

Offshore Energy Strategic Environmental Assessment

Post Public Consultation Report

JUNE 2009

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1 INTRODUCTION

1.1 Purpose of this document

The Department of Energy and Climate Change (DECC) is conducting a Strategic Environmental Assessment (SEA) of a draft plan/programme to hold further rounds of offshore wind leasing and offshore oil and gas licensing in United Kingdom waters.

The Environmental Report (ER) of this SEA (hereafter referred to as the Offshore Energy SEA, or OE SEA) was published on the Offshore SEA website¹ on the 26th January 2009 at the start of a 3 month public consultation period. This report presents a summary² of the issues raised and other comments received during the public consultation period. Where appropriate, responses to comments are included which provide factual and technical clarifications. The report also includes responses to comments on policy, regulatory and other controls, and future plans where these are relevant. A revised set of recommendations are included in Section 3. It is not intended to publish a revised version of the Environmental Report, and the conclusion of the SEA remains that alternative 3 to the draft plan/programme is the preferred option, with the area offered restricted spatially through the exclusion of certain areas.

There are many considerations which DECC will take into account in making decisions regarding the draft plan/programme; the responses to this consultation and the Environmental Report are important inputs to this process. A post adoption statement, describing *inter alia* how environmental considerations have been integrated into the plan or programme and how the Environmental Report and opinions expressed in response to the consultation has been taken into account in line with the requirements of the SEA Regulations. In addition, for the offshore wind element a related policy document "A prevailing wind" has been prepared to accompany the post adoption statement.

1.2 Background

The Offshore Energy SEA is being conducted in accordance with the *Environmental Assessment of Plans and Programmes Regulations 2004* (the SEA Regulations), which apply to any relevant plan or programme which relates either solely to the whole or any part of England, or to England and any other part of the United Kingdom (UK).

The SEA is intended to:

- Consider the environmental implications of a draft plan/programme for licensing for offshore oil and gas, including gas storage, and leasing for offshore wind. This includes consideration of the implications of alternatives to the plan/programme and the potential spatial interactions with other users of the sea.
- Inform the UK Government's decisions on the draft plan/programme
- Provide routes for public and stakeholder participation in the process

The main parts of the draft plan/programme are:

- **For offshore wind energy** - to enable further rounds of offshore wind farm leasing in the UK Renewable Energy Zone and the territorial waters of England and Wales in waters up

¹ www.offshore-sea.org.uk

² For reference, in addition to the summarised comments in this report, full copies of the responses are available on the SEA website.

to 60m in depth, with the objective of achieving some 25GW of additional generation capacity by 2020. This part of the plan/programme does not include the territorial waters of Scotland and Northern Ireland

- **For offshore oil and gas** - to hold further seaward rounds of oil and gas licensing in UK waters
- **For gas storage** - to include future licensing for the underground storage of combustible gas in depleted and other offshore oil and/or gas fields in UK waters, as part of the strategy to increase the UK's storage capacity and maintain resilience of gas supply in cold weather periods of high demand or interruptions to imported supplies

The following alternatives to the draft plan/programme for future offshore wind leasing, oil and gas licensing and gas storage were assessed in the SEA:

1. Not to offer any areas for leasing/licensing
2. To proceed with a leasing and licensing programme
3. To restrict the areas offered for leasing and licensing temporally or spatially

1.3 Offshore Energy SEA consultation process

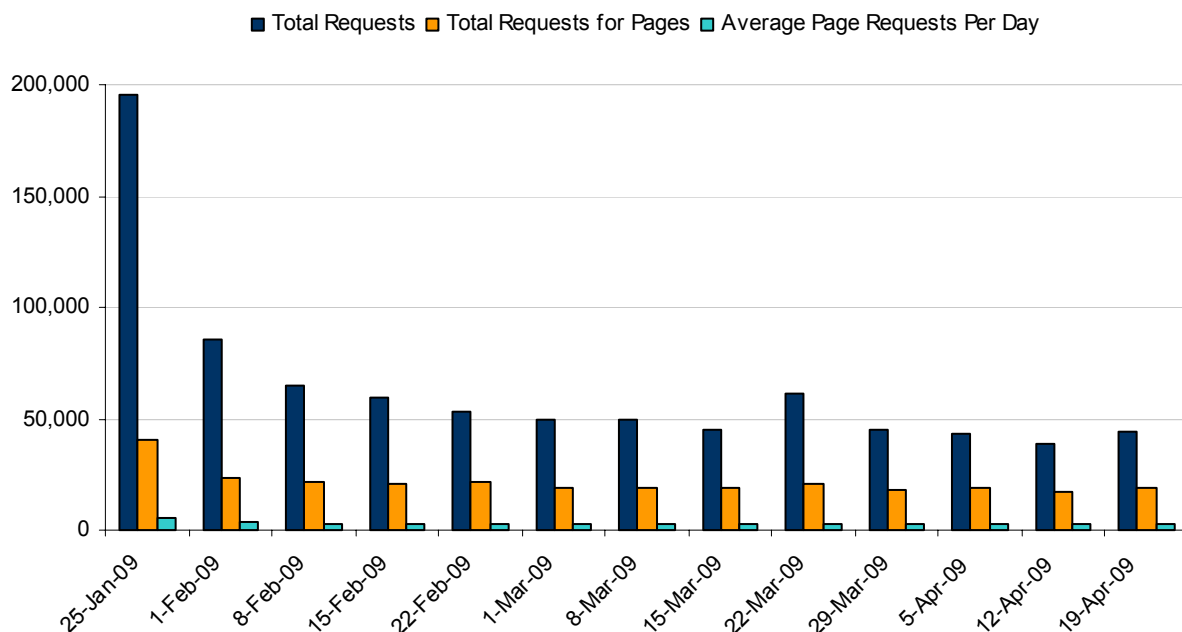
The Environmental Report was available to view or freely download from the SEA website³. Copies of the Environmental Report could also be ordered⁴, if preferred, via the website, by email or by mail. An email alert was sent to all registered users of the SEA website. Other stakeholders were variously alerted by email including through the Coastal Management for Sustainability emailing advertising service. Notices were inserted in twenty national and regional newspapers to inform the wider public of the SEA consultation. Copies of the Environmental Report were sent to statutory consultation bodies and authorities in the UK and to neighbouring states.

One hundred and seven copies of the Environmental Report were mailed out in response to requests from stakeholders and the public. Statistics for the number of times the Environmental Report and Technical Reports were downloaded from the Offshore SEA website, as well as the number of hits on the website during the consultation period are summarised in the histograms below. Figures are indicative as, for example, search engine page crawlers can add extra traffic to a website.

³ Various Technical Reports and copies of Reports from earlier DECC SEAs are also available from the SEA website

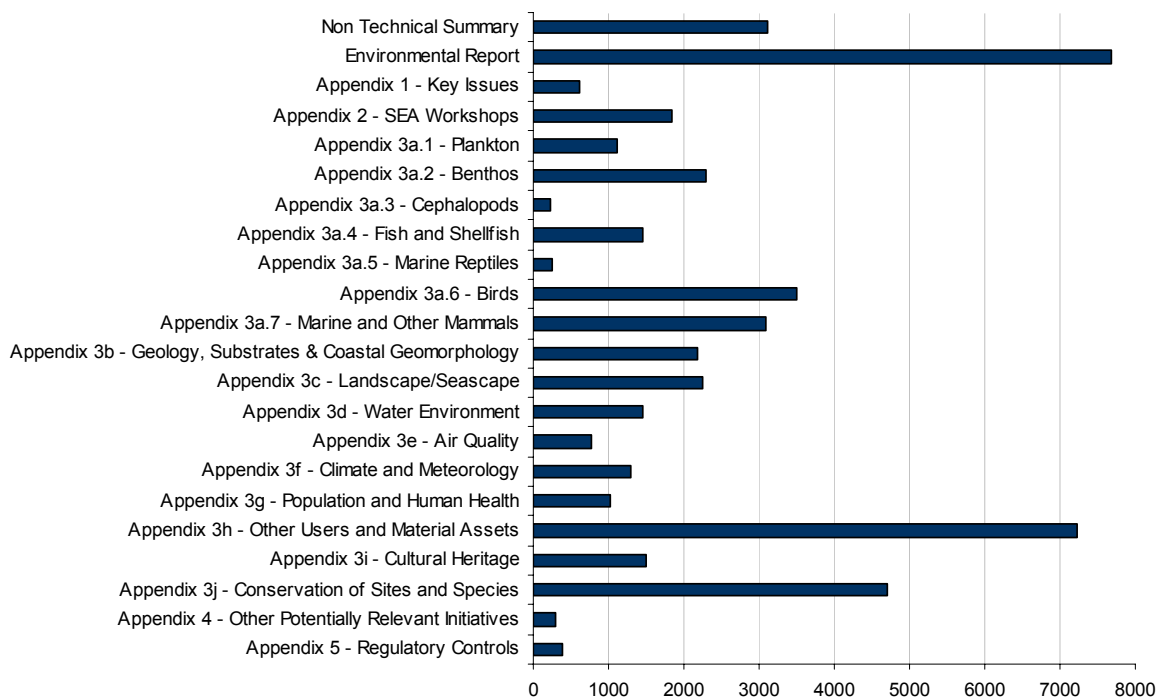
⁴ Copies of the Environmental Report were provided free of charge.

Offshore SEA website – number of page hits for the weeks covering the SEA consultation period

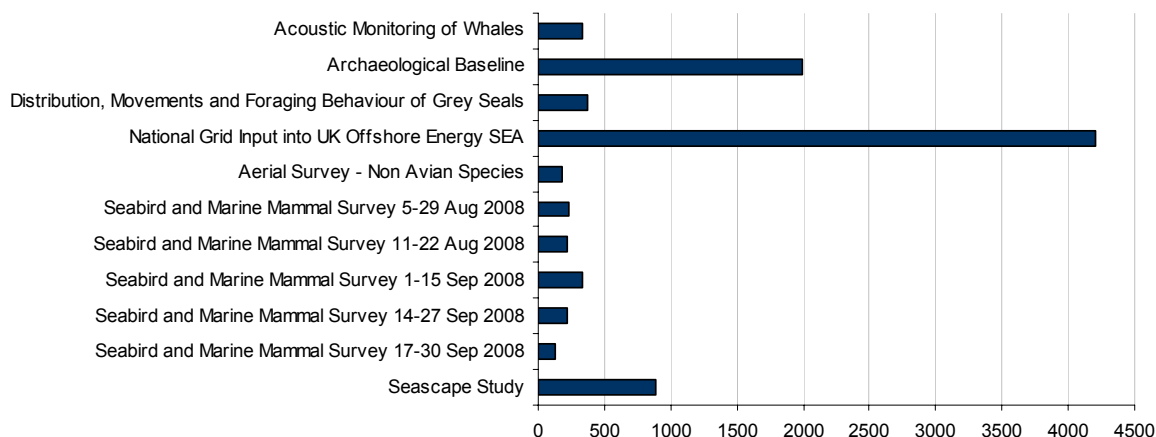


Number of pdf documents downloaded from the Offshore SEA website during the SEA consultation period

a) Environmental Report Sections



b) Technical Reports



2 SUMMARY OF CONSULTATION FEEDBACK

2.1 Consultation input

Responses were received via the SEA website and as e-mailed or hard copy correspondence to DECC. Responses were received from the following 56 organisations and individuals:

Airtricity
Bournemouth Borough Council
British Wind Energy Authority (BWEA)
Campaign for National Parks (CNP)
Campaign to Protect Rural England (CPRE)
Centrica
Chamber of Shipping (CoS)
Countryside Council for Wales (CCW)
Derek Limbert
DONG Wind (UK) Limited (DONG)
Dorset County Council (DCC)
Dutch Fisheries Organisation (DFO)
Dutch Government
E.ON UK (E.ON)
Eastern Sea Fisheries Joint Committee (ESFJC)
Econcern
EDF Energy (EDF)
EDP Renováveis & Sea Energy Renewables (EDPR-SER)
English Heritage (EH)
Environment Agency (EA)
Forewind
Forth Ports PLC (FP)
Fred Olsen Renewables (FOR)

Global Marine Systems (GMS)
Historic Scotland (HS)
Inch Cape Offshore Wind Farm Ltd (ICOWFL)
Joint Nature Conservation Committee (JNCC)
Kate Elridge
Ministry of Environment, Czech Republic (MoECZ)
Ministry of Environment, France (MoEF)
National Air Traffic Service En Route Limited (NERL)
National Federation of Fishermen's Organisations (NFFO)
Natural England (NE)
Norfolk County Council (NCC)
Northern Ireland Environment Agency (NIEA)
Northumberland Sea Fisheries Committee (NSFC)
Ocean Electric Power (OEP)
Philips Advanced Development Lighting, Netherlands (PADL)
Renewable Energy Association, Ocean Energy Group (REA)
Renewable Energy Systems Offshore (RES)
Richard Cowen
Royal Yachting Association (RYA)
RWE Npower Renewables Limited (NRL)
Sándor Gera
Save-our-Seas (SoS)
Scottish Environmental Protection Agency (SEPA)
Scottish Natural Heritage (SNH)
Scottish Power Renewables (SPR)
South Downs Joint Committee (SDJC)
South West RDA and Regen SW (SWRDA & RSW)
Terence O'Rourke (TO'R)
The Crown Estate (TCE)
The Royal Society for the Protection of Birds (RSPB)
The Wildlife Trusts (WT)
Whale and Dolphin Conservation Society (WDCS)
World Wide Fund for Nature UK (WWF-UK)

For ease of reader access, consultee comments have been summarised and grouped in Section 2.2 (by topic) together with, where relevant, clarifications and DECC responses which are given in italicised text following the comment. Where consultee comments cover the same issue they have been combined to avoid duplication. Full texts of consultee comments are also available on the SEA website.

2.1.1 Number of respondents by category

The vast majority of responses relate to the offshore wind element of the draft plan/programme.

Respondent category	Number of respondents (% of total)
UK public bodies	14 (25)
Foreign Government Bodies	3 (5)
Trade organisations and business	27 (48)
Environmental non-governmental organisations	8 (14)
Other non-governmental organisations	0 (0)
Individuals	4 (7)
Total	56 (100)

Due to the volume and diversity of stakeholder responses received, they have been categorised on several levels, broadly relating to the section of the Environmental Report to which they refer. The following categories are used, which are further subdivided in Section 2.2:

- Quality of the Environmental Report
- Overall conclusion
- Consideration of alternatives
- SEA scope and process
- Assessment methodology and findings
- Environmental baseline
- Recommendations and monitoring
- Other issues raised/comments

2.2 Consultation issues with DECC responses and clarifications

2.2.1 Quality of the Environmental Report

a	NE, SNH, SEPA, HS, NIEA, WT	Welcome the considerable level of work which has been put in to the Offshore Energy SEA (OE SEA), its associated annexes and supplementary technical reports, and previous SEAs which underpin it.
b	SNH, SEPA	Commend DECC on the generally robust and methodical approach taken to the assessment and the overall quality of the published documents.

