should include reference to capital or maintenance dredging "Fishing and Changes to Fish Communities": should include an assessment of the impacts of the discarded fish as a feedstock to pelagic or demersal ecology
21	RSPB	<ul style="list-style-type: none"> Implications should ensure that the plan does not impact on natural climate change mitigation and resilience processes. Implications should require oil spill risk assessments to be carried out. Implications should consider no net additional pressures on plankton communities. Damage to benthic habitats should consider cumulative effects. No mention of localised effects from saline/halite expulsion through CCS or gas storage activities. Impact of overfishing on seabirds and other predators should be included – the plan should aim not to exacerbate impacts from other activities. Fish sensitivity – oil spill risk assessment should be a requirement – noise and vibration issues should be considered. Vulnerability of birds to pollution and shipping disturbance – should include loss of or exclusion from important areas for feeding, resting, moulting and collision risks. Activities other than shipping should be considered. Marine mammals section should include noise. Effects of marine litter and boat strikes affect species including seabirds, basking sharks, marine mammals and fish. Should ensure that protected sites and important/sensitive features are avoided, and if not, that mitigation is put in place. Aim should be to avoid impacts/degradation and not to hamper achievement of conservation objectives.

		<ul style="list-style-type: none"> • It is likely that tidal power barrages on sediment-heavy estuaries should have similar effects as experienced on the Eastern Scheldt, Netherlands (increased flood risk and loss of intertidal habitat) – recommend that these impacts should be assessed for all UK estuaries with tidal power potential.
22	WWF	<ul style="list-style-type: none"> • Damage to benthic habitat will be caused by the installation of any offshore infrastructure, not just fishing and aggregate extraction. • Query whether there is some information on environmental problems that could be taken from the data available for the few wave and tidal projects currently deployed. • Under 'Damage to benthic habitats', outline impacts from ports, pipeline and cable infrastructure. • Under 'Marine mammal sensitivity...' include maintaining awareness of work by JNCC on guidance on the new disturbance offence under the habitats regulations 2007 for England and Wales and the Offshore Marine Regulations 2007 and guidelines for minimising risk of disturbance and injury to marine mammals whilst using explosives.
23	RSPB, WWF, EA, SP	<ul style="list-style-type: none"> • Expand to include potential wave and tidal impacts.
24	EH	<ul style="list-style-type: none"> • Add Guidance for Assessment of Cumulative Impacts on the Historic Environment from Offshore Renewable Energy (COWRIE 2008). • Under "implications" add at end of sentence "...best practice to support delivery of agreed mitigation programmes".
25	SNH	<ul style="list-style-type: none"> • 'Effects of marine litter, fishing and boat strike on marine reptiles' might usefully be broadened to include other marine life, particularly marine mammals and seabirds.
26	NERC	<ul style="list-style-type: none"> • Should also be a section looking at potential environmental opportunities. Such opportunities could cover expanded seabed surveying (the British Geological Survey would be valuable partners for this), opportunities to maximise the benefits of marine installations (potential fishery reserves in the lee of wave-energy arrays etc.), 'positive' potential changes in terms of introduction of non-native species, ecosystem change and adaptation, opportunities provided by a changing climate etc. Further research in this area would be necessary and highly applicable.
Biodiversity, Habitats, Fauna & Flora		
27	SNH	<ul style="list-style-type: none"> • SNHi (http://www.snh.org.uk/snhi/). • The Scottish Government's Marine Renewables SEA. • The National Biodiversity Network (NBN) Gateway: (http://www.searchnbn.net/). • The Mapping European Seabed Habitats (MESH) website: (http://www.searchmesh.net/). • UK Marine Monitoring & Assessment Strategy (UKMMAS). (http://www.defra.gov.uk/environment/water/marine/uk/science/ukmas-rl-doc.htm).
28	CCW	<ul style="list-style-type: none"> • Atlas of Marine Mammals of Wales. • CCW is mapping out biodiversity that is potentially sensitive to