2.2.2 Overall conclusion

a	CCW, JNCC, RSPB, DCC, WT, WDCS	In summary, support the overall conclusion of the SEA that alternative 3 to the draft plan or programme is the preferred option, with the area offered restricted spatially through the exclusion of certain areas.
b	NIEA	Broadly content with this Environmental Report (ER).
c	MoEF, Dutch Government	Acknowledge the overall conclusion of the ER and in general agreement with its findings.
d	JNCC, RSPB	Agree, subject to important caveats, that the environmental data presented in the SEA provides no conclusive evidence that overriding environmental considerations will prevent the achievement of the plan/programme.
e	JNCC	Have concerns with respect to the evidence base and with some of the interpretation; there are significant environmental risks that need to be effectively managed to ensure the plan/programme can be delivered.
f	BWEA, FOR, RES	Welcome the SEA report's high level statement that "...there are no overriding environmental considerations to prevent the achievement of thewind elements of the plan/programme". However, this statement is qualified with "albeit with a number of mitigation measures to prevent, reduce and offset significant adverse impacts on the environment and other users of the sea." It is therefore in the detail of these mitigation measures

		that lie the industry's concerns.
		<i>With regard to all of the above comments, the views of the consultees are noted; specific issues are addressed in the sections below.</i>

2.2.3 Consideration of alternatives

a	JNCC, CCW, NE, RSPB	The plan considered in this SEA includes only selected elements of the energy generation infrastructure that might contribute to the achievement of UK carbon reduction targets; potentially significant elements sit outside the plan and therefore the SEA (e.g. the Severn Tidal Power Project and other wave & tidal stream development). By considering only selected elements of offshore energy generation, DECC have limited the assessment of alternatives and therefore risk failing to fully assess the environmental effects of the stated overall objective of the plan/programme or bring forward the technologies or mix of technologies that are least damaging to the environment. Suggested a wider assessment of the risks and benefits of a range of energy generation alternatives to provide a more robust evaluation of the overall environmental risk associated with UK energy supply policy.
		<i>The OE SEA considered the draft plan/programme on which scoping consultation had been undertaken; the SEA was not of UK energy supply policy which has previously been consulted on through the 2007 Energy White Paper.</i>
b	NE	There is an apparent lack of recognition of the potential role of energy demand and efficiency measures. Recommend that the assessment of alternatives should include wider energy efficiency measures. This was raised in our scoping response and we do not consider that this has been addressed in the ER.
		<i>Demand and energy efficiency measures have been considered and consulted on through the UK Renewable Energy Strategy (RES) consultation (BERR 2008a, BMRB 2009) and the Government's consultation on the Heat and Energy Saving Strategy (DECC & DCLG 2009); the 25GW offshore wind element to the draft plan/programme assessed in the OE SEA is one element of the broader consideration of responses to climate change that will be addressed in the RES.</i>
c	RSPB	The SEA does not consider spatial alternatives to licensing and leasing using the Round 3 TCE map of proposed development zones as one alternative amongst many.
		<i>The OE SEA considered all UK waters for hydrocarbon licensing and relevant areas in suitable waters depths for wind leasing. The Round 3 zones were potentially subject to change and although referenced and mapped, were not explicitly assessed in the ER.</i>
d	RSPB	Table 2.2 (p.12) summarises how the assessment has applied the 'Hierarchy of Options'. The second and third steps of the hierarchy are not adequately addressed. In particular, the conclusion of step 3 only describes the distribution of wind, oil and gas resources rather than assessing where development should go.
		<i>Section 2.3 of the ER lays out the approach to assessment rather than the detail which follows in later sections. The third step also notes that location is a function of existing sensitivities and uses; how these influence the location of development is assessed throughout the main body of the ER.</i>
e	WWF-UK	Recommend/request that there is a fundamental change in the approach used in identifying alternatives, including obviating development.
		<i>The SEA Steering Group has been regularly asked to consider and suggest other valid alternatives to the draft plan/programme; to date none have been proposed that have met with consensus agreement. Any consideration of obviation would form part of overall UK Government</i>

		energy policy (see also response to 2.2.3b above).
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2.2.4 SEA scope and process

Scope		
a	CCW, NE	The SEA might also have considered potential conflicts between future 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.
		<i>This issue is addressed by recommendation 1 (ER Section 6.1, p.213). There is increasing documentation and understanding of marine renewable energy resources in the UK, e.g. the DECC Renewables Atlas, initiative by the devolved administrations and the forthcoming DECC wave and tidal SEA screening exercise for territorial waters of England and Wales. This information, along with the recommendations of the Offshore Energy SEA, will feed in to Government decisions on licensing and leasing of all offshore energies (as well as TCE leasing decisions).</i>
b	REA	It would have been a more effective and efficient use of public funds if the OE SEA had included wave and tidal energy; the cost of this inclusion would have been insignificant in comparison to that which will now be incurred by conducting a separate SEA.
		<i>There is currently no defined plan/programme relating to wave and tidal energy on which to base an assessment. However, broad-scale baseline data collection has been carried out through the DECC SEA process which, in combination with other studies such as those commissioned by the Government's Research Advisory Group on Marine Renewable Energy (RAG), will be of considerable value to any future wave and tidal SEA.</i> <i>DECC has recently commenced a wave and tidal SEA screening exercise for the waters of England and Wales to better understand the energy potential of marine energy devices and the realistic timescale of when multiple devices will be installed and commissioned</i>
c	OEP	Wish to see the scope of the SEA extended to include marine renewable energy (other than OWFs) in areas in England with the potential for early development. These include the South West of England and the Western Approaches; specific areas for marine energy SEAs could be suggested.
		<i>See response 2.2.4b.</i>
d	DDC	Urge DECC to support wave and tidal technologies with a view to improving their commercial viability.
		<i>The development of wave and tidal energy is a key feature within the UK's RES consultation (BERR 2008a). The Marine Renewables Deployment Fund (MRDF) was established by the UK Government in 2004, with a budget of £50 million. The MRDF has four components, the Wave and Tidal-stream Energy Demonstration Scheme, environmental research, related research and infrastructure support, with contributions to 2020 targets expected from these sectors.</i>
e	RSPB	Suggested in scoping response that the assessment would be improved if it were able to predict the likely impacts should oil and gas activity resulting from the draft plan/programme be half or double that predicted. The draft plan/programme as described in Section 2.1 does not include predictions of oil and gas activity, and consequently the assessment falls short of adequately assessing the likely effects of such activity.
		<i>Section 2.6 (p.15) of the ER considers the potential activities that could follow adoption of the draft plan/programme, including a likely oil and gas activity scenario. This scenario is based on the experience of several decades of oil and gas licensing in the UKCS and adopts a maximum</i>

		<i>activity scenario, which can be considered 'worst case' in terms of effects assessment.</i>
f	Airtricity, Forewind	The SEA would benefit from a clear statement advising on the scope of the assessment and that as a fundamental principle, all detailed assessments for the development of offshore energy installations will need to be undertaken at a site-specific level.
		<i>The scope of the assessment is clearly laid out in Sections 2 and 3 of the ER; explicit reference to site-specific assessment is made at various points throughout the ER (e.g. Section 3.6 on p.36), with the legal basis for this outlined in Appendix 5.</i>
g	NRL	The ER falls short of achieving 'Criterion 3 - Clarity of scope and impact' under the Code of Practice on Consultation. There is insufficient discussion of the benefits of the draft plan/programme; apart from references to relevant legislation there is no in-depth assessment of the economic, social or environmental benefits of the offshore wind farm (OWF) element of the draft plan/programme. There is no discussion of the likely consequences of not achieving the deployment proposed by the draft plan/programme.
		<i>Disagree. The relative values of existing uses of UK waters were summarised in Section 4.2.1 of the ER and in respect of economic benefits, a recent report by Ernst & Young is available at: http://www.berr.gov.uk/energy/sources/renewables/policy/renewables-obligation/page15630.html. The potential consequences of climate change are referred to at various points through the ER. See also response 2.2.3b.</i>
h	Derek Limbert	The question of decommissioning does not appear to have been addressed in any meaningful way. Offshore wind turbines are likely to have a life of around 25 years; the dismantling of the first machines will probably be taking place at the same time as new machines are being installed.
		<i>The issue of OWF decommissioning is considered throughout the ER alongside construction and operation. While future OWF decommissioning may occur when new OWFs are being constructed, there is a regulatory framework in place to ensure that significant individual and in-combination effects of these activities do not occur. The EIA process for OWFs requires consideration of effects throughout the life cycle of the wind farm from construction through to decommissioning, while (as stated in Appendix 5) the Energy Act 2004 introduced a statutory decommissioning scheme for offshore wind and marine energy installations (see Guidance: Decommissioning of offshore renewable energy installations under the Energy Act 2004).</i> <i>Strengthened provisions for the consenting and decommissioning of offshore renewable installations are provided by the Energy Act 2008, the Planning Act 2008 and is proposed in the Marine and Coastal Access Bill, together with the various Marine Bills proposed by the devolved administrations.</i>
i	WWF-UK, Derek Limbert	Carbon capture and storage (CCS) should be included in the SEA.
		<i>CCS was not included in the current OE SEA in the absence of a draft plan/programme on which to base an assessment of the potential environmental effects.</i> <i>However, DECC recognises the value of CCS and its potential role in reducing carbon emissions; the Government response to the "Towards</i>

		<i>Carbon Capture and Storage” consultation was published in April 2009 (DECC 2009) and further information on Government support for CCS can be found on the DECC CCS webpages⁵. It has been recently announced that a consultation document and Environmental Report will be published that will invite comment on an over-arching framework of CCS demonstration and deployment, including how to fund a larger demonstration programme, and the conditions to be placed on future coal power stations.</i>
j	WWF-UK	The scope of the SEA is too narrowly focussed; advocate a shift to expand consideration of environmental assessment in a truly strategic way.
		<i>Disagree. The DECC offshore energy SEAs have in the past addressed the various draft plans for licensing and leasing rounds as they have come forward; the OE SEA was an integrated assessment of a draft plan/programme covering different energy resources and activities. The SEA Directive does not apply to policy decisions (for example UK energy policy as a whole). See also response 2.2.3a.</i>
Process		
k	JNCC	With regard to the proposed biodiversity indicator (Table 3.1), it is unclear what the SEA has considered to be “valued ecosystem components”. Furthermore, no recommendations are presented for how biogeographic populations of these “valued ecosystem components” could be estimated and subsequently monitored. If referring to protected species such as EPS, impacts should be assessed against Favourable Conservation Status (which in certain cases is related to % of the population); however, at the current state of knowledge, measuring the % of the relevant biogeographic populations for some species will be very difficult, if not impossible.
		<i>As a member of the SEA Steering Group the JNCC participated in the discussion and agreement of the SEA indicators listed in Table 3.1. DECC will discuss indicator monitoring with the SEA Steering Group at the next meeting.</i>
l	JNCC	It will be very difficult to measure an indicator capable of distinguishing impacts attributable to offshore renewable and oil and gas activities from stresses caused by other anthropogenic impacts and natural changes.
		<i>See response to the preceding comment</i>
m	JNCC, CCW, Centrica, NFFO	It is important that any process of identifying indicative areas for offshore wind development is based on data and methods that are appropriate and is subject to open discussion and agreement between government, statutory advisors, developers and other users, ideally within an SEA. Therefore, it would have been desirable for TCE’s Round 3 indicative zones and developers’ bids to have resulted from the outputs of the SEA, incorporating recommendations and spatial analysis, resulting in greater certainty which in turn would facilitate more rapid deployment and so increase the likelihood of achieving energy targets. Developers are concerned that the outcomes of the SEA may result in changes to any of the zone boundaries after bids have been submitted. It would benefit all stakeholders if the SEA clarified the iterative process by which the SEA’s recommendations will be accounted for in the development of Round 3. If adequate integration was not achieved at this time, the SEA could also provide recommendations on how future leasing rounds should be fully integrated into the SEA process.
		<i>The views of the consultees are noted. However, the OE SEA covered all</i>

⁵ http://decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/ccs/ccs.aspx

		<p><i>UK waters in depths of less than 60m (excluding territorial waters of Scotland and Northern Ireland) to allow consideration of Round 3 and future leasing rounds. It is noted that significant changes to the draft Round 3 development zones occurred between June and September 2008. It is not anticipated that the OE SEA conclusions and recommendations significantly conflict with the Round 3 process initiated by TCE.</i></p> <p><i>The OE SEA recommendations have been revised following consultation in Section 3 of this report; implementation will be through the SEA process (as previously) and a range of collaborative groups intended to facilitate the achievement of the UK renewable energy targets.</i></p>
n	JNCC, CCW, NE	<p>To implement the recommendations effectively, spatial planning will be essential. An approach to SEA that provides for more precise identification and agreement of areas suitable for OWF development should be pursued until such time as a formal system of multisectoral marine spatial planning provides for this. This would allow statutory advisors to engage more effectively at a strategic level and so reduce (although not eliminate altogether) the level of commitment required at the project level.</p>
		<p><i>Agree that effective spatial planning is essential. The OE SEA has compiled, presented and interpreted a wide range of spatial data and non-spatial information. Examples include the spatially-explicit information on other users of the marine environment (Appendix 3h) and designated conservation sites (Appendix 3j) brought together in the constraints mapping (ER, Section 5.7.2, p.150), along with the less spatially-explicit identification of key areas of sensitivity for marine mammals, descriptions of Regional-Sea specific bird species of greatest concern, and ecological information (Appendices 3a.1 to 3a.6). When considered alongside this information (including the GIS-ready layers made available), the assessment and subsequent recommendations provide a valuable tool in the strategic identification of more and less suitable areas for OWF development. The role of project (and possibly zone) specific EIA to 'fine-tune' the suitability of locations for OWFs and develop solutions to mitigate spatial conflicts is explicitly stated in the OE SEA.</i></p>
o	CCW	<p>There is a need for better coordination between assessments of marine energy plans and programs across the UK to ensure that best use is made of resources available to regulators, advisors and developers.</p>
		<p><i>Noted.</i></p>
p	SNH	<p>As part of the SEA approach, a detailed set of SEA Objectives and Indicators is presented in chapter 3.5 (table 3.1) against which "environmental considerations can be described, analysed and compared". While the stated purpose of these is as a tool for measuring the future effectiveness of the SEA, nonetheless, these could and should have been used also as a means of testing the plan itself and informing the recommendations. Assuming these are sound and relevant, recommend that they be applied in this way in the PCR as a means of helping to evaluate, more clearly, the implications of the plan.</p>
		<p><i>As a member of the SEA Steering Group SNH participated in the discussion and agreement of the SEA indicators listed in Table 3.1. These indicators were used in the consideration of the potential effects of adoption of the plan/programme and DECC will discuss indicator monitoring with the SEA Steering Group at the next meeting.</i></p>
q	EA	<p>Would like to see the SEA processes reflect good practice as detailed in Government and our own guidance. Recommend considering EA SEA and climate change guidelines.</p>
		<p><i>It is considered that the SEA processes do reflect good practice, and that such practices continue to evolve based on experience.</i></p>

r	HS	Welcome that the comments provided on the Scoping Report in January 2008 have been taken into account during the preparation of the ER. <i>Noted.</i>
s	RSPB	DECC proposes to update this SEA on a rolling basis. As long as this is carried out with due process, includes any new information or data and the potential environmental effects of future plans are freshly assessed, this proposal is supported. <i>Noted. The assessment of any new plan/programme will be based on the most recent information available, with updates to the relevant material in the OE SEA made wherever necessary.</i>
t	TCE	The ER is welcomed as an important step to ensuring that a robust strategic planning framework is in place to underpin the further development of offshore renewables and gas storage in the UK. Government's decision on the plan for UK Offshore Energy should seek to maximise the potential for the sustainable development of these strategically important energy resources. <i>Noted.</i>
u	E.ON	Seek reassurance on the approach that would be taken when further information is provided from survey work that would be undertaken within a zonal development area. What will be the feedback loop into the SEA process? <i>The SEA conclusions and recommendations are designed to permit and promote the acquisition of new information including at finer (e.g. project/zone-specific) scales, and acknowledge the value of detailed site-specific information gathering and stakeholder consultation. New information provided to the competent authorities would be used to inform consenting decisions.</i> <i>New information (from regional, zonal or site-specific studies) would be considered during future reassessments of the OE SEA information base and conclusions.</i>
v	DCC	One of the aims of the SEA process is to, "Provide routes for public and stakeholder participation in the process". Some opportunities to engage local authorities and the wider public may have been missed; the process in future should address this, and could be more effectively promoted to improve engagement and understanding. <i>As described in Section 1.3 above, the OE SEA was promoted through a variety of channels to ensure wide stakeholder participation in line with the requirements of the SEA Directive (see also Section 3.2 of the OE SEA Environmental Report). However, DECC would welcome suggestions of additional methods of engaging stakeholders.</i>
w	NSFC	Note that only Government organisations are deemed to be consultation bodies in this report, and all other bodies are therefore stakeholders but it is vital that their views are sought where appropriate. <i>Consultation bodies are defined in Section 4 of Part 1 of the Environmental Assessment of Plans and Programmes Regulations 2004. The promotion of wider stakeholder engagement is described in Section 1.3 above.</i>
x	WWF-UK	It is inappropriate for DECC to rely so heavily on security of supply as the reason to continue the UK's oil and gas dependency. It should be removed from the SEA as it is not within the remit of the SEA Directive, but comes into consideration at a subsequent stage of the decision making process. <i>Disagree. Consultees need to be able to consider the draft plan/programme in the context of overall UK Government energy policy:</i> <ul style="list-style-type: none"> • to put ourselves on a path to cutting the UK's carbon dioxide emissions - the main contributor to global warming - by some 60% by