		<p>wave and tidal stream technology deployment in Welsh waters and would welcome the opportunity to share the findings of this work with the SEA team.</p>
29	EA	<ul style="list-style-type: none"> • Lundy is a designated Marine Conservation Zone.
30	RSPB	<ul style="list-style-type: none"> • As far as we are aware little has been done to remedy the deficiencies outlined in Recommendations 8 and 9 of OESEA and there is a risk that developers will fail to do adequate surveys, or find that when surveys are conducted, their proposals are not acceptable. • Highlight recent planktonic regime shifts in UK waters and implications for marine food chains. • Boat surveys are more suitable for identifying some seabird species and should be integrated with aerial surveys. • There is scope to expand tracking studies to other species and colonies with Government and industry funding to assist with information for the deployment of offshore renewables – notably to determine SPA connectivity, foraging areas, ranges and diving depths. • Habitat suitability models will be valuable to increasing our knowledge of seabird distributions and the extent to which these are predictable, providing useful outputs for site designation and risk assessment for offshore renewables. • A GIS atlas of bird distribution and abundance pulling together all existing data would be extremely useful in constraints assessment and information gap identification. • Additional surveys are required to all those SEA areas that may attract interest from wind developers not covered in R1, 2 and 3 surveys. • Recommended that 2 years minimum data collection precede a planning application and that data collection should continue during the pre-construction period – this represents a compromise between obtaining suitable data whilst minimising delays in consent. • The development of a stable offshore platform or the use of more powerful radar systems would help to develop and improve information gathering a long way offshore and during the hours of twilight/darkness.
Landscape/Seascape		
31	NE	<ul style="list-style-type: none"> • Seascape should encompass impacts on landscape and seascape character and all associated characteristics, not just visual amenity and scenic quality.
32	CCW	<ul style="list-style-type: none"> • Welsh Seascapes & their sensitivity to offshore developments. • Seascape definition which complements the European Landscape Convention definition of 'landscape' would be preferred, though reference to English Heritage's historic seascapes definition should also be made. • The move towards considering landscape in terms of sustainability is manifest in the ecosystem approach, is an emerging new context for terrestrial landscapes, and should be alluded to in the SEA.
33	KDCL	<ul style="list-style-type: none"> • Visual impacts should be fully identified in the development of the Environmental Baseline.

		<ul style="list-style-type: none"> Other site specific visual impacts should be emphasised, such as sensitivity of recreational activities that generate significant tourist income.
Climatic Factors		
34	NERC	<ul style="list-style-type: none"> 0.2°C is the rate per decade (for many regions) so the actual temperature increase will be that times however many decades being referring to.
Water Environment		
35	EA	<ul style="list-style-type: none"> Provide more details on the flood and coastal erosion risk which may be exacerbated by some of the activities considered in the SEA. Recommend including a reference to the nearshore zone (e.g. 0 to 3 miles from HWM) which provides the initial mixing of pollutants discharged to rivers and estuaries.
Cultural Heritage		
36	HS	<ul style="list-style-type: none"> Historic Scotland can provide GIS datasets under licence for scheduled monuments, listed buildings and gardens and designed landscapes.
Other Users & Material Assets		
37	EA	<ul style="list-style-type: none"> Include information on marine based tourism. Guidance on environmental impact assessment of offshore renewable energy development on surfing resources and recreation, Surfers Against Sewage 2009.
38	NE	<ul style="list-style-type: none"> The section largely highlights the potential for conflicts. Would advise that the SEA should look to maximise potential for co-location and benefits which might arise.
39	CCSA	<ul style="list-style-type: none"> CCS subsection should be expanded. DECC Clean Coal Industrial Strategy, which estimates that the CCS industry could be worth up to £6.5bn per year and sustaining up to 100,000 jobs by 2030.
40	SP	<ul style="list-style-type: none"> Pentland Firth lease area should be in Regional Sea 8. R3 zones (Hornsea, Dogger, Norfolk) are omitted in error.

RESPONSES TO QUESTION 4 – OBJECTIVES

#	Organisation(s)	Comments
General Comments		
1	EMEC	<ul style="list-style-type: none"> Filling knowledge gaps.
2	NERC	<ul style="list-style-type: none"> Could acknowledge the medium- to far-field effects (i.e. 'down-stream or 'lee-ward' environmental impacts) that large-scale development might have by introducing a further SEA Topic with associated objectives, or through adding relevant objectives to each of the current Topics.
3	CCW	<ul style="list-style-type: none"> Reference should be made to the UK Government HLMOs. Suggest the SEA team undertake a review of the list of objectives identified for the strategic assessment of the Severn Tidal Power study.
4	RSPB, WWF	<ul style="list-style-type: none"> The objectives are too generic – they should be more technology specific, e.g.: <ul style="list-style-type: none"> To minimise the loss of intertidal area resulting from

		<p>changes in tidal propagation.</p> <ul style="list-style-type: none"> • To minimise erosion of the foreshore and associated flood risks resulting from wave action.
5	RSPB	<ul style="list-style-type: none"> • MSFD and WFD indicators need to be included in the objectives. • Would be useful to link objectives to HLMOs.
Biodiversity, Habitats, Flora & Fauna		
6	SNH	<ul style="list-style-type: none"> • Amend second objective: Avoids adverse effects on the integrity of draft, possible, candidate and designated Natura 2000 sites, along with consideration of future Marine Conservation Zones and Marine Protected Areas. • Marine Protected Areas should specifically be referred as the equivalent of Marine Conservation Zones within Scottish territorial waters.
7	NERC	<ul style="list-style-type: none"> • A whole ecosystem consideration is needed in addition to the more narrow-focused objectives (i.e. predator-prey relationships, food web impacts, flora-fauna interactions, etc.); working towards maximising positive and minimising impacts of behavioural changes (e.g. marine mammal displacement).
8	JNCC	<ul style="list-style-type: none"> • Objectives should be forward-looking and refer to requirements under the MSFD where appropriate.
9	CCW	<ul style="list-style-type: none"> • Objectives are not sufficiently comprehensive and are not set within the policy framework of UK Government's vision for the UK marine area. • The need to consider the wide range of sites, species and habitats protected under domestic legislation (e.g. SSSIs and species listed on Schedule 5 of the Wildlife & Countryside Act 1981 and habitats and species of principal importance for conservation identified under the requirements of Section 42 of the NERC Act) is not sufficiently addressed. • There should be a specific objective to avoid significant disturbance of cetaceans. • To avoid adverse effects on valuable marine ecosystems/valued ecosystem components (these should be defined by reference to nature conservation and functional ecosystem importance). • To minimise the risk of introducing non-native invasive marine species. • To conserve and enhance designated marine site features. • To restore and enhance marine BAP species populations and/or BAP habitats. • To avoid adverse effects on protected species from operational and construction noise and vibration.
10	EA	<ul style="list-style-type: none"> • The protection and enhancement of all species and habitats and not purely those which are designated or selected 'valued ecosystem components'.
11	RSPB	<ul style="list-style-type: none"> • Biodiversity: objective 2: change to "...conservation sites, including draft, possible and candidate SACs, draft and potential SPAs, and other areas which have been shown to meet UK SPA selection guidelines, along with consideration of future Marine Conservation Zones."

12	WWF	<ul style="list-style-type: none"> • Request clarification on what a 'significant impact' may be. Also the definition of 'disturbance'. • Recommend that reference is made to sites with a recovery component that may require higher levels of protection. • 'Contributes to conservation of the wildlife and wildlife habitats of the United Kingdom' should be in line with the UK Government's vision for 'Clean, healthy, safe, productive and biologically diverse oceans and seas'. • Recommend reference to need for restoration of UK wildlife and habitats in the objective.
13	NIEA	<ul style="list-style-type: none"> • "To minimize the introduction and/or spread of non native invasive species".
Geology & Soils		
14	NERC	<ul style="list-style-type: none"> • Consider impact on coastal morphology and sedimentation.
15	EA	<ul style="list-style-type: none"> • No significant adverse change in quality and distribution of sea bed sediments in the vicinity of the site of activity, and down tide.
Landscape/Seascape		
16	CCW	<ul style="list-style-type: none"> • Consideration of historic seascape characterisation.
Climatic Factors		
17	NERC	<ul style="list-style-type: none"> • Assure investigation into sustainability of supply under a changing climate.
18	SEPA	<ul style="list-style-type: none"> • Replace "minimises GHG emissions" with "reduces GHG emissions". • Consider that an additional objective to cover climate change adaptation is necessary.
19	EA	<ul style="list-style-type: none"> • Resilience to the effects of climate change.
20	WWF	<ul style="list-style-type: none"> • Recommend that the Climatic Factors objective is at least changed from 'minimises' to 'reduces'
Water Environment		
21	CCSA	<ul style="list-style-type: none"> • "Protects estuarine and marine surface waters and aquifer resources" – request clarity as to whether the definition of "aquifer resources" includes those aquifers which will be suitable for CO₂ storage (not potable aquifers). If so, then we would recommend that the objective should clearly state "deep saline aquifers".
22	EA	<ul style="list-style-type: none"> • The water resources objective should be 'water environment' and must include both water resources and water quality. We recommend that the objective refers to 'surface water column' instead of 'surface waters' and includes good status under the Water Framework Directive (WFD) and Marine Strategy Framework Directive (MSFD).
Population & Human Health		
23	NE	<ul style="list-style-type: none"> • To minimise impacts on opportunities for public access and recreation
24	EA	<ul style="list-style-type: none"> • To avoid the increase of flood and coastal erosion risk and to reduce the risk wherever possible.

Cultural Heritage		
25	EH	<ul style="list-style-type: none"> Stress that historic designated features and sites at sea are very limited and that consideration is necessary of the wider and non-designated historic environment.
26	HS	<ul style="list-style-type: none"> Content with objectives for the historic environment.
Other Users & Material Assets		
27	NERC	<ul style="list-style-type: none"> Where possible, maximise(/consider) benefits to fisheries, aggregate extraction etc. through, for example, optimal array design.
28	EA	<ul style="list-style-type: none"> We would like to see further consideration of waste issues and the use of the sea for moving waste. Recommend reference to reducing impacts on land (e.g. where cables come ashore, during construction operations, from port expansion).
29	RUK	<ul style="list-style-type: none"> Security of Energy Supply.
30	SWRDA	<ul style="list-style-type: none"> It would be helpful to include an objective on the economic benefit (in terms of employment and GVA) that could be derived from a sustainable marine renewables sector. It may be appropriate to do this at a regional level.