		<p>about 2050, with real progress by 2020;</p> <ul style="list-style-type: none"> • to maintain the reliability of energy supplies; • to promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve our productivity; and • to ensure that every home is adequately and affordably heated. <p><i>It is a fact that the UK and global economy is at present heavily dependent on hydrocarbons. As described in the Energy White Paper 2007, the UK's reliance on fossil fuels and higher levels of import dependence will bring new associated risks, as the UK will face greater exposure to developments in the global energy system.</i></p> <p><i>As set out in the White Paper, the UK strategy to manage these risks includes reducing overall energy use through greater energy efficiency, supporting the development and deployment within the UK of non fossil fuel energy to reduce our dependence on fossil fuels and to diversify the range of energy sources available. The Renewable Energy Strategy will be published later this year and covers the renewable energy component of this energy strategy. However, as we will continue to rely on fossil fuels for the foreseeable future, we need to encourage the adoption of low-carbon technologies, such as carbon capture and storage, to mitigate the impact on the climate of the continued use of fossil fuels.</i></p>
Consideration of other initiatives and wider policy goals		
y	BWEA, Centrica	<p>Marine spatial overlaps with sea users highlight conflicting Governmental policies being pursued by different government departments. For Government targets to be met, a unified Government departmental approach needs to be effective immediately. A cabinet level sub-committee for renewable energy is needed to coordinate the strategic delivery of the Government's 2020 renewable energy targets.</p> <p><i>When the Renewable Energy Strategy is published later this summer, DECC will set out how it is intended to co-ordinate delivery of the targets</i></p>
z	SNH	<p>There is a potential focus of development immediately inshore of the Round 3 windfarm sites off the Tay and Forth in southeast Scotland. As such, there is significant potential for cumulative effects on birds, landscape/seascape and other interests and it is crucial that these are considered in the PCR and development of final recommendations.</p> <p><i>The potential for cumulative impacts from wind farm developments in UK territorial waters and in the waters of neighbouring states is explicit in the OE SEA. It is considered that the recommendations already address the need for further site and regional specific assessment once more information on proposals are available.</i></p>
aa	SNH	<p>As the SEA was being completed, the Scottish Government let a contract for the preparation of a Marine Spatial Plan for marine (wave and tide) renewable development in the Pentland Firth and Orkney Waters. This intended, in part, to inform marine renewables deployment in the area but also to serve as a model for the Marine Spatial Plans advocated within the Scottish Marine Bill. This Plan could have a bearing on the location of future oil and gas exploration activity in this region, if any. It is important that dialogue is maintained between DECC and Scottish Government to ensure the respective plans are mutually compatible.</p>
		<p><i>Noted. As stated in recommendation 1 (ER Section 6.1, p.213), in areas with high renewable energy generation potential decisions on renewable energy leasing and licensing for oil & gas (including natural gas storage) will be coordinated to minimise potential sterilisation of areas for other industries.</i></p>
ab	EA	<p>The OE SEA must be considered within a wider policy context. Links must</p>

		be made to the emerging National Policy Statements (NPS) and their Appraisals of Sustainability, the Severn Tidal Power feasibility study and SEA and planned Energy White Paper. Cumulative environmental impacts need to be considered in the light of all these potential future developments, including impacts on biodiversity. Particular regard should be made to the potential cumulative effects at a project level of clusters of licensed activities, and related impacts of tidal or wave energy installations, or offshore carbon repositories. This needs to be considered both for offshore activities and related on-shore development.
		<i>Noted; however, at present an Energy White Paper is not planned. The Government's decision on the draft plan/programme will take account of a range of considerations, including wider policy objectives.</i>
ac	EA	Welcome recognition of the links to the Marine Strategy Framework Directive requirement for Good Environmental status, and the Marine Bill regarding marine planning. More emphasis needs to be made on meeting environmental objectives required under the Water Framework Directive.
		<i>As noted in Appendix 4 (p.12), the seaward extent of the WFD has been set at one nautical mile from the coast - most activities subsequent to licensing/leasing will take place outside this area. Offshore activities resulting from OWF leasing are not expected to pose a threat to achieving the environmental objectives of the WFD; relevant potential effects of onshore activities are addressed through the SEA Objectives and Indicators for Water Quality and Biodiversity, habitats, flora and fauna (ER, Table 3.1, p.33).</i>
ad	HS	Welcome the inclusion of Scottish Historic Environmental Policy (SHEP). It would have been useful to highlight how this initiative has played a role in shaping the assessment findings and plan recommendations.
		<i>Noted.</i>
ae	SNH	Annex 4 of the ER lists numerous other initiatives (plans and programmes) that need to be considered in preparing the SEA. This list is comprehensive, but there is no evidence that these initiatives have indeed been considered, in any systematic manner at least, in the development of the recommendations.
		<i>Alongside the listing of other initiatives, Appendix 4 also identifies their implications for the SEA. These other initiatives were considered during the assessment leading to the development of recommendations.</i>
af	SNH, SEPA	Note a scarcity of references to the Scottish Marine Bill, the measures it contains and to the role of Marine Scotland. The devolution agreement reached in November 2008 gave Scottish Ministers additional responsibilities including outwith 12nm for planning and Marine Protected Areas. Recommend that these arrangements should be described in the SEA so that all those involved, including industry, regulators and statutory consultees, have a clear understanding of the roles and responsibilities in waters adjacent to Scotland. This should help to support more effective marine planning and management in this area, and will be key to delivering the 23 recommendations from the SEA as they apply to Scotland.
		<i>At the time of the preparation of the ER, the Marine and Coastal Access Bill and the Marine Bills of the devolved UK administrations were not enacted. The Marine (Scotland) Bill (SP Bill 25) was only introduced on April 29 2009 and is currently at stage 1 in its progression. Similarly the detail of the functioning of, for example, the IPC, MMO and SMMO was not available.</i>
ag	RSPB	The forthcoming NI Marine Bill and system of marine spatial planning will play a valuable role in providing a joined-up process by which conflicts between present and future offshore energy developments are resolved. In the meantime, the NI offshore wind and marine renewables SEA

		process should be used to integrate environmental issues into the formulation of marine renewable energy policy.
		<i>Noted.</i>
ah	CCW	The Interim Marine Aggregates Dredging Policy should be referred to in this section. This is an important policy document which makes recommendations about areas that may be suitable and should be taken into account by any assessment of constraints upon windfarm licensing.
		<i>DECC welcome this additional initiative to be taken into consideration, although note that the ER presents information on current dredging licence and application areas (e.g. Appendix 3h, p.462), both of which are included in the constraints mapping analyses.</i>
ai	CCW	The Welsh Coastal Tourism Strategy (Welsh Assembly Government 2007) should also be referred to, as should the existence of 'Regulation 33 advice' and management plans prepared for European Marine Sites as a requirement of the Conservation (Natural Habitats, &c) Regulations 1994.
		<i>Noted. The Welsh Coastal Tourism Strategy was launched on 15th December 2008. The 2007 consultation indicates that spending associated with a visit to the coast amounts to around £850 million a year - a quarter of total tourism spending in Wales. This figure is 63% greater than that used in the ER and serves to emphasise the importance of the industry. While Regulation 33 advice documents are not specifically listed in Appendix 4, full reference is given to the legislation relevant to European Marine Sites. Furthermore, the ER draws on several Regulation 33 advice documents where appropriate.</i>
aj	CCW	Section A4.4 'Other Renewable Energy Initiatives' - It would have been helpful to have an 'implications' column in these tables as in previous tables for International and EU Strategies, etc. The potential for consequent and in-combination effects arising from a Severn Barrage (or any other tidal structures) may be considerable.
		<i>Accepted that there is the potential for cumulative effects from other renewable energy developments (both in the UK and in adjacent states); however, the ER noted that further analysis would be needed once there is greater definition of future plans.</i>
ak	CCW	Section A4.5 'Recent Key Acts and Bills' – should include reference to Natural Environment & Rural Communities Act 2006.
		<i>Agreed.</i>
al	NIEA	Need to ensure that the regulations listed in respect of combustion emissions from power generation etc are UK wide.
		<i>Accepted.</i>
am	FOR	Greater emphasis should be placed on the potential for innovative technological and mitigation solutions to enhance biodiversity and achieve sustainable development. The potential socio-economic contribution to the UK economy is not fully recognised.
		<i>Potential future developments in wind generation technology are noted (e.g. on p.214) although until tested and deployed the benefits and environmental performance issues remain uncertain. In respect of economic benefits, a recent report by Ernst & Young is available at: http://www.berr.gov.uk/energy/sources/renewables/policy/renewables-obligation/page15630.html</i>
an	EDF	The SEA fails to analyse the implications on the environment of not deploying 25GW+ of Round 3 offshore windfarms.
		<i>Disagree. Sections 4.3 and 4.4 of the ER detail existing environmental problems and the likely evolution of the baseline in the absence of the draft plan/programme, and these are described in further detail in the relevant sections within Appendix 3. Additionally, Section 5.11.4 (p.183) of the ER describes the ecological and social implications of climate change. This information contributes to the assessment of effects from</i>

		<i>each of the alternatives to the draft plan/programme; Alternative 1 is 'Not to offer any areas for licensing/leasing' and the implications of this are described in Section 5.16 (p.208) of the ER.</i>
ao	EDPR-SER	Re-iterate the requirement for the Government and various organisations/bodies to work closely, to ensure that planning marine obligations and various guidelines interface fully with one another. In addition, seamless policies must be implemented across all jurisdictions, to ensure there are no conflicts or delays.
		<i>Noted.</i>
ap	Derek Limbert	There is an indication that 25GW of offshore wind electricity will be required by 2020 to meet the Government's intent of producing 30% of our electricity from 'renewables'. At 30% efficiency, 25GW will produce 7.5GW continuous equivalent. Current average production of electricity in the country including Scotland and Northern Ireland is around 42GW, 30% of which is 12.6GW; it is not clear where the bulk of the other 5GW continuous production will come from.
		<i>Offshore wind energy is one element of the electricity mix identified by DECC's RES consultation which, in combination with other renewable electricity sources including onshore wind, wave, tidal, biomass, and hydro, will comprise the renewable electricity capacity required to meet 2020 targets. See BERR 2008a for further information.</i>
aq	WWF-UK	Better reference should be made to the Kyoto Protocol, EU Energy Package, Renewables Obligation, UNFCCC and UK targets.
		<i>All of these initiatives are referred to in Appendix 4 along with an identification of their implication for the SEA. Additionally, as stated in Section 5.14 (p.205) of the ER, the implications of the ultimate use of oil and gas production from UKCS for greenhouse gas emissions and on UK commitments under the Kyoto Protocol are not considered here; these are subjects for different high level policies, fora and initiatives including UK energy policy, security of supply considerations, emissions trading etc.</i>
Next steps and resourcing		
ar	JNCC, CCW, NE	The issue of under-resourced statutory advisors becoming a bottleneck in the energy consenting process has frequently been highlighted not only by the advisors themselves but also by developers and TCE. Government advisors need to be suitably resourced.
		<i>Noted.</i>
as	NE	Request clarity on what will be required of NE and by when to ensure that we are able to provide quality advice at a strategic level.
		<i>Noted.</i>
at	WWF-UK	DECC should support the MMO in giving statutory advice to the IPC and planning for all UK waters to help ensure sustainable use of marine resources.
		<i>Noted.</i>
au	RSPB	Recommend additional guidance is developed for EIAs for offshore wind farms, oil and gas and gas storage.
		<i>There is already much guidance for the conduct of EIAs for developments in general and for oil & gas activities in particular (see https://www.og.berr.gov.uk/environment/environ_leg_index.htm). Guidance on EIAs for wind farms was prepared by the country conservation agencies and JNCC 3 years ago and is currently under revision.</i>
av	SEPA	Table 2.2 refers to the fact that new technologies can, once proven, be expected to rapidly become accepted practice. While a full explanation of these in the ER is not expected, some evaluation of new technologies on the horizon and their potential environmental effects would have been useful.

		<i>Appendix 2, Section 2.3.3 lists information captured during the stakeholder workshops with OWF developers. This provides an insight into the likely turbine technology (in terms of size, spacing and foundation design) to be utilised in OWFs leased under Round 3. Understanding of the environmental effects of emerging technology is limited, although is being, and will continue to be, addressed through monitoring and research initiatives such as COWRIE and RAG.</i>
aw	EA	Opportunities should be identified for the leasing and licensing activities, both offshore and onshore, to provide environmental improvements, and not just mitigation of adverse effects.
		<i>Recommendation 14 (ER, Section 6.1, p.215) addresses this to some extent, through the encouragement of minimising spatial conflicts by co-locating renewable energy developments and conservation sites where it can be shown that development does not compromise the objectives of the conservation site. All new development resulting from licensing and leasing results in a modification from natural conditions to some extent, therefore the term 'improvements' must be used with caution; avoidance and mitigation of any adverse effects is the priority. However, the ER does note the potential wider-scale environmental benefits of licensing and leasing by mitigating climate change through reduced carbon emissions.</i>
ax	BWEA, Centrica, FOR	Uncertainty remains within industry as to the influence of the SEA report; how Government will translate the information into policy; and what influence it may have on the NPS for renewable energy. The process is understood to be as below but request that this is confirmed and communicated to industry: The government decision statement on the SEA is intended to be published in June 2009. The statement will come in the form of a comprehensive report and it is this decision report which will inform, or be referenced in, the NPS for renewable energy
		<i>The ER forms one of the considerations used by Government in arriving at a decision on the draft plan/programme. It is anticipated that the Government's decision on the draft plan/programme will be announced in June, supported by a post adoption statement, and in respect of the wind element a policy document ("A prevailing wind"). All of these documents will form considerations for the NPS for renewable energy</i>
ay	FOR	The PCR should state the Government's final conclusions and give clarity to the responsibilities and timescales for taking forward the final recommendations, as these will require considerable resource.
		<i>The intent of this post consultation report is outlined in Section 1.1 above.</i>
az	BWEA	Industry requests, through BWEA, the opportunity to feedback on the Government's decision report prior to publication.
		<i>Noted, although the SEA process provided the appropriate means for consultation on the draft plan/programme.</i>
ba	BWEA, Centrica, E.ON	Any delay on the Government's decision after consultation will maintain uncertainty and prolong high levels of risk for developers, delaying progression towards achieving 2020 targets.
		<i>Noted.</i>
bb	Centrica	The Government needs to take a key role in facilitating and resolving the conflicts between oil and gas, commercial shipping, and the fishing industry in order to meet the 2020 targets and push forward renewable energy generation.
		<i>Agreed. DECC currently facilitate communication and conflict resolution between the offshore renewable industry and other marine stakeholders through the Fisheries Liaison with Offshore Wind and Wet Renewables Group (FLOWW), Nautical and Offshore Renewables Energy Liaison Group (NOREL) and Offshore Renewable Energy Environmental Forum (OREEF). Outputs from these groups include guidelines for offshore</i>

		<p>renewables developers such as the FLOWW Recommendations for Fisheries Liaison (BERR 2008c).</p> <p><i>The OE SEA process is a further example of DECC addressing such conflicts, and will assist in the development of relevant NPSs.</i></p>
bc	SPR	<p>It should be recognised that achieving the 25GW objective will require applications in excess of 25GW to account for losses/reductions in projects during the consenting process.</p>
		<p><i>Noted. An intent of the zonal process introduced by the Crown Estate was to reduce such losses.</i></p>
bd	WT	<p>Support the development of wind resources to reduce emissions; securing widespread public support for the transition to a low carbon economy will be helped if such projects are seen to respect the natural and cultural environment.</p>
		<p><i>Noted. The OE SEA represents a significant step towards developing offshore wind resources in an environmentally responsible manner and with the least disruption to existing users of the marine environment.</i></p>
be	WT	<p>There should be a willingness from Government to put in place the radical policies needed on energy demand, greater decentralised supply and technology innovation in order to meet Government's 2050 greenhouse gas reduction target.</p>
		<p><i>Noted.</i></p>
bf	WT	<p>Urge cumulative impacts to be assessed through detailed assessment and marine spatial planning analysis.</p>
		<p><i>The potential for cumulative effects is accepted; however, the ER noted that further analysis would be needed once there is greater definition of future plans/development proposals and the plans for marine spatial planning were further advanced.</i></p>

2.2.5 Assessment methodology and findings

2.2.5.1 General

a	CCW	<p>Given the amount of evidence gathered by the assessment and evaluation undertaken during this SEA, the report should have provided greater certainty by going further in identifying areas that may or may not be suitable for offshore windfarm (OWF) development. Note the approach taken by TCE to identify what it considers to be areas that may be suitable for OWF development (noting that CCW was not consulted during the process). Such an approach, informed by the wealth of information and evaluation gathered by the SEA, has the potential to bring a much needed focus to the search for, and debate about suitable locations.</p>
		<p><i>See responses 2.2.4m and n. Without an understanding of the approach taken by TCE, it is not possible to comment on whether it offers any advantages over the constraints mapping presented in the OE SEA. It is noted however, that there were significant changes to some of the zones identified by TCE between June and September 2008 iterations. The data requirements for identifying, with certainty, more precise areas suitable for OWF development are considerable; their acquisition was beyond the capabilities and requirements of the OE SEA. The SEA took a strategic approach to information gathering, analysis and presentation, providing high-level guidance on potentially more suitable areas for OWF development and therefore areas where more detailed information gathering and assessment is recommended.</i></p>
b	RSPB	<p>Welcome the receptor-based assessment, the adoption on many fronts of the precautionary approach and the incorporation of SEA Steering Group and COWRIE contributions.</p>