RESPONSES TO QUESTION 5 – INDICATORS

#	Organisation(s)	Comments
General Comments		
1	NE, HS, SNH	<ul style="list-style-type: none"> Content with indicators/indicators are suitable.
2	EH	<ul style="list-style-type: none"> Indicators suitable but will be very limited in extent.
3	SEPA	<ul style="list-style-type: none"> Encourage the setting of targets to sit alongside indicators.
4	SP	<ul style="list-style-type: none"> How do these indicators relate to the MSFD? – should be reflective of the MSFD as well as other UE/UK initiatives.
Biodiversity, Habitats, Flora & Fauna		
5	WWF	<ul style="list-style-type: none"> Suggest including Marine and Coastal Access Act and Marine (Scotland) Act.
6	RSPB	<ul style="list-style-type: none"> Biodiversity: indicator 1: change to, “promotion of recovery and enhancement wherever possible.”
7	RSPB, NIEA	<ul style="list-style-type: none"> Seek clarification on the meaning of “valued ecosystem components” and how these will be selected.
8	CCW	<ul style="list-style-type: none"> No deterioration in Good Ecological Status and Good Environmental Status as result of draft plan/programme activities. No deterioration in Favourable Conservation Status of sites designated for the protection of biodiversity as result of draft plan/programme activities. No disruption to the coherence of the marine protected area network as result of draft plan/programme activities.
9	NIEA	<ul style="list-style-type: none"> The number of identified non native invasive species associated with developments related to the plan.
Geology & Substrates		
10	EA	<ul style="list-style-type: none"> Strengthen relevant indicator so that it requires not only no

		adverse changes to the quality of sediments, but also to their transport.
Climatic Factors		
11	JNCC	<ul style="list-style-type: none"> • More detail on the indicators for climatic factors required to show how these are relevant to the assessment of the contribution of the plan to climate impacts.
12	EA	<ul style="list-style-type: none"> • Indicator for resilience to the effects of climate change. • An indicator which measures the contribution to facilitating the development of low-carbon energy supply, as distinct from emission from the offshore activities themselves. • Update mitigation indicator with the latest data from the UK Climate Projections (UKCP09).
13	NIEA	<ul style="list-style-type: none"> • Should be a reference in the SEA topic about adapting to Climate Change.
Population & Human Health		
14	SEPA	<ul style="list-style-type: none"> • Seascape and nuisance indicators should be more clearly defined.
Cultural Heritage		
15	NIEA	<ul style="list-style-type: none"> • Would it be worth considering expanding the Indicator to read “No adverse impact upon the condition of designated sites and features (including impact on their setting) and minimal impact on all other recorded sites and features”?
Other Users & Material Assets		
16	EA	<ul style="list-style-type: none"> • The indicator on ‘Economic and social impact (both positive and negative)’ should be amended to ‘Economic, environmental and social impact (both positive and negative)’.
17	RUK	<ul style="list-style-type: none"> • Appropriate indicators associated with an objective, “security of energy supply”.

RESPONSES TO QUESTION 6 – SOURCES OF POTENTIALLY SIGNIFICANT EFFECT

#	Organisation(s)	Comments
General Comments		
1	EA, SNH, SEPA	<ul style="list-style-type: none"> Impacts from landfall for grid connections.
2	RSPB	<ul style="list-style-type: none"> Effects of CCS-related salt/halite expulsion. Indirect effects of tidal range: foreshore erosion leading to flood risk and this is synergistic with climate change. Sediment build-up, changes in sediment quality or reduced tidal power or range should be assessed.
3	NERC	<ul style="list-style-type: none"> Need to consider medium- to far-field effects (i.e. 'down-stream or 'lee-ward' environmental impacts), and indeed influences on renewables, oil and gas and associated infrastructures. The listed impacts, whilst thorough and pertinent, do not seem to go beyond 'what are the impacts to the environment in the immediate vicinity, of developing x, y and z here'. If possible effects such as unforeseen sediment dynamics and changes in distributions of shellfish associated with large-scale renewables are not considered or studied, the consequences on the sustainability and long-term efficacy of marine projects could be drastically different than intuited.
4	WWF	<ul style="list-style-type: none"> CCS should take account of embodied emissions, and those resulting from construction and the payback period for these. Over the period of currency for the SEA (5 years) CCS may actually contribute to emissions. More consideration and weight needs to be given to the potential impacts of CO₂ escapes, and the scale, importance, significance and reversibility of impacts.
5	EA	<ul style="list-style-type: none"> The sources of potential effect may be wider than recorded. For example, the impact on marine habitats or loss of habitats caused by construction of energy developments or related infrastructure. This can impact in certain locations on the benthic invertebrate community or on other fauna or flora.
6	JNCC	<ul style="list-style-type: none"> Effects of drilling discharges for offshore wind – needed for some turbine installation methods. Would recommend exclusion of consideration of major oil spills with the potential to contaminate sediments from renewable development (and potentially gas storage and CCS), including 'socioeconomic consequences.'
7	NIEA	<ul style="list-style-type: none"> In relation to gas and CO₂ storage we consider that the assessment should consider the evidence base and highlight if the degree of environmental effects differ between different geological formations/structures. Environmental effects of construction activities required to create the geological formations in question, e.g. potential to discharge hyper-saline solutions.
8	SP	<ul style="list-style-type: none"> Potential significant effects of offshore wind should be reviewed in light of pending Cefas report on FEPA conditions.
9	RUK	<ul style="list-style-type: none"> The inclusion of wind, wave and tidal energy is accurately portrayed.