		<i>Noted.</i>
c	RSPB	The ER does not define the significance criteria used to assess the likely environmental effects of the Draft Plan. For example, it is unclear how a minor negative effect is distinguished from a major negative effect and how their relative significance is decided. More detailed significance criteria should have been developed, taking into account the SEA Directive's requirements in Annex 1. See p.42 of the Wales Rural Development Plan SEA (Agra CEAS & Collingwood 2006) for an example of generic significance criteria.
		<i>Table 1.2 (ER, p.5) lists the criteria for determining the likely significance of effects on the environment as specified in Schedule 1 of the Environmental Assessment of Plans and Programmes Regulations 2004. These criteria had been used in previous offshore energy SEAs with the agreement of the SEA Steering Group. The example criteria suggested are equally open to question; for example large, medium and small scale effects are not defined.</i>
d	CCW, NE	In general, the ER focuses very much on the implications of OWF development. However, gas storage is a new technology that is not well understood and, whilst there is little information about its potential impacts that can be evaluated within this document, the SEA should have provided more comprehensive recommendations for the urgent need to improve the knowledge base on the potential environmental impacts of this activity.
		<i>The gas storage element of the draft plan/programme only relates to the storage of combustible gas in depleted or other hydrocarbon reservoirs, <u>not</u> the creation of salt caverns or storage in aquifers or other non-hydrocarbon geological formations. As indicated in the ER, any hydrocarbon gas storage activities resulting from licensing are expected to take place in the same areas as existing oil and gas production, and to use the same technologies. Potential environmental effects are comparable to those of oil and gas activities, as indicated in Section 5.2.1 (ER, p.63), although of a considerably smaller range. It is not considered that there is an urgent need to improve the understanding of the potential environmental effects of gas storage activities as included in the OE SEA.</i>
e	SWRDA & RSW	The SEA failed to complete a comprehensive assessment of the costs and benefits of offshore wind in comparison to other marine activities and interests as required, resulting in an unfounded precautionary approach being adopted.
		<i>The relative values of existing uses of UK waters were summarised in Section 4.2.1 of the ER. Economic benefits are considered in a recent report by Ernst & Young which is available at: http://www.berr.gov.uk/energy/sources/renewables/policy/renewables-obligation/page15630.html. Based on other stakeholder responses and the potential for technological innovation it can be argued that a precautionary approach is appropriate at this stage.</i>
f	CCW	Although the potential effects of oil and gas activity are well understood and so can be effectively mitigated against in many circumstances, robust evaluation and regulation are still essential if significant impacts are to be avoided. In places, notably Section 5.5, the potential effects of oil and gas activity should have been evaluated more comprehensively (or refer to previous such evaluations). This and future SEAs should continue to provide comprehensive assessment of oil and gas activities.
		<i>The ER attempted to strike a balance between repetition of information from previous SEAs (all of which remain available on the SEA website) and providing an updated assessment of oil and gas activities drawing on new information. The information base relating to both the environmental baseline and understanding of effects are based on the most recent evidence available. The approach taken will be reassessed in future SEAs.</i>

g	RSPB	Agree that existing oil spill controls are adequate and additional controls are not necessary at the strategic level (p.188).
		<i>Noted.</i>
h	NE	Ask for clarification of the status of areas previously ruled out of licensing for oil and gas activities (i.e. in SEAs 1-7) due to sensitive environmental concerns.
		<i>Reference should be made to the document "Status of Recommendations made in Past DECC SEAs" the latest revision of which (February 2009) is available on the SEA website. Recommendation 11 (ER, p.215) clarifies the status of areas to the west of longitude 14°W within SEA 7 which are recommended to be withheld from licensing with respect to the draft plan/programme.</i>
i	SPR	The approach to the assessment is inconsistent: it is sometimes prescriptive (e.g. marine mammals & noise) and elsewhere left open ended (shipping). Where some areas can only be appropriately dealt with during EIA (rather than strategically), this should be stated.
		<i>The ER is not regarded as open ended in its consideration of shipping and makes a number of explicit proposals at a strategic level for minimisation of adverse interactions between the two industries.</i>
j	TCE	In the interest of business confidence and delivery of Round 3, it is important that the plan for UK Offshore Energy does not restrict the development of OWFs any more than is necessary to avoid significant adverse environmental effects.
		<i>Noted.</i>
k	E.ON	Note with concern the position taken regarding the physical presence of offshore infrastructure and support activities, and how they may potentially cause behavioural responses in fish, birds and marine mammals.
		<i>The concerns of the consultee are noted. However, the consideration in the ER is evidence-based (where such information exists) and where information is lacking, a precautionary approach is taken.</i>
l	WWF-UK	Recommend/request that a precautionary approach is taken to opening up diverse but poorly understood areas and that it is not presumed that all impacts can be managed.
		<i>This is addressed by recommendations 3, 6, 10 and 11 (Section 2.2.7).</i>
m	WWF-UK	Encourage DECC to assess their sanctioning of potentially damaging practices associated with oil and gas licensing, especially to acknowledge the need for adherence to strict wildlife licensing criteria aimed at increasing the protection of habitats and species.
		<i>DECC are fully aware of the Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 (as amended) and their implications for potential offshore oil and gas activities. The industry is familiar with working within the Offshore Petroleum Activities (Conservation of Habitats) Regulations 2001 (as amended) and the JNCC and, where appropriate, the country agencies are involved in the consenting process for potential activities. Therefore, whilst DECC acknowledge the requirements for wildlife licensing criteria associated with the OMCR, it is confident that the industry is already working within these criteria.</i>

2.2.5.2 Benthos

a	JNCC	Several conclusions reached in this Section are unsupported by reference to relevant scientific literature. For instance, on p.104 it is stated that "Sabellaria reef is probably relatively tolerant of indirect disturbance, with high potential for recovery," a statement which we may agree with but sufficient evidence needs to be presented to demonstrate how conclusions have been drawn.
		<i>The statement quoted from the SEA on Sabellaria tolerance and recovery</i>

		<i>potential was supported in the text by two references, one of which (Jackson & Hiscock 2008) is the MarLIN sensitivity assessment. In general the statements made in the benthos section and p.104 in particular appear well supported by references to the published and grey literature.</i>
b	JNCC	The SEA identifies fishing and aggregate extraction as those activities that have the potential to directly damage <i>Sabellaria</i> reefs. Renewable and oil and gas activities can also directly impact <i>Sabellaria</i> (and other biogenic) reefs if no appropriate mitigation measures are implemented, and this should be clearly stated within the SEA.
		<i>Fishing and aggregate extraction are but two of the activities identified in the ER as having the potential to directly damage Sabellaria reefs. Section 5.4.1 (ER, p.98) lists all activities associated with the draft plan/programme with the potential to physically disturb seabed habitats. With regard to oil and gas activities, reference is made to the conclusions of previous SEAs with the general conclusion that oilfield effects are minor on a regional scale in comparison to natural events and fishing. Within Section 5.4.2, extensive discussion is given of the potential physical effects of OWF development on the seabed, including acknowledgement that Sabellaria reef is the most likely Annex I habitat to be affected by direct physical damage. However, a conclusion justified by considerable evidence is reached that OWF development would have little effect at a population level (p.104), with local disturbance possibly offset by the protection offered by OWFs to pressure from mobile fishing gears.</i> <i>Additionally, recommendation 6 (p.214) explicitly advises developers to be aware that a precautionary approach will be taken in areas which contain good examples of habitats/species on the Habitats Directive Annexes, with either strict mitigational controls required or licensing/leasing withheld until adequate information is available. The AA process is also emphasised.</i>
c	JNCC	The SEA only assesses the potential impacts on <i>Sabellaria spinulosa</i> reefs. Consideration should also be given to physical disturbance to other biogenic reef habitats such as <i>Lophelia pertusa</i> reefs.
		<i>The OE SEA considers more than the potential impacts on Sabellaria spinulosa reefs (although given the prospective areas for wind farm developments, these are one of the primary concerns). Previous SEA Environmental Reports have given extensive consideration to the occurrence and potential effects of disturbance to other biogenic reef habitats such as Lophelia pertusa reefs. Indeed, previous studies commissioned through the SEA process have helped to identify important areas of Lophelia, Modiolus, stony and rock reefs, several of which have been proposed by JNCC as candidate/possible/draft Special Areas of Conservation.</i>
d	NE	No assessment has been made of potential impacts on cobble or rocky reef Annex I habitats or UK BAP habitats.
		<i>Accepted. However, there was recognition of Annex 1 and UK BAP habitats and species through the ER e.g. the UK BAP list priority species and habitats were described in Appendix 3j.6 and listed in Table A3j.11 (which included those from the constituent parts of the UK). The likely impacts on stony and rocky reefs has been considered in previous SEAs and is best mitigated at the project-specific stage when detailed local information on the occurrence and nature of such reefs would be available.</i>
e	E.ON	Agree with the view that physical disturbance associated with activities resulting from proposed oil and gas licensing and wind farm leasing will be negligible in scale relative to natural disturbance and the effects of demersal fishing.
		<i>Noted.</i>
f	E.ON	Agree with the view that sediment contamination is not a significant issue in

		wind farms or recent hydrocarbon developments. Indeed as noted in the report, the composition of planned discharges from wind farm and oil industry operations is regulated, with increasingly stringent controls applied in recent years.
		<i>Noted.</i>
g	Forewind	Section 5.4.2 discusses the potential for scour effects around monopile turbine foundations, which is reasonably well understood and, in Forewind's experience, has not transpired to be a major issue. It is likely that the majority of foundations for future OWFs will be jacket, tripod, tripile or gravity base types. It would, therefore, be more appropriate to look at the evidence for scour around similar oil and gas installations to assess the likely overall impact from the plan/programme. Scour around gravity base structures could be a key issue - this should be addressed in the report.
		<i>It is acknowledged that the focus of scour effects within Section 5.4.2 utilises evidence from monopile foundations, as these represent the vast majority of OWFs to date. However, evidence of scour effects around jacket structures associated with gas platforms is presented on p.101, and Section 5.4.3 (p.106) includes calculations of estimated footprint and scour extent resulting from a 'worst-case' scenario of four-legged jacket structure foundations on 25GW of offshore wind energy.</i>
h	EDPR-SER	Physical disturbance of seabed habitats section only mentions the possible disturbance of seabed habitats, but does not highlight the possible benefits associated with "reef effect" and the protection from disturbance by others.
		<i>Disagree. Discussions on p.102 describe changes in the benthic communities in association with the FINO I platform, the Horns Rev and Nysted OWFs, a North Sea gas platform and two UK OWFs, including the colonisation of introduced hard substrates and effects over a wider area due to the exclusion of fishing activity. Furthermore, on p.104 it is stated that, "local disturbance effects [from turbines on seabed habitats] may well be offset by protection from mobile fishing effects over a substantially wider area", and acknowledged that under certain conditions, the Annex I habitat Sabellaria reef may develop around foundations and associated scour protection. The consultee's attention is also drawn to Sections 5.5.2.4 (p.116) 'Fouling' and 5.5.2.7 (p.118) 'Fish aggregation' which both consider aspects of the potential 'reef effect' of OWFs and oil and gas infrastructure, including reference to a RAG-commissioned study into the potential 'reef effect' of OWFs (Linley et al. 2008).</i>
i	EDF	It is a misconception that construction and operation of turbines necessarily adversely impact the near-shore marine environment significantly, as is suggested in Chapter 5.4 of the ER. The analysis in the ER itself states that marine communities will recover from temporary disturbance of sediments, turbine bases will increase habitat heterogeneity and there would be negligible or no detectable impacts from changes in the hydrodynamic regime on marine communities or the seabed sediment.
		<i>There appears to be no text to support the consultee's view that the content of Section 5.4 of the ER suggests significant adverse impacts to the near-shore environment. The summary of findings and recommendations in Section 5.4.5 (p.107) concludes "Physical disturbance associated with activities resulting from proposed oil and gas licensing and OWF leasing will be negligible in scale relative to natural disturbance and the effects of demersal fishing. The potential for significant effects, in terms of regional distribution of features and habitats, or population viability and conservation status of benthic species, is considered to be low."</i>

2.2.5.3 Fish

a	JNCC	Agree with the final paragraph on p.127 recommending that the research
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		needs with respect to electromagnetic fields should be reviewed in the context of the DEFRA reviews of Round 1 and Round 2 monitoring. It is not clear that this recommendation has been captured in Section 6 of the report on Recommendations and Monitoring.
		<i>See revised Recommendation 16 in Section 3 of this report.</i>
b	RSPB	This Cumulative Impact Assessment (CIA) section concludes that cumulative acoustic effects on other receptors, i.e. not marine mammals, are unlikely. This contradicts other sources of information (e.g. Environmental Statements for Race Bank & Docking Shoal proposals) which suggest there is inadequate information to determine the extent and magnitude of cumulative acoustic effects on spawning and nursery areas for clupeids.
		<i>The conclusion reached from the ER assessment assumes site-specific surveys to identify suitable spawning areas so that “appropriate mitigation such as timing and/or avoidance of specific areas is undertaken with the prior approval of regulatory agencies. Similar controls are applied through the EIA and FEPA licensing processes to OWF developments.” (ER p.103). Note also recommendation 9 on studies of the distribution of fish eggs and larvae (ER p.215).</i>
c	RSPB	Pile driving effects on fish also include effects on spawning and nursery areas, and effects on piscivorous birds (Section 5.5.4.2).
		<i>Section 5.5.4.2 deals with cumulative effects resulting from the physical presence of structures. The potential effects of pile driving noise on fish and piscivorous birds are described in Section 5.3.2.4 (p.74).</i>
d	Dutch Government	The effect of underwater noise on fish larvae is only addressed in the context of seismic research. However, from AA experience for OWFs in Dutch waters (e.g. Prins <i>et al.</i> 2008), it was concluded that piling of OWF foundations could have a serious effect on fish larvae, including a reduction of 3-9% in the transport of fish larvae towards the Natura 2000 coastal sites. Concerns include effects on piscivorous species, particularly birds when taken in-combination with collision mortality - where cumulative effects may become significant. Consequently, pile-driving is prohibited from January-June. Have such potential effects been considered in the UK?
		<i>As for oil and gas activity consenting, conditions attached to OWF consents may include seasonal restrictions on pile-driving activities as mitigation for adverse impacts on fish spawning activities. Such restrictions are based on the best available information on the distribution fish spawning grounds and the timing of spawning activities.</i>

2.2.5.4 Marine mammals

General		
a	JNCC	Agree that the potential acoustic effects most likely to be significant are those of pulse sources associated with seismic survey and pile-driving.
		<i>Noted.</i>
b	NE	Welcome the importance given by the SEA to marine mammals as a highly sensitive receptor.
		<i>Noted.</i>
c	JNCC	Welcome the suggestion of how to address potential cumulative effects to marine mammal populations resulting from the combination of offshore energy development. However, while the assessment followed an adequate rationale, it fell short of adequately assessing whether the planned years of seismic survey exploration together with the construction of OWFs could have significant impacts on the populations of cetaceans of concern. This is mainly because: a) the existing evidence on the effects of the construction of offshore

		<p>windfarms on harbour porpoises was not incorporated in the assessment; b) the PCAD⁶ framework (NRC 2005), which is currently recognised as the best way to assess the potential impacts to marine mammals from noise at the population level, was not even mentioned in the SEA report; and, c) the possible scenarios of windfarm construction were not explored in the context of the effects on marine mammals.</p>
		<p>The potential effects of construction on harbour porpoises <i>Meaningful extrapolation from Horns Rev monitoring raises a series of questions including 1) how many animals are potentially involved (i.e. population size and density) and 2) what is the normal distribution range and mobility of this population (or sub-population)? The measured parameter which showed some degree of effect was acoustic encounters detected by automated T-PODS, which results in ambiguity between a vocalisation and distributional response. Line transect and aerial surveys showed no significant effect. Tagging work, preferably with datatags including hydrophones (as for beaked whales) is probably the only way to get a clear picture of responses at an individual level.</i></p> <p><i>In respect of the 2 reports by Tougaard et al. in 2006, correct links to where these reports can be obtained are given in the bibliography to this PCR. The BACI approach adopted by Tougaard et al. limits the conclusions which can strictly be drawn (e.g. if two control and experimental groups are statistically compared, you can only say whether or not they significantly differ – nothing about the range of effect), and may be very sensitive to the way in which data is grouped for the analyses – both spatially and temporally. So, for example, BACI tests are made for baseline, construction, and two years of operation, each of around 1y duration – but it is not clear whether similar results would be obtained for more discrete periods, or whether the apparent pattern of effect and recovery is a consistent trend (underlain by seasonal patterns). Or whether different results would be derived from more discrete grouping of T-POD locations (e.g. farm centre, edge, close control, distant control).</i></p> <p><i>There remain fundamental questions about what T-POD acoustic encounters actually mean, and how they relate to behavioural responses at either an individual or population level (the spatial scale and rapidity of the interpreted individual distribution response at Horns Rev suggests that this porpoise population reacts in a consistent way and comprises remarkably fast swimmers). In relation to sample replication, Tougaard et al present discussion of directivity and sensitivity of individual T-POD devices (and tank calibrations), but it would be more persuasive to see that two T-PODS mounted adjacent actually detected the same vocalization patterns.</i></p> <p><i>Overall, the main conclusions are that effects are minor (Nysted) to undetectable (Horns Rev); associated more with vague “disturbance” than with pulse noise from piling; and whilst the selected conclusions cited may be statistically valid, the interpretation is speculative. At Horns Rev, the conclusions are further complicated by use of mitigation (ADDs) during pile-driving. Having reviewed the original assessment text in the OE SEA and the SMRU report for COWRIE, it is believed that the conclusions reached remain valid.</i></p> <p>Population-level assessment and the PCAD framework</p>