10	SEPA	<ul style="list-style-type: none"> • Content that those areas of interest to SEPA (air quality, water environment, coastal processes, climate and human health) have been scoped into the assessment.
Biodiversity, Habitats, Flora & Fauna		
11	WWF	<ul style="list-style-type: none"> • Oil spills should be considered for tidal range technologies. • Suggest noise effects for CCS is labelled with a question mark. • Barriers to movements of birds should include tidal range technologies, as these may result in the loss of intertidal habitat. • Potential for collision risk for marine mammals and fish in respect of wave and tidal installations.
12	NERC	<ul style="list-style-type: none"> • Should address the question 'how might biology be adversely or beneficially affected downstream of renewable energy devices, as a result of physical changes to the marine environment associated with the harvesting of energy (be it wave or tidal, or to a lesser extent wind) up stream?'
13	RSPB	<ul style="list-style-type: none"> • All bird related impacts should be scoped in. • It is not clear whether disturbance from physical presence includes impacts on seabirds from habitat damage, loss or exclusion from a habitat.
14	NE, RSPB, SP, CCW, WWF, JNCC	<ul style="list-style-type: none"> • Collision of birds and mammals should be included for wave and tidal stream.
16	NE	<ul style="list-style-type: none"> • Operational noise impact from wind farms on birds and marine mammals should be scoped out because monitoring and modelling has shown that these are not significant issues.
17	EA	<ul style="list-style-type: none"> • The SEA should be the vehicle to encourage co-ordinated and funded research to monitor the potential effects of offshore energy on marine ecology. • Expect the potential behavioural and physiological effects on marine mammals, birds and fish from seismic surveys to be significant for all technologies listed. • Expect the potential significant effect of barriers to movement of birds to be significant for tidal range.
18	JNCC	<ul style="list-style-type: none"> • Assume that the effects on fish from construction noise will be considered in the context of indirect effects on predatory birds • Effects of noise during decommissioning. • Physical damage from construction: Should also include the long-term effects on the benthos from the installation of infrastructure, i.e. through effects on hydrodynamics, etc. • Potential of loss of liquids from gases which are transported as such. • Consider scoping out impact of operational noise for gas storage and oil and gas projects on marine mammals, birds and fish.
19	CCW	<ul style="list-style-type: none"> • Collision risk and barrier to movements are potential effects of wave and tidal devices on fish, mammals and birds. • Potential for tidal stream devices to act as Fish Aggregating Devices (FAD) - this may cause attraction of mammals and diving birds and so increase the risk of collision. • Risk of loss and permanent alteration of seabed habitats (suggest changing biotopes to calling them seabed habitats and communities).

Landscape/Seascape		
20	SP	<ul style="list-style-type: none"> • There will be no impact from fully submerged devices.
Geology & Substrates		
21	EA	<ul style="list-style-type: none"> • Consider that all types of scheme could have the impact of sediment modification and contamination.
22	CCW	<ul style="list-style-type: none"> • Hydrographic and geomorphological effects (e.g. changes to current, flow and tidal regimes and subsequent loss of habitat) may be caused by wave and tidal devices.
23	RSPB	<ul style="list-style-type: none"> • Hydrodynamic changes may result from technologies such as wind, wave and tidal stream and range.
Air Quality		
24	SP	<ul style="list-style-type: none"> • Wave and tidal will require installation vessels and this should be considered.
Climatic Factors		
25	WWF	<ul style="list-style-type: none"> • CCS should be marked for 'contributions to greenhouse gas emissions' in the case of EOR.
26	NERC	<ul style="list-style-type: none"> • Climatic factors should consider whether there is a potential for local climate to be modified downstream of devices.
27	EA	<ul style="list-style-type: none"> • Change climatic factors effects to: 'Contributions to net greenhouse gas emissions through lifetime of asset' and 'Reduction in net greenhouse gas emissions through lifetime of asset'.
28	JNCC	<ul style="list-style-type: none"> • Request expanding 'contributions to greenhouse gas emissions' across all projects, to ensure that the life-cycle analysis of projects are considered, and balanced against the operational effects. NB this section should also link to the consideration of flaring, venting, etc in the air quality topic, as they have global as well as local effects.
Water Environment		
29	EA	<ul style="list-style-type: none"> • The effects on water quality of mobilising contaminated sediment or increasing deposition'. • 'Contamination by soluble and dispersed discharges' should be extended to 'Contamination by soluble and dispersed discharges and disturbed sediments', and applied across all technologies. • The nature and use of antifouling materials on any structures.
Cultural Heritage		
30	CCW, NIEA, EH	<ul style="list-style-type: none"> • Cultural Heritage should have its own section.
31	HS	<ul style="list-style-type: none"> • Direct impacts on submerged archaeological remains, protected wrecks etc. and impacts on the setting of coastal historic environment assets.
Other Users & Material Assets		
32	EA	<ul style="list-style-type: none"> • Many of the sources of potentially significant effect under 'Population human health' instead relate to 'Other uses of the sea, material assets (infrastructure, and natural resources)'.