⁶ Population Consequences of Acoustic Disturbance

		<p><i>The PCAD framework was noted in SEA 7, and after some consideration it was decided to leave it out of the OE SEA as unworkable. This view seems to have tacit support in the various post-2005 viewpoints reviewed by the SEA. The conceptual framework as it stands requires quantification of a number of processes about which there is virtually no understanding (or even clear ideas about how to address the gaps, or whether the conceptualisation is valid). DECC would welcome further information on the recent developments in knowledge referred to. The displacement of large numbers of porpoises is not predicted in the OE SEA.</i></p> <p>Regional and strategic scenarios of wind farm construction <i>The SEA considered a range of scenarios for offshore wind farm foundations, not all of which are suitable to all water depths <60m or involve piling noise (or piling noise equivalent to that generated by monopile installation). It seems unlikely that any quantitative relationship between number of strikes and porpoise displacement could be formulated – it would be extremely misleading to extrapolate from Horns Rev or Nysted. To address this, firstly the SEA would need to resolve the methodological issues on monitoring porpoise distribution (i.e. the relationship between vocalisation and distribution under different circumstances including “stressed”); then develop a robust model of porpoise distribution in different areas. At the moment, there is uncertainty about the orders of magnitude of how many animals are in the southern North Sea and variability over time.</i></p>
d	JNCC	<p>Amendments to the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in 2007) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations in January 2009 have removed the concept of ‘significant groups’. The SEA conclusions that “single seismic or pile driving sources are unlikely to have a significant disturbance effect” and “it seems improbable that (...) significant effects, as regulated under the Habitat Regulations and Offshore Marine Regulations, will occur” are now not appropriate. The SEA should be reviewed to take into account the 2009 amendments and follow the updated JNCC Guidance (publication imminent).</p>
		<p><i>The SEA was revised to reflect the change in draft guidance and loss of the concept of a significant group of individuals. We look forward to the next iteration of the JNCC guidance and, if separate, also that from SNH.</i></p>
e	JNCC	<p>While the Effects Threshold Level (ETL) concept would be a practical measure to use, it does not allow for an estimate of the numbers likely to be affected by the injury or disturbance - essential information to allow regulators to assess whether a wildlife licence can be granted, or whether the granting of the licence could be detrimental to the maintenance of the populations at Favourable Conservation Status in their natural range.</p>
		<p><i>DECC will work closely with JNCC and the country agencies in the development of practical approaches to wildlife licensing.</i></p>
f	JNCC	<p>Acknowledge that the UK provisions for species protection from disturbance might not be sufficient to deal with all the potential cumulative effects. The potential for a risk of cumulative effects to individuals and populations from multiple exposures to trivial disturbance remains unknown and therefore unregulated. An assessment should be undertaken of whether marine mammal populations in UK waters are being affected by additional cumulative effects of unregulated disturbance. JNCC recommends that this should be the starting point of a possible wider strategy of reducing particular types of noise where/if needed.</p> <p>In the interim, and as a precautionary measure, the concept of a pulse noise dose for certain areas (and placing limits on noise exposure to individuals and populations) could be considered further.</p>

		<i>The recommendation for an assessment of additional cumulative effects of unregulated disturbance on marine mammal populations in UK waters is noted. Currently there appears to be no basis for this (or any likelihood of convincing information in the near future), and a pragmatic alternative approach would be for limiting dose to a baseline (e.g. maximum annual dose experienced over last 25 years). It is based on the presumption that marine mammal populations are either still recovering from past whaling or hunting or have survived so far at favourable conservation status.</i>
g	WT	Although the effects of multiple noise sources is acknowledged as an area requiring better understanding, there is no information provided as to how this major data gap, or others, will be filled.
		<i>As with previous DECC SEAs, the implementation of recommendations is taken forward through the SEA process guided by the Steering Group. See also response 2.2.5.1h</i>
h	NE	The information and analysis presented with regards to noise impacts on marine mammals is highly relevant and useful. However, some of the key questions remain unanswered especially with respect to whether a cumulative dose from several projects simultaneously piling or longer duration offset piling is a greater impact on marine mammals.
		<i>The answer to this question is currently unknown, and this is noted.</i> <i>However, attention is drawn to the conclusion of the SEA regarding the cumulative effect of multiple noise sources which is applicable to both scenarios: "It seems improbable... that injurious or strong behavioural levels of effect will coincide and also improbable that significant effects, as regulated under the Habitat Regulations and Offshore Marine Regulations, will occur; with the possible exception of effects on coastal populations of bottlenose dolphins, which would be controlled through the Appropriate Assessment process", (ER, Section 5.14.1, p.201).</i>
i	WDCS	There should also be consideration of noise effects on animals from protected areas that spend part of their time in different areas.
		<i>This is addressed through the identification of key areas of sensitivity for marine mammals (ER, Section 5.3.6, p.97), for which recommendations are made regarding the establishment of cumulative pulse noise 'dose' criteria. These key areas are based on an extensive review of known information on the distribution and abundance of all marine mammal species occurring in UK waters, including important foraging areas, and are not restricted to the boundaries of designated protected areas.</i> <i>The Offshore Petroleum Activities (Conservation of Habitats) (Amendment) Regulations 2007, and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 provide the key framework for protecting cetacean populations from non-trivial disturbance. These state that it is an offence to deliberately disturb wild animals of any species listed on Annex IVa of the Habitats Directive (which includes all cetaceans), particularly during the period of breeding, rearing, hibernation and migration or to cause the deterioration or destruction of their breeding sites or resting places.</i> <i>Effects on Annex II species beyond the boundaries of Natura 2000 protected sites are managed to some extent through the AA process in that consideration must be given to the potential for activities occurring outside the boundaries of sites to result in a significant effect on a site by compromising its integrity.</i>
j	WDCS	Bottlenose dolphins of the Moray Firth SAC are found roaming down the northeast coast of Scotland and into English waters around Newcastle, yet the cumulative impacts of developments and activities relating to oil and gas development, marine wind developments, coastal harbour

		developments and expansions are not considered.
		<i>Recent information indicates that some "Moray Firth" individuals range as far as the east coast of Ireland. Reasonably foreseeable potential cumulative impacts are considered within the ER.</i>
k	NE	How could a noise dose be regulated and enforced between development zones given the continually shifting construction timescales and schedules we have experienced in Rounds 1 and 2? Will the operational criteria take into account the impacts from other sectors such as shipping, especially for deeper water areas?
		<i>These are issues which require to be discussed with a range of stakeholders to ensure the UK responsibilities to European (and other) Protected Species are met.</i>
l	NE	Section 5.3.2.2 - Agree that longer term continuous disturbance effects from operational noise are considered less probable. However, given that it is noted (p.73) that for larger turbines, narrow tones with clearly defined peaks might considerably exceed background noise levels with zones of audibility much larger than for relatively broadband noise, does operational noise have the potential to be more significant for Round 3? Sound travels further in deep water; therefore, potential for zones of impact on marine mammals could be greater for future development sites.
		<i>Noted.</i>
m	NE	Further consideration could be given to increasing background noise levels when assessing cumulative noise impacts. Page 252 in Appendix 3 states "Shipping is the dominant noise source at low frequencies in most locations, and its contribution to increased ambient noise levels has been considerable in recent decades".
		<i>Noted; understanding of and trends in ambient noise is a rapidly developing area.</i>
n	WDCS	There should be a lot more work on the zone of influence of noise.
		<i>The ER presents an extensive assessment of zones of influence (Section 5.3) based on the most recent reliable evidence available. Efforts supported by Government, scientists and industry are ongoing to improve the understanding of the effects of noise on marine life.</i>
o	WDCS, SoS, Dutch Government	The effectiveness of current mitigation measures to protect marine life from intense noise pollution is questionable, and recent work demonstrating this is noted. It is recommended that greater emphasis is placed on the evaluation of mitigation methods.
		<i>DECC note the identification of information relating to the effectiveness of mitigation measures employed to minimise acoustic disturbance to marine wildlife, and welcome constructive suggestions on how to improve such measures.</i>
p	WDCS, SoS	There should be a suitable buffer around protected areas for cetaceans, and also areas which have been identified as important for cetaceans but are not designated as protected sites.
		<i>Given the limited understanding of the distribution of areas of key importance for cetaceans both within and beyond designated protected areas, the application of spatially explicit buffers to such areas is not considered a realistic method of mitigation at present. The locations of noise sources, however, are known; therefore, the current strategy adopted in the EIA/PON14 process of modelling zones of influence radiating from the noise source is considered more appropriate.</i> <i>For protected areas, the AA process will ensure that noise propagation into protected areas will not compromise site integrity. For areas which are not formally protected, see response i above.</i>
q	SoS	The ER adopts an overly narrow interpretation of what may constitute a biologically significant effect of noise; it fails to adequately

		<p>appraise/consider:</p> <ul style="list-style-type: none"> the status of evidence concerning behavioural disturbance and communication interference, therefore inappropriately underplaying its significance for strategic planning the problematic nature of establishing short-term effect to longer-term population level effect relationships. <p>This has possibly led to the underestimation of potentially adverse impacts.</p> <p>Greater consideration of the issues raised by NRC (2005) is required.</p>
		<i>With regard to giving greater consideration of NRC (2005), please see response i, above, which relates to the use of the PCAD framework.</i>
r	SoS	<p>In seeking to address uncertainty in potential effects, the ER would benefit from greater emphasis on the use of well-supported theory rather than relying on specific previous empirical findings alone. The use of frameworks such as that of allostasis theory (McEwen and Wingfield, 2003) is likely to be helpful.</p>
		<i>Noted; this will be explored for future SEAs.</i>
s	Richard Cowen	<p>Might whale and cetacean beaching increase in view of likely noise (particularly low frequency) from offshore turbines?</p>
		<p><i>Evidence for live cetacean stranding events caused by anthropogenic noise is limited to a few spatial and temporal coincidences with military tests of naval sonar indicating that military sonar may cause some cetacean species to strand (review in Nowacek et al. 2007). In such cases, the cetaceans were deep-diving species such as beaked whales.</i></p> <p><i>Due to the nature of the noise characteristics associated with OWF activities (see ER, Section 5.3.1.1, p.65), the likely species of marine mammals within audible range, evidence from existing OWFs and acoustically-comparable activities and their associated regulatory controls, OWF activities are not expected to induce any effects in cetaceans which may lead to their stranding.</i></p>
t	SNH, SoS	<p>Disagree with the contention that 'neither regional nor local prohibitions on the activities under consideration are justified by acoustic disturbance considerations' (Section 5.3.6 and elsewhere). There may be areas within Scottish Territorial Waters (STW), for example within the inner Moray Firth, in which the prohibition of seismic exploration activity is warranted because of the risk to important marine wildlife.</p>
		<i>To impose regional or local prohibitions on the activities under consideration due to acoustic disturbance considerations at a strategic level would undermine the AA, EIA and PON14 processes and inhibit developers' opportunities to design and implement effective mitigation strategies. This conclusion is dependent upon activities resulting from the draft plan/programme adhering to the regulatory controls already in place; additional controls through such prohibitions are considered unjustified at this stage in the planning process.</i>
u	Dutch Government	<p>Agree with the conclusion that local effects on bottlenose dolphins would require project-specific assessment including the recommendations concerning mitigation measures.</p>
		<i>Noted.</i>
v	E.ON, FOR	<p>Welcome the conclusion that there is no justification to place a prohibition on seismic or pile-driving activities and agree that where there are potential impacts, these can be mitigated through the EIA process.</p>
		<i>Noted. See also response to comment t, above.</i>
w	FOR	<p>It is not clear as to how noise effects from installation activity, seismic activity and other sectors' activity would be dealt with on a voluntary</p>

		approach and how this would be translated into licence application and delivery.
		<i>These are subjects for future discussions on the implementation of OE SEA recommendations.</i>
x	WDCS	Praise the research conducted under the SEA process on vocalisations of large baleen whales in the Atlantic Frontier and it is imperative that the full analysis is conducted and informs decisions without delay. Large baleen whales and other offshore species are currently given no tangible consideration in decisions surrounding licensing of oil and gas.
		<p><i>Disagree. Previous oil and gas SEAs and the current OE SEA have continued to use the best available information regarding the occurrence of all marine mammal species to inform assessment.</i></p> <p><i>Appendix 3a.7 provides an extensive review of the environmental baseline with respect to marine mammals, including a distillation of recent DECC SEA-supported studies such as the 2007 CODA survey of cetacean occurrence in offshore waters and the aforementioned study of large baleen whale occurrence west of the UK and Ireland (Charif & Clark 2008). This information has contributed to the identification of key areas of sensitivity for marine mammals (ER, Section 5.3.6, p.97), including several offshore areas such as the deep waters to the west of the UK (for various cetaceans including migrating humpback and blue whales). For these areas, recommendations are made regarding the establishment of cumulative pulse noise 'dose' criteria.</i></p> <p><i>The SEA 7 ER also stated that "the potential significance of the prospective parts of the SEA 7 area to migrating species (principally humpback whales) and species characteristic of the shelf edge (principally beaked and pilot whales) should be recognised in the management of seismic surveys through the PON14 process."</i></p> <p><i>Additionally, recommendation 6 (ER, p.214) emphasises that a precautionary approach will be taken to areas (zones and blocks) which contain good examples of habitats/species on the Habitats Directive Annexes with some areas either not leased/licensed until adequate information is available, or subject to strict controls.</i></p>
Areas of key sensitivity		
y	JNCC, NE	Welcome the identification of key areas of marine mammal sensitivity to inform the potential management of noise. However, it is not clear from the SEA report how these areas would be used in the planning of where to place activities. Would these be areas to avoid or areas where exposure to noise would be capped, or both?
		<i>The general idea was to cap the cumulative noise dose – in areas which are either very important to single species or generally important to several (usually for hydrographic reasons). The suggestions made in the OE SEA reflected the likely scale of activity needed to achieve the renewable energy targets and we look forward to exploring these ideas further with JNCC, the country agencies and other stakeholders.</i>
z	WT	In key areas of marine mammal sensitivity, guidance should also be frequently re-visited in order to take into consideration the latest scientific findings, as significant adverse effects are likely without mitigation.
		<i>Noted.</i>
aa	JNCC, CCW	The SEA has not identified all the key areas of marine mammal sensitivity, and not all those which are identified are justified by the evidence presented. The list of areas, and evidence supporting it, should be reviewed.
		<i>The advice of the consultees is welcomed, and has been taken into</i>

		<i>consideration in the identification of a final set of key areas of marine mammal sensitivity – see Appendix 1 of this report: Revised key areas of marine mammal sensitivity.</i>
ab	JNCC	The SEA should recommend that all areas where coastal bottlenose dolphins are known to occur frequently be avoided or that a limit on potential exposure is agreed in order to avoid chronic exposure or significant displacement. The following areas should be added to the list of those identified as key areas of marine mammal sensitivity: coastal areas from the Firth of Forth to the North of England, coastal areas from Cardigan Bay to Liverpool Bay, waters off Cornwall and around the western isles of Scotland; the latter two are areas where small groups appear to be semi-resident.
		<i>See response to comment aa, above.</i>
ac	CCW	In addition to those described in the report, the following areas and species are considered to be of particular importance in waters around Wales: <ul style="list-style-type: none"> • NW-NE Anglesey: This area is important for bottlenose dolphins (as described in the report Pesante <i>et al.</i> (2008) which is listed in the reference section of the ER) and is also important for harbour porpoise, Risso's dolphin and grey seal. • Llyn Peninsula: Grey seal, harbour porpoise and Risso's dolphin should be included. • Cardigan Bay: Grey seal and harbour porpoise should be included. • Pembrokeshire: Grey seal, harbour porpoise, Risso's dolphin, common dolphin, and minke whale should be included. • Celtic Sea: Minke whale should be included. • Carmarthen Bay: Harbour porpoise and grey seal should be included.
		<i>See response to comment aa above.</i>
ad	NE	Please provide clarification of the location and evidence for the area identified as “between the channel Islands and Start Point”. Also why has the bottlenose dolphin population in the south west of England not been identified as sensitive?
		<i>The area between the Channel Islands and Start Point refers to the Western English Channel and has been renamed accordingly; the identification of this area reflects the seasonally high occurrence of common dolphins and minke whales.</i>

2.2.5.5 Birds

a	JNCC	There is significant uncertainty with respect to the likely impacts of implementing the plan/programme on birds. For example, locations of marine SPAs have yet to be finalised. The evidence base for likely cumulative impacts at the strategic/population level needs to be improved and that the recommendations could more clearly reflect this need.
		<i>The potential impacts from oil and gas activities are well recognised, the most widely perceived of which is the risk of direct mortality of birds as a result of an oil spill. The key potential impacts of wind farm developments have also been identified, with a growing number of studies available.</i> <i>The designation of an area as a marine SPA does not preclude the area for development.</i>
b	JNCC, NE	The SEA concludes that “based on available evidence, displacement, barrier effects and collisions are all unlikely to be significant to bird populations at a strategic level”. Later it is stated that these effects are unlikely to be significant to birds at a population level (p.127). It is unclear what is meant by a “strategic level”; does a significant strategic effect mean some form of population level effect?

		<i>The term “significant to bird populations at a strategic level” was used in the OE SEA to suggest that any such effects which affected the conservation status of a species at a population level would need to be taken account of in the Government’s strategic decision regarding the draft plan.</i>
c	JNCC	There is a lack of available evidence in the form of synthesised post-construction monitoring reports from the UK to support the SEA conclusion that there is unlikely to be a significant effect on birds. Available evidence is not appropriate for assessment of the impacts of the draft plan, due primarily to differences in scale and site characteristics.
		<i>Although a synthesis of UK bird monitoring results has yet to be published, the available UK information and that from developments elsewhere, most notably the Danish sector, does support the conclusions.</i>
d	JNCC	There have been very few post monitoring studies which have increased our understanding of the likely disturbance and displacement effects as a result of renewables developments, although post-construction studies have demonstrated that such effects do occur. The general ‘worst case’ scenario assumption in the assessment of habitat loss effects upon seabirds from offshore windfarms is that all birds are displaced from the area and subsequently die (Maclean <i>et al.</i> in press); if the SEA followed this assumption, can the conclusion be reached at this stage that effects will not be significant?
		<i>Neither of the postulates, that all birds are displaced from wind farm lease areas, and that these die upon displacement, can be accepted on the basis of available data; consequently there is no basis to revise the conclusion.</i>
e	JNCC, NE	For many bird species, there is insufficient information to conclude that “displacement, barrier effects and collisions are all unlikely to be significant to birds at a population level”. Therefore, it is not really appropriate or possible to state that such effects are not likely to be significant [for all species] at a strategic/population level; different species have different ecological requirements and need to be assessed separately. This is why NE has recommended population viability analyses (PVA) for several species which may be impacted upon by certain Round 2 projects.
		<i>Regarding the potential significance of displacement effects, this could not reasonably be assessed without site-specific (and species-specific) information, and is essentially a coastal issue. It is reasonable to reach this view for offshore species, which are not closely associated with geographically-consistent habitat features. So the SEA conclusion is considered to be robust given the proposal that the bulk of major wind farm developments are beyond coastal waters.</i> <i>With regard to barrier and collision effects, please see the comments and responses recorded below (f-x).</i>
f	JNCC	There is an urgent need for more detailed research to assess the impacts barrier effects can have on species survival and populations sizes. Until the results of such research become available, any assessments made as to the significance of barrier effects, such as those made within this SEA, are open to question. It is expected that recommendations be made to propose research into developing a better understanding of the significance of barrier effects from renewable developments.
		<i>DECC would welcome opportunity to discuss research possibilities to assess barrier effect impacts on species survival and population sizes.</i>
g	JNCC	The SEA statement that there are not likely to be any significant effects associated with collision risk (at the ‘strategic’ level) does not appear to give full consideration to the uncertainty that exists in methods to assess the collision risk for offshore seabird/geese. Work is needed to address uncertainties that are inevitable when modelling data sets and interpreting

		<p>their results. Emphasis is placed on the need to consider data as it is collected to ensure that assessment (and monitoring techniques) are continually developed to be fit for purpose. An important area for improvement not explicitly picked up by the recommendations would be the use of monitoring data to inform refinement of modelling assumptions.</p>
		<p><i>At a strategic level, the issue of potentially significant effects associated with collision risk has to be addressed from two perspectives – what are the rates of collision mortality (i.e. data from monitoring); and what mortality rates would be strategically significant (e.g. assessed through PVA). Both approaches are needed and advocated in the OE SEA, including the need for model refinement. Based on evidence available to date, the SEA concluded that collision risk effects were not a major issue in respect of the Government’s strategic decision regarding the draft plan, but that they could be significant at the project-specific assessment stage.</i></p>
h	JNCC	<p>Assessing the cumulative effect on birds at the project level will be essential and the SEA should consider how to enable the assessment and management of these effects more strategically. For example, are there broad scale surveys which are required which will provide a better basis for project level assessment?</p>
		<p><i>The OE SEA proposed that cumulative effects on birds be assessed through PVA, with work targeted at quantifying the various survivorship and fecundity parameters for individual species. But this needs careful consideration of the population “unit” under consideration (e.g. PVA parameters probably vary geographically) and an understanding of temporal variability which is unlikely to be achieved without very substantial effort. The marine mammal population modelling undertaken by the IWC may provide useful pointers to a pragmatic approach suitable for the assessment of cumulative impacts on birds.</i></p>
i	CCW	<p>In Section 5.2.1, Box 5.1, bird collision risk is considered to be a significant factor but not the potential for attraction to and collision with oil and gas platforms. Although this issue has been identified as a potential physical effect in Section 5.5.1, only the evidence in relation to collisions with windfarms receives any further consideration. Further evaluation of the evidence in relation to oil and gas platforms should be undertaken before concluding whether or not it is a significant factor (which CCW considers it can be).</p>
		<p><i>The potential for birds being attracted to and to collide with, oil and gas platforms has been considered in previous SEAs. While a small body of evidence exists showing the physical presence of these structures can affect birds, these events are rare and considered to have a low enough potential not to be considered a significant factor. The conclusion in previous and the current SEA stands. In contrast, on the basis of several factors, including the location, number and design of OWF developments this was identified as warranting further assessment.</i></p>
j	CCW	<p>There is a good possibility that significant cumulative impacts on migratory passerines are unlikely. However, current understanding is based more on our knowledge of general migration patterns, rather than sufficient hard evidence. Furthermore, much of the evaluation contained in this section draws heavily on Maclean & Rehfish (2008). This was a draft position paper describing discussions of a workshop held that year. If possible the SEA should base its evaluation on the final report of the workshop.</p>
		<p><i>Understanding of migration patterns and routes is being improved with data from ongoing studies such as those carried out by WWT where satellite tagging of several species of waterfowl has enabled the study of migration routes and movements of individual birds. As information becomes available, this will feed into future SEAs and project-specific assessments.</i></p> <p><i>Comment noted on use of final workshop report.</i></p>

k	CCW	The first paragraph of this section states "Overall the assessment outlined above concludes that the available evidence from existing OWF developments suggests that displacement, barrier effects and collisions are all unlikely to be significant to birds at a population level". The evidence presented in previous sections does not support such a conclusion. Much of the evidence presented is circumstantial and does not prove beyond reasonable doubt that population effects can be discounted. A more precautionary conclusion is suggested: that the likelihood of population level effects remains uncertain and should be considered on a case by case basis.
		<i>This was an overall conclusion, with caveats as to uncertainties. The evidence available does not support a conclusion that these impacts are significant at a population level.</i>
l	CCW	Assessments should also cover effects in addition to those significant at the population level, such as effects on the integrity of protected sites.
		<i>Protected sites and designated conservation areas are considered to have been adequately addressed in the SEA.</i>
m	NE	There should be specific recommendations to gather more data or initiate research into e.g. modelling displacement or barrier effects and ways in which cumulative effects on birds might be assessed and mitigated.
		<i>The lack of recent data on some aspects of bird ecology and sensitivity is noted and recommendations to expand the data set have been made (see recommendations 8 & 9, for example). The specific research topics suggested by NE are noted.</i>
n	NE	The summarised bird information would appear to be a good synopsis and would be supplemented well by the inclusion of compiled offshore wind monitoring data once the strategic monitoring review being led by CEFAS is complete.
		<i>Noted.</i>
o	RSPB	The assessment of the preferred Alternative (3) concludes that there are potential negative effects due to barrier effects and changes in food availability, and potential minor negative impacts upon birds due to collision and behavioural changes (p.109). However, the overall conclusion is that these effects are not significant at a strategic level. As mentioned elsewhere, the criteria for determining significance are unclear and the data to make such an assessment are not robust. Some of these potential negative/minor negative effects are as likely to be significant at the biogeographical scale as they are likely to be insignificant. Therefore, there is no evidence that there is a significant effect, but equally, there is no evidence to show that there is not a significant effect.
		<i>The assessment made in the SEA was that there was no convincing evidence of such effects that would lead to the conclusion at a strategic level that the draft plan/programme should not be progressed. As the information base strengthens, this will inform site-specific consenting decisions. See response 2.2.5.1c on the criteria for determining the likely significance of effects.</i>
p	RSPB	The claim made in Section 5.5.4 that there are unlikely to be cumulative effects on biogeographical populations is not supported by a robust assessment. Significant displacement, barrier and collision effects on birds cannot be ruled out in the absence of a strategic-level Cumulative Impact Assessment (CIA) of the offshore wind element of the plan.
		<i>It is believed that the available evidence supports the conclusion of the ER in respect of UK national decisions on the draft plan/programme. At a regional scale once potential development zones are confirmed a cumulative impact assessment could be undertaken.</i>
q	RSPB	A strategic level CIA should be undertaken, ideally led by DECC, as CIA at the project level is unlikely to adequately predict likely cumulative effects.

		This CIA could underpin the assessment of in-combination and cumulative effects for the AA of the Draft Plan. It is possible to carry out a strategic CIA now, e.g. of the Crown Estate potential development zones for Round 3, together with Scottish Territorial Water proposals, using a combination of quantitative and qualitative methods.
		<i>Noted; see response p above.</i>
r	RSPB	Text on p.76 makes an assumption that it is visual, rather than noise, cues that lead to a disturbance response, which may not be correct in all cases. Separation of noise and visual stimuli in disturbance response by birds is often not possible.
		<i>Accepted.</i>
s	RSPB	It should be noted that there is often considerable uncertainty around estimates of population size and mortality (by orders of magnitude), leading to varying significance levels ranging from major to negligible. If there is not reasonable confidence in the figures presented, conservation organizations are obliged to take the precautionary approach where potential receptors are notified or qualifying interest features. The reference population is critical to determining level of effect and the SEA confuses the need to assess both; <ul style="list-style-type: none"> a) potentially biologically significant effects at the scale of the relevant biogeographical population; and b) the legal requirement to maintain favourable conservation status at the level of individual or multiple SPAs or qualifying sites.
		<i>Noted, although the ER does reference both assessment requirements.</i>
t	RSPB	In Table 5.3 it should be made clear that (presumably) the interpretations are those presented in the respective ESs from which the information is drawn, i.e. "worst case scenario", "precautionary collision avoidance", "SNH Collision Risk Model (CRM) assumes no avoidance" etc.
		<i>This is the interpretation drawn from the Environmental Statements reviewed.</i>
u	RSPB	Largely agree with Table 5.5 showing priority risks in relation to Round 3 wind leasing, which is largely based on Langston (2008) and converted to regional seas (p.123). It would be advisable to include a caveat here relating to future findings of baseline surveys. However, it is agreed that this table reflects current knowledge based on existing data.
		<i>Noted.</i>
v	RSPB	This CIA section, with respect to birds, highlights the use of PVA in assessing cumulative impacts without adequate emphasis on the logistical problems of obtaining the necessary information for some of the key species. Although PVA is the ideal tool to assess cumulative effects, without the basic modelling requirements, specific to each species, the outputs of such models will be of doubtful veracity.
		<i>Noted, ER recommendation 18 promotes the development of PVA.</i>
w	RSPB	Potential cumulative effects of the Draft Plan on birds in UK waters of particular concern are: <ul style="list-style-type: none"> • In the greater Wash area, cumulative collision and barrier impacts on migrating waterbirds, in particular, may be important. The concentration of windfarms in the greater Wash is likely to become an increasing issue that needs to be dealt with effectively. • The Liverpool Bay and Thames Estuary proposed SPAs are key considerations, particularly when in combination/ cumulative effects are taken into account. Risk of such effects is likely to preclude any further development within the proposed SPA, at least until further post-construction monitoring data from Round 2 is available; this is reflected in the absence of any proposed zone in this area. • Cumulative effects may be important in the North West, particularly with respect to migrating whooper swans and pink-footed geese,

		<p>although the potentially most concerning proposed development zones have been withdrawn, at least for Round 3.</p> <ul style="list-style-type: none"> • Cumulative effects of concern are tern (Firth of Forth, including Scottish Territorial Waters (STW) proposals), gannet (especially North Sea) collision with rotors, potential displacement of red-throated diver (Norfolk & Suffolk) and shearwaters (in particular in Bristol Channel & Irish Sea, and collision and barrier effects on migratory waterbirds. It is possible that in the future wind farms will be found along a sizeable portion of the migration route of the red-throated diver and cause transboundary cumulative effects. • Also of concern are the combined cumulative effects of wind leasing, oil and gas exploration and gas storage on the marine environment.
		<i>Noted.</i>
x	Richard Cowen	Reference is not given to migrating birds and the effects of deaths caused by turbine collision - the assessment underplays the potential effect on birds generally.
		<i>See ER Sections 5.5.2.2 and 5.5.4.1 for reference to migrating birds and deaths caused by turbine collision. See also responses v and w above.</i>
y	PADL	The effects of anthropogenic lighting on migratory birds are a concern. The use of light sources with an adapted light spectrum can cause less disturbance to migrating birds. Some reports and a reference are provided.
		<i>The potential effects of offshore lighting are described in Section 5.5.2.3. The additional reports and references are welcomed.</i>
On the recommendation of a 12nm coastal buffer		
z	JNCC, NE	Generally support the conclusion that there are more numerous and potentially greater sensitivities in coastal waters; however, recommendations also need to recognise the value of having an evidence-based approach to bird sensitivities. Emphasis should be placed on the need for studies of the use of the marine environment by birds, to highlight areas of importance such as feeding grounds, and the use of this information to influence location-specific decisions. Furthermore, the SEA acknowledges that there are data gaps further offshore, especially for recent bird data; therefore, there could be areas beyond territorial waters which may be more sensitive to OWF development than areas within where there is greater confidence available data.
		<i>Comments are accepted.</i>
aa	TCE, E.ON	Acknowledge the uncertainties relating to bird data identified in the NTS (p.xiii); however, there is a growing body of information about the distribution of bird populations around the British coastline, particularly those that are likely to be of strategic importance, such as breeding colonies of seabirds, wintering aggregations of seaduck and divers, and the migratory routes of some species. This issue would have benefited from a more detailed treatment reflecting the uneven distribution of bird interests around the British coastline, rather than the recommendation of a blanket 12nm coastal buffer.
		<i>Noted. The coastal buffer was proposed for a number of ecological and anthropogenic reasons, of which the distribution of bird populations was one (albeit a key) consideration. The ER is explicit that the recommended avoidance of coastal waters is not a blanket "exclusion zone".</i>
ab	ICOWFL, NRL	While the assumption that, "A large proportion of the bird sensitivities identified are concentrated in coastal waters", may be valid, the EIA process for OWFs is undertaken to ensure that sufficient protection of feeding, roosting, foraging, breeding areas and migration routes are provided for in the final selection of a development site and layout.
		<i>Noted.</i>
ac	ICOWFL, NRL,	Applying an expansive buffer zone does not automatically provide for

	E.ON	protection at the site-specific scale and leads to unnecessary sterilization of potential projects and resource areas. This recommended mitigation approach is unwarranted; a reconsideration of this approach is urged with a soft constraint which can be managed through a formal EIA suggested instead.
		<i>The proposal for the general avoidance of coastal waters is a precautionary measure in recognition of multiple ecological and other user sensitivities in the area, and potential serious conflicts resulting from unfettered development. The ER is explicit that this is not an exclusion zone.</i>
Additional information		
ad	RSPB	The DECC RAG study at Aberdeen University investigating aspects of energetic costs of potential barrier effects is not referred to. Is this because the study is not yet available?
		<i>The report "Effects of Offshore Wind Farms on the Energy Demands of Seabirds" is not yet published. The draft report concludes that offshore wind farms may impact populations of birds if they are sited inappropriately in the flight paths connecting breeding to feeding sites, or connecting offshore roosting to offshore feeding sites. Sites located along major migration routes are unlikely to have an important energetic impact unless migrating birds have to negotiate several installations along the course of their migration.</i>
ae	RSPB	Additional references relevant to, but not quoted in, Section 5.5.2.2 include Drewitt & Langston (2008).
		<i>Noted, the additional reference does not alter the consideration given.</i>
af	SPR	For clarification, the sentence, "The proposal to construct the Shell Flat wind farm has subsequently been withdrawn", is misleading and the comment is not required. The project was relocated further to discussions between the developer and statutory agencies and the relocated project was subsequently withdrawn due to other concerns, not birds.
		<i>The clarification is welcomed.</i>

2.2.5.6 Introduced non-native species

a	CCW	Introduced non-native species (INNS) are mentioned in relation to ballast water in these sections, however the ER should also consider the added risk of the spread/introduction of INNS via rigs and other mobile construction equipment and the use by INNS of any permanent structures as stepping stones across otherwise unsuitable substrata. It should be acknowledged (perhaps in 5.5.2.5) that in certain areas there might be a risk of non natives spreading via 'stepping stones'. For instance, where an installation is mid way between two rocky areas interspersed with areas of sediment.
		<i>This issue was discussed at the Assessment Workshop where it was concluded that this was not a topic requiring detailed consideration in the ER. This was because of the existence of an extensive network of natural and anthropogenic stepping stones (for example boulders and moraines as a result of past glaciations, shipwrecks and navigation buoys).</i>

2.2.5.7 Conservation of sites and species

a	JNCC	The boundaries of future offshore SPAs and a number of SACs have yet to be identified. In order to avoid an outcome whereby the plan/programme has unintended impacts on sites not yet identified, the recommendations flowing from the SEA need to address this risk in a reasonable manner. The SEA should provide a framework that will enable developers to successfully progress project proposals within timescales that may include further evaluation during consenting if new N2K designations are proposed.
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		Our comments, particularly on birds, should be considered in this context.
		<i>It is believed the ER already provides adequate information on this and that a framework within the SEA as suggested would not be appropriate.</i>
b	CCW	Whilst the location, extent and features of future conservation sites (such as the Marine Conservation Zones proposed in the Marine & Coastal Access Bill) remains uncertain, the potential for impacts on these sites should be recognised more clearly in the main body of the report, and particularly in Section 4.2 that describes the likely evolution of the baseline.
		<i>Table 4.2 identifies that future marine conservation sites will be designated through several mechanisms. Further details are given in Appendix 3j, specifically Section A3j.2.2 (p.571), Section A3j.5 (p.591) and in the Regional Sea-specific sections from Section A3j.8 (p.613) onwards.</i> <i>Additionally, Recommendation 14 emphasises the forthcoming development of MCZs while Recommendation 15 draws attention to consideration of future Natura 2000 sites.</i>
c	RSPB	Any locations known to incorporate nationally important features should be treated as if they were designated MCZs until the network has been completed.
		<i>Noted. The ER has attempted to identify important areas.</i>
d	TCE	The ER emphasises the strategic importance of Dogger Bank for future OWF development. It should be noted that there are proposals to designate large sections of Dogger Bank as a Special Area of Conservation. TCE has separately provided input to the Impact Assessment for this proposed designation emphasising the strategic and economic importance of Dogger Bank. Although it is recognised that socio-economic interests are not a material consideration in the designation of Natura 2000 sites, the strategic importance of this region for renewable energy emphasises the need for a strong evidence base underpinning designation and the need for a high level of certainty about the interest features for which it is potentially designated and their conservation objectives.
		<i>DECC is aware of the status of a large proportion of the Dogger Bank as a draft SAC, and the views of the consultee are noted.</i>
e	Centrica	New designations should be discussed and engaged upon with affected developers as soon as they are identified.
		<i>All newly proposed Natura 2000 sites are subject to public consultation prior to submission to the EC for consideration. The designation process of future MCZs/MPAs will also involve considerable stakeholder consultation.</i>
f	DDC	The SEA process, and individual scheme assessment, is encouraged to recognise the particular sensitivity of the Dorset coast, and take full account of the Dorset and East Devon Coast World Heritage Site (WHS), Dorset AONB, Heritage Coast, Natura 2000, SPA and SAC designations. Relevant policies from the draft WHS Management Plan include Policies 1.2 and 1.3.
		<i>Noted. All the designations noted are listed in Appendix 3j of the ER.</i>
g	SDJC	The impact of any proposed wind farm on the Seven Sisters Voluntary Marine Conservation Area should be fully assessed; there appears to be no mention of this site in the ER.
		<i>The Seven Sisters Voluntary Marine Conservation Area is mentioned on p.621 of Appendix 3j. Considering the nature of the features present within the area, its close proximity to the coast (extending seaward to 2km offshore) and the mitigation options available through the EIA process, no adverse effects on the features of the site are expected as a result of the draft plan/programme. Furthermore, it is noted that the area adjacent to the landward boundary of the site receives multiple conservation designations at a national level, all of which are noted in the SEA.</i>