RESPONSES TO QUESTION 7 – ADDITIONAL INFORMATION OR COMMENTS

#	Organisation(s)	Comments
General Comments		
1	SEPA	<ul style="list-style-type: none"> • Expect only the revised or new elements of the Environmental

		Report to be presented and for large parts of the OESEA Environmental Report not to be repeated. Where appropriate, signposting to the UKOESEA would be preferred.
2	EA	<ul style="list-style-type: none"> • Check section headings/titles for consistency (e.g. 'Geology, substrates and coastal processes, Geology and sediments, Geology and Soils).
3	SP	<ul style="list-style-type: none"> • Ask Government to lead a public awareness campaign for CCS, in conjunction with industry supported by the SEA. SEA will play a vital role in persuading the public of the environmental benefits of CCS.
4	WWF	<ul style="list-style-type: none"> • Note that there is no legally binding target for security of supply.
5	KDCL	<ul style="list-style-type: none"> • The scoping document indicates that most of our concerns have been identified and will be responded to in the SEA process.
Alternatives		
6	EA	<ul style="list-style-type: none"> • Would like to see further assessment of alternatives relating to different energy technologies, locations and implementation options on the ground, rather than just the three basic options identified within the scoping report.
7	WWF	<ul style="list-style-type: none"> • Alternatives do not allow for adequate assessment of viable options to the draft plan/programme. • There is no explanation of how the alternatives have been derived. • Without generation capacities and lack of spatial specificity, it may be impossible to answer particular questions in the hierarchy to assist defining possible alternatives. • WWF seeks confirmation as to how the hierarchy of options presented from ODPM guidance will be used to revise alternatives. • It is felt that there is only 1, poorly defined alternative (alternative 3) and with no reasonable alternatives to assess against this option, this is not compliant with the SEA Directive. Suggest that there needs to be sufficient quantification of the need or demand for the plan/programme and then full and proper consideration given to all alternatives that there are to meet this need or demand. Alternatives should include: <ul style="list-style-type: none"> • Measures for energy efficiency and demand management. • Varying scales and mixes of generation capacity can be used to allow for assessment of the impacts at each end of the scale and with different mixes of technologies, as well as consideration of the interrelationships between the technologies and their impacts to inform the best plan/programme to proceed with. • Variations on temporal and spatial restrictions which enable assessment of the impacts that specific restrictions may have and conclusions to be drawn on where the most suitable sites may be for each technology type.

8	RSPB	<ul style="list-style-type: none"> • The draft plan and proposed alternatives are poorly specified, and do not constitute an assessment of reasonable alternatives that would satisfy the purposes of the SEA Directive. • The proposed five year 'period of currency' for this SEA is unrealistic, because there are a large number of marine-related initiatives that will significantly alter the baseline during this period. • With the draft plan and alternatives as specified, the range of technologies and locations covered by this SEA is a concern. There may be a case for a separate SEA process that would enable identification of the least environmentally damaging ways to harness energy resources in estuaries and inshore waters.
9	RUK	<ul style="list-style-type: none"> • The consideration of alternatives should be limited to realistic and viable alternatives, rather than being opened to wider policy measures such as energy efficiency.
10	NE	<ul style="list-style-type: none"> • The assessment of alternatives should include wider energy efficiency measures and other forms of energy generation and not restricted to offshore wind and oil and gas.
11	JNCC	<ul style="list-style-type: none"> • The Offshore Development Information Sheet (ODIS) is referred to, and we recommend that the scenarios being developed for these are utilised to represent realistic alternatives to the plan.
The Plan/Programme		
12	TCE	<ul style="list-style-type: none"> • Based on our current assumptions (32GW from Round 3, 8GW from R1&2, plus more from extensions and demo sites) 33GW would seem to be insufficient, and may lead confusion amongst stakeholders and industry. For clarity it should be made clear how the figure of 33GW has been derived, why it is being used, and also that it is not a ceiling or cap on development. • Understand the SEA could be refreshed in ~3-5 years and provided more than 33GW is not consented within the lifespan of this SEA (i.e. 3-5 years) this figure is not an issue. Would like to see a firm commitment from Government that there will be further SEAs in the future and within a specific time frame.
13	SEPA	<ul style="list-style-type: none"> • Geographical extent of the SEA (as stated on p.69) should be clarified.
14	EA	<ul style="list-style-type: none"> • Recommend statement, "the SEAs of the devolved administrations for renewable energy developments in their territorial waters are not part of this plan/programme" is clarified.
15	NE	<ul style="list-style-type: none"> • Coal gasification should be included in the scope as a number are taking shape in UK waters and the environmental effects of this should be considered at a strategic level. • Welcome the fact that there will be no minimum threshold for tidal stream assessment as we believe that encouraging deployment of devices away from highest velocity sites will reduce the potential conflict with environmental interests.

16	SP	<ul style="list-style-type: none"> • Strategic storage infrastructure for CCS should be included within the scope of the SEA. • Depth limit of 60m may not be sufficient for future renewable devices – plans to increase this depth for future assessments should be given. • Why are there no generation targets for wave and tidal technologies? • If CCS demonstration projects (first due to be operating by 2014) are to proceed in a timely manner, the SEA, licensing regulations, and relevant guidance will need to be finalised quickly.
17	WWF	<ul style="list-style-type: none"> • The plan/programme is too vague, lacks temporal or spatial constraints and requires ambitious generation targets to be set for other marine renewable technologies. It may be argued that it is sufficiently vague as to question whether there really is a plan/programme to assess. • Propose consent for EOR CCS should not be granted, and that if it is, impacts on GHG emissions should be taken into account. • Concerned that the processes for licensing offshore energy installations are occurring without the benefit of strategic marine spatial planning and is out of sync with Appropriate Assessments under the Habitats Regulations and designations of offshore Special Protection Areas, MCZs and MPAs. SEA should consider that identification of conservation sites is still in progress. • Request information on how OESEA2 is intended to be considered and integrated within the programme for implementation of marine planning under the Marine and Coastal Access Act.
18	NE	<ul style="list-style-type: none"> • Welcome inclusion of CO₂ storage and tidal range. • Welcome the inclusion of offshore transmission infrastructure as this was a serious omission in the OESEA, and the impact of such features (unless carefully sited) could significantly impact upon sensitive nature conservation assets offshore and at the coast, as well as the character and characteristics, and the visual qualities of highly valued landscapes/seascapes most especially at the landward edge/coastal strip of the seascape, and within adjacent inland landscape(s). The relevance of these matters to the coastal access agenda (i.e. encouraging people to have access to and appreciation of coastal areas) also needs to be understood and acknowledged.
19	CCSA	<ul style="list-style-type: none"> • EOR may become an area of further activity within the next five years – i.e. within indicative time horizon for this SEA. • Section 1.4 may give a misleading impression that CCS is commercially a long way off. Perhaps more appropriate to discuss the need for a programme of CCS demonstration projects that will enable widespread commercial deployment during the 2020s, linked to UK targets for CO₂ reduction. • Section 1.6.3: refer to EU CCS Directive which states that

		<p>“storage sites should not be operated without a storage permit”</p> <ul style="list-style-type: none"> • Clarify that a developer will need to apply to the Crown Estate for a CO₂ storage lease, and that the application for a licence (from DECC) and the lease (from the Crown Estate) should follow a parallel process with common criteria that will be decided by DECC. • IPC will provide consent for CCS plants. • Possibility that a CO₂ storage site in the North Sea may be used by more than one country should be a consideration.
20	RUK	<ul style="list-style-type: none"> • The SEA should not disrupt the programme for offshore wind currently being development within the UK renewable energy zone (e.g. Round 3, Scottish Territorial Waters leasing and potential extensions to Rounds 1 and 2). Where leases have already been confirmed developers will already be investing.
Approach to Assessment		
21	EMEC	<ul style="list-style-type: none"> • Recommend a key output will be the recognition of data gaps for and the identification of monitoring methodologies that need to be developed to support wave and tidal stream developers at the enabling test deployment stage – happy to liaise with the developer community to facilitate such monitoring as appropriate.
22	SNH	<ul style="list-style-type: none"> • Consideration should also be given to the potential for offshore transmission cables and hubs required to support renewables.
23	NE	<ul style="list-style-type: none"> • The Scoping Report does not properly address landscape, seascape and visual effects at the strategic level. • Noise disturbance to marine mammals - need to address practical solutions to limiting noise. • Need to consider coastal access and recreation issues, particularly with regard to the landfall of offshore cabling and associated infrastructure. • SEA to consider potential conflicts between energy generation activities, for instance, whether oil and gas licensing should be ruled out in some blocks to provide space for renewable energies to be built. • Welcome wave and tidal inclusion, though emphasise the need to ensure impacts beyond those confined to marine ecology are considered, such as landscape, seascape and visual impacts. • Welcome consolidation of info/evidence from R1, 2 and 3. • Recommend that reference is made to the need for a Habitats Regulations Assessment to be made of the conclusion of the SEA.