Appropriate Assessment (AA)		
h	JNCC	While recognising the probability of Appropriate Assessment (AA) being required for proposals that may adversely affect qualifying interests, the SEA does not reach any explicit and/or systematic conclusions on whether or not the plan/programme itself is likely to have a significant effect on specific qualifying interests of offshore Natura 2000 sites. Should it be considered necessary by the competent authority, JNCC is willing to work with DECC to ensure a robust audit trail for all qualifying features in the offshore sector is completed with respect to the overall plan/programme.
		<i>The JNCC offer is welcomed. The relevant licensing/leasing authority will, prior to awarding licences or leases under the Rounds, undertake any Appropriate Assessment(s) (if required following screening) to allow consideration of the potential effects on Natura 2000 sites and their qualifying features.</i>
i	NE	The ER does not consider the requirement for AA or the stage(s) in the process from SEA through to Government response to EIA of individual developments. DECC must consider the need for carrying out an AA at the Government response stage since the Government 'plan/programme' will underpin all future decisions and therefore needs to be compliant with the Habitats Regulations. An AA is likely to be required at this stage and can be carried out with useful results.
		<i>The ER does make several explicit references to the requirements for AA at different stages of the decision making process. See response h above.</i>
j	NE	An AA may also be required at the stage in which site leases are offered by TCE to those development consortia which are successful in tendering for Round 3 and future rounds.
		<i>See response h above.</i>
k	NE	Many individual development proposals may also require an AA being carried out by the competent authority(ies) at the time of application for development consent. NE will work closely with those authorities to support and advise this process.
		<i>This is welcomed.</i>
l	RSPB	It is likely that the proposals will have a significant effect on SPAs and their bird populations. Therefore, in order to proceed to leasing and licensing decisions and comply with the legal requirements of the Habitats Directive, an AA of the Draft Plan must be undertaken; the ER contains most of the data necessary for a strategic-level AA.
		<i>Significant effects on SPAs are to be avoided, and the AA process will be implemented to inform different stages of decision making – see response h above.</i>
m	JNCC, WDCCS	An AA is neither necessary nor the most adequate process to deal with the issue of disturbance of coastal bottlenose dolphins outside SACs. The disturbance regulations are the key framework to protect cetacean populations from non-trivial disturbance. The AA process is of added value, but only with respect to the species within the protected sites. The exception to this would be for activities outside the SAC that could have a significant effect on the site relative to the contribution this makes to the conservation status of the associated bottlenose dolphin population.
		<i>Noted.</i>
n	WDCCS	Raise concerns that the SEA considers that the issue of noise can be dealt with through the AA process, noting that it is only applicable to SACs (of which there are only two specifically for cetaceans and then for only one species: bottlenose dolphin).
		<i>The ER considers a variety of methods for the control and mitigation of potential noise effects (see for example, recommendations 7 and 22). It identifies the Offshore Petroleum Activities (Conservation of Habitats) Regulations 2007 (as amended) and the Offshore Marine Conservation</i>

		<i>(Natural Habitats, &c.) Regulations 2007 as the key regulatory mechanisms for protection of cetaceans from disturbance (ER, Section 5.3.4, p.80), with the AA process providing an additional mechanism for managing potential effects on marine mammal features of SACs such as bottlenose dolphins.</i>
o	WWF-UK	Request that in licensing areas from this or previous SEA rounds, any blocks containing or bounding SACs, pSACs, SPAs, pSPAs, extension and potential offshore sites be subject to AA with a presumption they are excluded from licensing.
		<i>This suggestion is considered to be not consistent with the intent of the Natura 2000 network. An AA process will be implemented to inform different stages of decision making – see response h above.</i>
p	WWF-UK, WDCCS	Recommend that our comments on previous SEAs are considered as still valid, as they continue to reflect our concerns for licensing in those areas. This especially applies to our requests to withhold licensing blocks in: <ul style="list-style-type: none"> the bottlenose dolphin SAC in Cardigan Bay (Blocks 106/30, 107/21 and 107/22), in accordance with the conclusions of the 24th Licensing Round AA the bottlenose dolphin SAC in Moray Firth (Block 17/3) should be excluded based on the potential impact on bottlenose dolphins
		<i>Noted. The Cardigan Bay and Moray Firth blocks referred to are subject to an AA process which has not yet concluded.</i>
q	WDCCS	DECC should include possible developments in the outer Moray Firth in its current discussions and research plans within the Moray Firth.
		<i>Such consideration is already integral to planning of the proposed research.</i>
On the recommendation of a 12nm coastal buffer		
r	NRL	The ER acknowledges that the conservation importance or sensitivity is not uniformly distributed around the UK coastline and this is reflected in the selection of specific sites at which this highest level of protection is afforded. It would therefore be incorrect to establish a blanket buffer zone extending around the entire coastline to provide for the avoidance of impacts at such sites. The existing EIA and AA process is considered to be far more effective than the application of a blanket buffer zone (which does little to protect offshore SACs), both in terms of offering protection to features of conservation interest and in the avoidance of unnecessary sterilization of potentially viable resource areas.
		<i>The ER is explicit that the recommended avoidance of coastal waters is not a blanket “exclusion zone”.</i>

2.2.5.8 Landscape/seascape

a	CCW	The ER fails to include sufficient information on the likely significant effects on landscape/seascape of the plan/programme. For example, there is no evaluation of short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative effects, or of the effects of oil and gas infrastructure on landscape/seascape. The ER appears to focus only on the direct impacts of wind turbines - once erected - on the visual resource. Thus the requirement of the SEA Regulations, to identify measures to prevent, reduce and, as far as possible, offset any significant adverse effects of implementing the plan/programme are unlikely to be met.
		<i>It is acknowledged that an individual assessment section relating to cumulative visual impacts would have aided the assessment. The document notes (Section 5.10.2) that the likely operational lifespan of an OWF is 20 years, though it is accepted that the consideration of OWFs, and indeed oil and gas infrastructure, as temporary structures should have been directly considered in the landscape/seascape assessment.</i>

		<i>Section 5.6.6 makes some consideration of possible cumulative effects, though any consideration must be purely indicative as the uptake of OWF leases and their locations is not yet known. However, the general avoidance of coastal waters for major wind farm development recommended in the ER was informed, in part, by landscape/seascape considerations (see Section 5.7.3 on p.157).</i>
b	CCW	There is a need to define the concept of 'significance' (of distance offshore). Also need to state the basis of these figures (Table 5.9). They appear to be qualitative judgements, so the study needs to estimate their robustness. Intuitively, they appear to us to be too short.
		<i>The figures indicated in Table 5.9 are taken from the accompanying technical report, 'Consideration of Seascape Buffer Zones' produced by White Consultants with Arup CESA, and are based on the output of a wireframe assessment exercise. Wireframe exercises have inherent limitations due their simplistic visualisations (e.g. they do not take into account haze, meteorological conditions, variations in lighting, the complexity of any part of the coast, cumulative effects with coastal development) and therefore the figures quoted are stipulated as indicative only. It is recommended that the section be read in conjunction with the technical report.</i>
c	CCW	It should be acknowledged that sensitivity varies between development type and may differ between OWFs and other types of development.
		<i>It is acknowledged that the seascape assessment only considers offshore wind and that oil and gas infrastructure should have been given some level of inclusion in the study. Some mention is given to oil and gas infrastructure in Appendix 3c, though greater consideration is given to OWF developments due to their larger spatial footprint and likely visibility from the coast.</i> <i>The differences in coastal sensitivity to potential developments are accounted for in ER Sections 5.6.4 and 5.6.5, and also in the regional narrative provided in 5.6.6. It is difficult to assess different individual development scenarios as these are potentially infinite and need to be considered at a project-specific level. Despite this, the inclusion of results from the Scottish and Welsh seascape studies includes some consideration of potential development scenarios for OWF development, as do those results presented in Section 5.6.1.3.</i> <i>It is felt that the assessment, Appendix 3c and the associated technical reports provide a reasonable level of strategic assessment in terms of variation in coastal sensitivity and different potential scenarios.</i>
d	CCW, NE	The report fails to consider the effect (direct and indirect) of terrestrial infrastructure on views and on landscape character and sensitive receptors. 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. It seems likely, therefore, that the terrestrial/coastal effects of OWF development may have been underestimated.
		<i>The potential impact of coastal infrastructure was considered in part in Section 5.6.6, and falls under the sensitivity criteria indicated in 5.6.5 (i.e. settlement pattern, tranquillity/remoteness). It is understood that the Marine and Coastal Access Bill aims to encourage public access at the coast and this is stated in Section 5.6.3.</i>
e	NE	The significant comments provided in scoping response on the requirements for assessing land and seascape impacts have not been addressed in the ER.
		<i>The application of some of the suggested methods required a level of regional analysis out with the strategic nature of the report. The supporting</i>

		<i>technical documents relating to this section have helped define limits of visibility and seascape units for England's coast which will in turn be assessed with regard to their specific physical characteristics. Unfortunately these results were not available to inform the ER at the time of writing.</i>
f	NE	The recommendations at the end of the ER do not explicitly address issues of relevance to land and seascapes. While these are implied within the recommendation to avoid significant detriment to tourism, recreation and quality of life, this may not be explicit enough.
		<i>It is acknowledged that the explicit mention of landscape/seascape in the recommendations section is not made, but rather implied. DECC recognise that some landscapes, and particularly those which are designated, should be protected from visual intrusion where their interest features would be in whole or in part compromised by a given development scenario. Such considerations should be made at the regional/local level during development specific investigations.</i>
g	NE	Cumulative impacts are generally not very well considered within the landscape and seascape assessment section.
		<i>Any assessment of cumulative effects in Section 5.6 is restricted to knowledge of existing OWF or coastal onshore wind farms and this is admittedly limited in scope (see response to comment a, above). The uptake of licenses, their location and size are unknown and therefore an accurate assessment of cumulative effects is difficult to make at present. Attention is drawn to Section 3h.6 of Appendix 3h which indicates the current status of offshore wind and other marine renewables around the UK coast, and Section 13 of the seascape buffers technical report.</i>
h	SNH	The SEA Indicators stemming from the landscape/seascape Objective are unsatisfactory as they will be difficult to monitor. For example how might the "Extent of visual resource potentially affected by the particular developments" be monitored? Definition of the "visual resource" and how its "extent" is measured would help to clarify this indicator. Similarly, it would be hoped that through implementation of the recommendations in Section 6 the "Number of areas of landscape sensitivity affected by proposed developments" (indicator 3) would be minimal, so is this a meaningful indicator?
		<i>This indicator was discussed and agreed with the SEA Steering Group, and it is suggested that its monitoring is similarly discussed.</i>
i	SNH	SEA Scope: Section 3.6 (and page x of NTS) outlines how the various activities necessary for the offshore energy technologies interact with the natural and broader environment. The physical presence of structures and their physical intrusion is mentioned. Their potential to effect changes to landscape/seascape character should also be mentioned.
		<i>On page 36 of the ER and x of the NTS, 'physical presence, visual intrusion', which equates to landscape/seascape issues including landscape change, is indicated in the list of potential sources of environmental effects from activities.</i>
j	SNH	Content with the Sieve Mapping approach taken to the spatial part of the assessment. The two Round 3 wind energy areas identified off Scotland appear to represent areas where offshore wind energy development may be acceptable from a landscape/seascape viewpoint, although this is subject to more detailed assessment of individual projects and provided that other comments in this response regarding cumulative effects and visibility limits are taken into consideration.
		<i>Comments noted.</i>
k	SNH	SEA Objectives (Section 3.5). There is one landscape/seascape SEA Objective (p.34), against which the environmental effects of the plan should be assessed. Whilst commendable in its content and aspiration,

		this Objective has not been used to test the plan through the SEA process. There is no reference, as the SEA progresses, to how it relates to the Objectives.
l	SNH	The Summary Tables in Section 5.6 bear no relation to SEA objectives/indicators. There is no evidence that they have been used to test the plan. Also the 5 categories have not been justified, for example, what constitutes a “potential minor positive impact”? There is also no mention of cumulative effects.
		<i>The objectives stated in table 3.1 of the ER have been identified in the content of Appendix 3c, Section 5.6 of the ER and the supporting technical documents prepared by White Consultants with CESA and Arup. The scope of the latter report was principally to investigate, ‘reasoned (evidence backed) advice on seascape buffer zones needed to reduce the potential visual impact of offshore wind farms to the point where an adverse effect would not be significant’, relating to the objective ‘minimises significant adverse impact on seascape/landscape including designated and non-designated areas.’ The report also includes a consideration of cumulative effects in Section 13.</i>
m	SNH	Note that oil and gas activities resulting from the draft plan will predominantly be sub-sea facilities, well offshore and beyond sight of land. However, although offshore oil and gas proposals are likely in deeper water than that where windfarms are currently feasible, there may be potential for cumulative effects with offshore wind proposals and these should be assessed on a project level basis.
		<i>Comments noted. It is anticipated that cumulative effects, amongst others, would be further assessed at a project-specific level.</i>
n	SNH	With relation to gas storage activities, no significant landscape/seascape/visual implications are highlighted by the SEA. However, if onshore connections are required, and the SEA is not clear in this respect, recommendations made in the relevant landscape/seascape character assessments should be adhered to.
		<i>It is anticipated that the gas storage covered by the draft plan/programme will be offshore and use existing infrastructure (and existing oil and gas technologies) and therefore have limited landscape/seascape implications. Any landward developments as a result of gas storage and their associated visual impacts would be dealt with through the appropriate planning procedures/authorities and regulations as any onshore development. Also see response to comment 2.2.5.9h.</i>
o	BWEA, Centrica, RES	In certain sections the language in the SEA should be reviewed, particularly with reference to landscape and visual assessment, and the general presumption that wind farms have a negative impact on landscape, tourism, recreation and quality of life. It is not correct to assume that visual impact is negative. Existing near shore OWFs have been well received by coastal communities and statistics have shown an increase in associated tourism.
		<i>The ER/technical reports consider where the structure and form of turbine developments may be incompatible with certain coastal features/sensitivities and at what distance the visual influence of turbines becomes negligible. It is recognised in the report (page 135) that public attitudes towards turbines generally becomes more positive following construction, though it must also be equally recognised that many coastal sensitivities generate tourism (and by association, tourist based economies) due to their ‘wilderness’, tranquil or remote nature (or indeed due to particular ‘countryside’ landscape characteristics), and offshore wind turbines may not be compatible with many of these areas.</i>
p	TCE	Potential effects on landscape/seascape should be weighed against the substantial environmental and socio-economic benefits of increasing