24	NERC	<ul style="list-style-type: none"> • In order to understand fully the effects of marine renewable installations and their long-term sustainability and efficacy, a whole-system approach needs to be taken to surveying, monitoring, guidance and regulation, methods and technologies. Otherwise there is a danger of significantly misinterpreting cause-effect relationships. • All existing, relevant data sets should be collated to help contribute to the provision of a background context against which current monitoring/survey work can be set
25	JNCC	<ul style="list-style-type: none"> • The recommendations arising from OESEA1 were relevant and focussed on improving the information base for SEA. We therefore recommend that these are presented clearly, with description of how each are being progressed. This could helpfully include clarification of the relevant research groups which have been set up to address research gaps, and how these are being co-ordinated to ensure efficient use of resources and sharing of data. • Would be helpful if recommendations could also consider the different consenting regimes, and clarify where it is necessary for co-ordination between regimes to ensure that strategic effects are understood and monitored. This should include for example the strategic management of licensed disturbance to marine mammals from noise, which will be licensed by different consenting bodies within the plan area. • Consider it useful that the SEA is considering strategic solutions, for example clustering of pipelines in CCS deployment, to maximise efficiency and minimise environmental impacts. Recommend this is also pursued for the development of offshore transmission networks (this is included in the introduction to the scope but no further detail provided). • Consideration of intermittency issues – would be relevant to investigate this in more detail when assessing the sufficiency of energy options, including the need for back-up capacity. This should link strongly to the work being undertaken by ODIS, and in particular their future energy scenarios.
26	CCW	<ul style="list-style-type: none"> • The SEA should explore mechanisms to better facilitate strategic coordination of transmission infrastructure (electric cables, pipelines) to minimise impacts and reduce consenting risk.
27	CCSA	<ul style="list-style-type: none"> • Level of detail on environmental issues is prescriptive. Consideration should be given to the possible removal of some of these detailed issues to avoid unnecessary delays and time-consuming detailed assessments when project developers begin to design a project.
28	KDCL	<ul style="list-style-type: none"> • Concerned about the visual landscape/seascape impacts of offshore wind. • Great care should be taken at the EIA stage, particularly for those sites within the 12nm originally contemplated in the January 2009 SEA. • The Kintyre Offshore Wind Farm site in Regional Sea 7 is of particular concern, as development here will harm tourism, a

		<p>principal component of the region's economic base.</p> <ul style="list-style-type: none"> • Want to be sure that the SEA meets the spatial considerations of OESEA, that "...developments should not...result in significant detriment to tourism, recreation and quality of life".
29	SP	<ul style="list-style-type: none"> • SEA should develop a pragmatic approach to environmental monitoring. • SEA should account for developing MCZs and potential impacts on (and of) new networks – noted these will not be complete in time for writing SEA. • Demonstration will increase our overall understanding of CCS technologies – the SEA must be flexible to be able to adapt to accommodate the learning process and output of demonstration. • Any programme of environmental gathering should be detailed, particularly benthic investigations.
30	WWF	<ul style="list-style-type: none"> • Request clarification on the proposed approach to dealing with uncertainties (e.g. that for wave and tidal stream technologies).
31	SNH	<ul style="list-style-type: none"> • For CCS, it is important to consider the cumulative effects of any clustering, having regard to non-CCS infrastructure in areas such as the Outer Firth of Forth and Tay.
32	TCA	<ul style="list-style-type: none"> • Consider taking into account the potential presence of underground coal gasification operations.
33	NIEA	<ul style="list-style-type: none"> • It would be worthwhile for the Environmental Report to include details about the estimated UK resource/extent and location of saline aquifers and salt caverns in the UK (if known). • In the assessment framework we consider that the scale of the locations identified to indicate where alternatives should go, i.e. broad areas or specific sites would have a significant bearing on the scope and level of detail required for the SEA process (site specific locations would require much more detailed baseline data than broad areas). • Although we do not know the status of using similar geological formations for renewable energy storage in the form of air compression, this potential technology may, in the future, be a competing use for these geological formations. This potential future alternative use may merit some form of consideration in the Environmental Report.
34	RUK	<ul style="list-style-type: none"> • An overly spatially prescriptive approach should not be used. Offshore energy developers are best placed to choose where potential projects should be sited, acting on an economic basis (factoring in constraints such as grid connection, bathymetry, resource, etc). The ability of a potential site to be developed should then dependent on the environmental features present and the potential mitigation measure that can be agreed upon by the developer and the license granting body.

	RSPB	<ul style="list-style-type: none"> • p. 70 states: “at a strategic level, a distinction will be drawn for various effect mechanisms between impacts which may be significant in terms of conservation status of a species or population... and impacts which may be significant to individual animals... ..it is appropriate that strategic considerations are made at a biogeographic population or species level as is done for example, in the selection of qualifying features for Natura 2000 sites”. This fails to recognise the legal imperative to protect the integrity of Natura 2000 sites and their features, or to note that, while in some cases losses of small numbers of individuals may be shown to have no effect on population integrity at either the site or the biogeographic/species population scale, in others, where there is not reasonable confidence in the figures presented, the precautionary approach must be adopted. • Welcome the commitment to consideration of cumulative and transboundary effects in Section 5. • Concerned that no reference is made here to the need to undertake an Appropriate Assessment of the Plan/Programme. We are of the opinion that the proposals may have a likely significant effect on Special Protection Areas and their bird populations, and on Special Areas of Conservation, and that a strategic Appropriate Assessment is required. • Appendix 1, recommendations 4 and 5 are inconsistent with the precautionary approach. • Recommendation 4: should be rephrased to state: “Where offshore wind developments do not impact on the conservation objectives of MCZs, wind farms may be located in such areas.” • Recommendation 5: needs to make it explicit that in some cases, Natura 2000 sites (and other MPAs) will not be leased at all. • As currently drafted, these recommendations seem to indicate priority to reducing economic/industry conflicts over meeting environmental objectives.
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