		renewable energy generation on a national scale, with consequent reductions in carbon dioxide emissions.
		<i>The landscape/seascape section indicates that coastal sensitivities do not preclude any development, but it has to be considered that certain areas need to be preserved for their visual, natural or cultural resources. It is acknowledged in Section 2.1 that the plan/programme has its context in a strategic aim to reduce greenhouse gasses and increase security of supply, partly through an increased uptake of offshore renewable energy leases.</i> <i>It will be the role of the Infrastructure Planning Commission to assess the relative merits of 'nationally significant' OWF projects exceeding 100MW in territorial waters and in the Renewable Energy Zone, or the Marine Management Organisation in all other cases (on Royal Assent of the Marine and Coastal Access Bill).</i>
q	CNP	Strengthened guidelines for offshore energy developments in the vicinity of National Parks are recommended.
		<i>Particular consideration is given to areas considered to have high landscape 'value' recognised in designations including National Parks, though landscape character as a whole and its use should be a consideration in robust landscape/seascape studies. Current guidance already ensures that any seascape study conducted for a specific development takes into account local landscape sensitivities, and these are also considerations of the planning process.</i>
r	CNP	When assessing cumulative impacts, consideration also needs to be given to the impact of other energy-generating developments that might be located on or near coastlines.
		<i>Comments noted. Existing OWF and other renewable energy installations at or near the coast are indicated in Section A3h.6 though not in relation to visual impacts. Section 5.6.6 does make mention of some existing projects.</i>
On the recommendation of a 12nm coastal buffer		
s	NE	Agree that, in general, there are a greater number of users and sensitive receptors within territorial waters. However, the SEA appears to be inconsistent in how it has assessed sensitivity and concluded that the bulk of development should be beyond 12nm. The 12nm buffer recommendation is not evidence-based since work on assessing the sensitivity of different seascape units around the coast has not been completed. So whilst the move to locate windfarms further offshore to avoid significant impact on sensitive landscapes in particular is welcomed, this should remain flexible to progress those developments within territorial waters which would not have a significant impact, and apply a limit beyond 12nm for certain especially sensitive coastal landscapes (as stated in 5.6.1.3).
		<i>See responses to recommendation 4 (in Section 2.2.7 of this report).</i>
t	Airtricity, Forewind	The use of a 12nm coastal buffer has the potential to render visual impact assessment both more onerous and more subjective for those sites closer than 12nm. This reinforces the need for the 'buffer' area to be better specified and in such a way that it is appropriate and not unnecessarily restrictive.
		<i>The nominal 12nm buffer is based on a number of considerations including those associated with potential ecological and economic impacts, including seascape. As noted elsewhere, this buffer was recommended on the basis that it would mitigate many potential ecological and economic effects, and induce a lower level of opposition to OWF development, facilitating a more rapid consenting process; it should not be interpreted as a hard constraint.</i>
u	E.ON	Responsible developers work very closely with stakeholders to ensure that

		any visual impacts of developments are mitigated through careful design and consultation. Therefore, identifying solutions is a more appropriate way to address any concerns, rather than introducing a generic guideline of a 12nm buffer zone for large (>100MW) OWF developments.
		<i>It is anticipated that all developers will continue to ensure best practice in the assessment and mitigation of visual impacts through the use of appropriate guidance and site design. As indicated in the report, the 12nm buffer does not preclude development, but merely indicates a distance from shore out with which the number of interacting 'constraints' (e.g. spatial, ecological) reduce, equating to a probable reduction in conflict and likely reduced consenting timescales.</i>
v	ICOWFL, NRL	On the basis of the Landscape Institute and IEMA (2002) guidance, the appropriate distance for wind farm development from the coast will vary dependant on site-specific conditions. In addition to the nature of the site, the potential environmental effects will be dependant on the nature of the proposed development. The guidance also states that, "The test is whether the integrity of the landscape and objectives of designation are compromised or not" (paragraph 7.43). Despite this acknowledgement that the nature of the scheme, including turbine number, arrangement and size will affect the likely effects of the scheme, the report proposes a universal 12nm buffer applicable to all of the Round 3 zones.
		<i>It is acknowledged that site-specific studies must inform individual development scenarios, and developers should follow appropriate guidance with regard to visual impacts. See response to comment t above.</i>
w	SPR, TCE, TO'R	The assessment in Section 5.6 does not clearly set out reasoning for adopting a blanket 12nm buffer with regard to landscape and seascape impacts (other than it being used elsewhere). A more fine-grained approach is required. Indeed it actually states on p.132, "The visibility of structures from the coast does not preclude development, and any consideration of coastal 'buffers' is perhaps too broad brush to take into consideration many anthropogenic and natural variations along the coast..." Section 5.6.5 also highlights the regional and local-scale variability in the way in which an OWF will relate to the landscape, and the difficulty in accounting for this in a comprehensive manner at a strategic level. The assessment lacks conclusion on all influencing factors for the plan. A sensitivity assessment of the coast would have been useful.
		<i>See response to comment t above. A sensitivity assessment is due to be completed in 2009 for English seascape units identified through a report commissioned for the SEA.</i>
x	NRL	The ER notes that the DTI recommend using Met Office data to assess trends in weather conditions over ten year periods. It notes that such conditions will, "...greatly affect how far can be seen", but the report has not taken into account such data or visual acuity in its calculation of the proposed buffer zone.
		<i>The reference to Met Office data is provided as a recommendation for inclusion in site-specific studies. The analysis of Met Office visibility data for the entire UK coast was beyond the strategic nature of the assessment.</i>
y	NRL	The detailed study of both the Welsh and Scottish seascape units and the lack of a similar study of English cause limitations in establishing the baseline landscape/seascape character and inconsistencies in the approach to assessment of effects, particularly in areas close to borders such as the Bristol Channel. Therefore, it is difficult to see how a rigid buffer zone could ever be appropriate.
		<i>The buffer is not described as nor is intended to be rigid.</i>

z	NRL	As recognised within the ER, the Marine and Coastal Access Bill will introduce a new marine planning system, including the creation of more detailed local marine plans. If individual buffer zones were to be adopted on a local, site-specific basis, it should be the role of this legislation rather than the SEA process.
		<i>Comments noted, although as explicit in the ER, the suggested buffer is not an exclusion zone but a precautionary measure given the multiple sensitivities present in coastal waters and the uncertainties in legislation (and wind farm technology).</i>
aa	ICOWFL, NRL	It should be noted that Table 5.12 of the ER assesses the sensitivity of the seascape character areas, "Based on a wind farm scenario of many parallel [rows of] turbines (160m to blade tip) at 550m intervals, 13km from the shore". There seems to have been no assessment of the effects of turbines between 13km and 22km from the shore.
		<i>The Table 5.12 figures are, as indicated, based on the output of another report which considered a single development scenario, the assessment of many realistic, conceivable scenarios at a strategic level is beyond the level of detail required by the SEA. These scores are presented here to indicate, relatively, the sensitivity of the coast.</i>
ab	TO'R	If the public can't visually distinguish between 10nm, 12nm, 14nm (or rather that it would in most cases be difficult to identify a significant difference between projects at these distances), why is this identified as an issue for tourism and recreation?
		<i>The ER is explicit that the suggested 12nm buffer is predicated on a range of other ecological and economic factors, and not only seascape. The potential impact of wind farms on recreational/tourist use, in the sense that many individuals visit areas due to their distinct natural or cultural character, is admittedly difficult to quantify although is considered an issue at a strategic level, and one which would be investigated further in relation to site-specific considerations.</i>
ac	TO'R	The threshold of 12nm is considered by DTI guidance to have 'moderate effect' on landscape/seascape and visual receptors, which suggests this level of effect is deemed to be potentially acceptable, and therefore it is unclear why development within any part of the 'moderate effect' zone (i.e. between 7nm and 13nm) is not potentially acceptable.
		<i>As identified in the baseline, ER and in comments from other consultees, the variation in coastal sensitivity means that the range of impact magnitude for a given scenario is not universal to the entire UK coast. The recommended buffer is non prescriptive and therefore does not preclude any development within 12nm (i.e. development is potentially acceptable).</i>
ad	CNP, CPRE, WT	Welcome the recognition that major OWFs should normally be sited outside a 12nm coastal buffer zone, and acknowledge the importance of a case-by-case approach, including consideration of a range of appropriate viewpoint elevations, atmospheric scenarios and also grid connection.
		<i>Comments are welcome and noted.</i>
ae	CNP	Would like to see a stronger commitment to ensuring that no offshore energy developments are permitted that would harm the visual amenity and public enjoyment of National Park coastlines, including assurances that developments would not be permitted closer than 12nm in coastal areas surrounding National Parks, regardless of the adoption of a 12nm coastal buffer or not.
		<i>National Parks are a planning consideration and should be regarded in any development specific investigation. Although the SEA recommends the general siting of wind farms away from the coast, it is the role of the regulator and the planning process (which would include further stakeholder consultation) to come to decisions relating to the siting of individual offshore windfarms and their landfall.</i>

Detailed comments		
af	NE	In Section 5.6.6.1 there is no mention of Northumberland Coast AONB.
		<i>Not all designations are mentioned in the ER. A full account of designations is provided in Appendix 3c.</i>
ag	NE	In Section 5.6.6.2 Spurn Heritage Coast and the North Norfolk Heritage coast are not mentioned. There is also no mention of constructed and consented Round 1 and 2 OWFs.
		<i>See response to comment af, above. Although not mentioned here, R1 and R2 wind farms are listed in Appendix 3h, Table A3h.6.</i>
ah	NE	Section 5.6.6.4 has been assessed in a different way to the other regional seas and the concluded impact of low to moderate is not consistent with the comment elsewhere in the document which states that even up to 12nm impacts could be at least moderate.
		<i>Some sections, including 5.6.6.4, describe specific R3 areas and the likely impact of turbines of certain sizes on the coasts adjoining them. The 12nm mentioned elsewhere in the document relates to an indicative buffer only, it is stated in the seascape section that the acceptable siting of an OWF depends on individual coastal sensitivities, not just visibility, and that acceptable distances from the shore are concerned with, inter alia, other users of the marine environment and certain ecological considerations.</i>
ai	NE	In Section 5.6.6.6 the treatment of AONBs is improved.
		<i>Comment noted.</i>
aj	NE	In Section 5.6.6.7 there is no mention of Solway AONB. Also no mention of existing constructed and consented OWFs? The text mentions cumulative impacts with onshore turbines, but omits other offshore wind turbines?
		<i>See response to comment af and ag, above.</i>
ak	NE	Page 308 first paragraph - note that the effectiveness of the Round 2 8-13km buffer has not been practically tested. Agree that it would have been beneficial to have this before deciding on Round 3 seascape impacts. It should be noted that Round 1 sites in certain areas have an amplified visual impact than as predicted as part of the EIA process.
al	NE	Page 308 - the proposal that regional seascape units should be identified and used to assess any potential visual impacts is noted.
		<i>Comments noted.</i>
am	NE	Page 316 - table showing landscape/seascape assessments for OWFs relevant to Regional Sea 2 needs updating to include Docking Shoal, Race Bank, Sheringham, Humber and Greater Gabbard.
		<i>Comments noted.</i>
an	NE	Page 336 - table showing landscape/seascape assessments for OWFs relevant to Regional Sea 6 needs updating to include Ormonde.
		<i>Comment noted.</i>
ao	TCE	The visibility figures quoted in Section 5.6.1.1 and Table 5.6 do not account for the influence of haze and other meteorological factors on viewable distance.
		<i>Haze is taken into account in the following section, the maximum viewable distance being 39km for Northern Scotland. Meteorological conditions are spatially variable and should be considered in a development specific assessment, and DTI (2005) recommend the use of Met Office visibility data to assess trends in conditions over a 10 year period for stations located landward of proposed wind farm sites.</i>
ap	TCE	Table 5.10 identifies the distance from shore of a number of OWFs that have been approved or constructed in the Baltic and North Seas. It would be beneficial for a similar analysis to be undertaken of UK constructed and approved OWFs. In addition, some consideration of UK attitudes towards OWFs would be useful, further to that provided in Section 5.6.5.

		<i>Table 5.10 was intended to provide international context. UK R1 windfarms are demonstrators and potentially outliers in a UK context.</i>
aq	TCE	OWFs are likely to be visible in the context of other existing wind farms, and other marine users such as commercial shipping and fishing vessels and a range of smaller recreational craft.
		<i>Comments noted. Appendix 4h considers such other users of the marine environment, though admittedly not their visual interaction.</i>
ar	NRL	The information presented in the ER does not include the consented London Array OWF. The turbines proposed for this project were 155-180m in height located at 20.5-22.5 km from the coast and the predicted significance of landscape and visual effect varied from negligible to slight. The closest nationally designated landscape (the Suffolk Coasts and Heaths AONB) lies 24km from the London Array scheme. Locally designated areas e.g. Special Landscape Areas were closer, as were lengths of Heritage Coast, which are a non-statutory designation. However, the impact on all these landscapes was considered to be negligible, and this was not disputed during the consenting process.
		<i>Noted.</i>
as	NRL	The closest turbine of the Gwynt y Môr OWF is 12.7km from the coast. The ES and SEI for this project considered the 'worst case scenario' of 5MW turbines of approximately 161m to blade tip. The significance of effects ranged from insignificant to moderate/substantial. The latter effect was for one viewpoint only (not a designated landscape/townscape). The significance of effect from the Anglesey AONB and the Clwydian Range AONB was considered to be slight.
		<i>The comments relating to these specific developments are noted. It is accepted that the visual impact of these sites was deemed acceptable based on site-specific studies, and such studies should also inform future developments.</i>
at	NRL	Disagree with the ER's use of pejorative language such as "the industrial character of turbines" (p.141).
		<i>There can be no question that wind turbines are industrial.</i>
au	NRL	The assessment of potential effects on the landscape/seascape character of the Bristol Channel (p.141) is unreasonable given the position taken in other parts of the landscape/seascape section of the ER such as the assessment relating to the area off Hastings.
		<i>There does not appear to be a significant difference in the level of detail provided for the two areas mentioned.</i>
av	SDJC	The name "Hastings Zone" is misleading, as the zone is the other side of Beachy Head to Hastings. The nearest urban areas to the zone are Shoreham, Hove and Brighton.
		<i>Noted. The R3 zone names were not suggested by the SEA team.</i>
aw	DDC	Emphasise the importance of considering elevated viewpoints in landscape/seascape assessments at an SEA and EIA level, with particular reference to Durlston NNR and the increasing importance to tourism of Durlston Castle.
		<i>Noted.</i>
ax	DDC	To ensure a robust assessment of the offshore licensing programme, the proposals should be tested against the following policies from the AONB Management Plan: <ul style="list-style-type: none"> • 'PD1i: Support renewable energy production where compatible with the objectives of AONB designation, taking into account the relative sensitivity of the landscape'. • 'PD3b: Protect the quality of uninterrupted panoramic views into, within and out of the AONB'. • 'CS3b Conserve tranquil areas along the coast'.

		<ul style="list-style-type: none"> • 'CS3c Conserve the undeveloped nature of the coast'. • 'CS3d Promote and support the removal of intrusive and urbanising features from the coast'. • 'CS3f Promote understanding of underwater landscapes'.
		<i>Noted.</i>
ay	DDC	<p>Relevant policies from the draft Dorset and East Devon Coast WHS Management Plan include:</p> <ul style="list-style-type: none"> • 'Policy 1.5 Protect the landscape and natural beauty of the Site and setting of the World Heritage Site from inappropriate development.' • 'Policy 1.9 Any offshore oil exploitation and exploitation, should it be considered, must take full account of the seascape and natural beauty of the World Heritage Site.' • 'Policy 1.14 Encourage offshore energy developments to take full account of the Site and seaward setting, particularly regarding the infrastructure needed to bring power ashore.'
		<i>Comments and recommendations are noted. The importance of elevation is indicated in the ER, Appendix 3c and the supporting technical documents. The recommendations provided should be considered at a development specific level.</i>
az	CPRE	The high value the public place on seascapes warrants comprehensive landscape assessments of coastal areas adjacent to Regional Seas 1, 2, 3 and 4 prior to the development of Round 3 OWFs.
		<i>The output from the seascape units supporting document should help seascape studies of the English coast identify key sensitivities. Any offshore development will still be required to carry out project-specific assessments based on the most appropriate site design.</i>

2.2.5.9 Coastal and terrestrial infrastructure

a	CCW, NE, SNH, SEPA, SPR, SDJC	<p>While some attention is paid to the impact of connecting to the onshore grid, the ER could do considerably more to set out environmental objectives for this aspect of development. Although the ER describes the potential impacts in general terms, it is not clear whether or how this has been considered within the mapping of spatial constraints or that this has influenced the recommendations in any way (e.g. in terms of determining areas of greater or lesser sensitivity to development).</p>
		<p><i>The overarching SEA objectives and indicators as listed in Table 3.1 (ER, p.33) are applicable to all aspects of development associated with the draft plan/programme, including connections to the onshore grid.</i></p> <p><i>All internationally, nationally and locally designated sites of conservation importance to within 10km inland of the coast are considered in the SEA. Where possible, their locations are illustrated in the various maps presented in Appendix 3j (from p.613) with individual site attributes documented for all international and several national designations within the text. This information goes some way to identifying areas of greater or lesser sensitivity to development. The designated status of the coastal and adjacent terrestrial environment does not necessarily preclude all development, therefore there is limited value in including these sites in the constraints analysis.</i></p> <p><i>As described in Section 5.9.1 (ER, p.171), the National Grid Company study has identified potential sites and locations where reinforcement work and new onshore grid infrastructure may be required in the future (illustrated in Appendix 3h, p.459). The actual location, size and configuration of the onshore infrastructure are dependent upon the location and size of the future OWFs, which are not yet known. More detailed</i></p>

		<i>studies of the onshore environmental impacts would be carried out as part of the planning process for any development and would take account of the latest policies, legislation, guidance etc.</i>
b	CCW, NE, SNH, SEPA	The impacts of connecting to the onshore grid (including cumulative) have been underestimated.
		<i>Noted; the National Grid report "Round 3 Offshore Wind Farm Connection Study" http://www.thecrownestate.co.uk/newscontent/92-round3-grid-study.htm was published as the OE SEA was being finalised. The report provides useful insights into the potential options and challenges for onshore grid connections.</i>
c	CCW	The potential effects of energy development on sites designated for the protection of biodiversity focuses strongly on the risks to European marine sites. There is a need to recognise the potential implications for other protected sites (e.g. SSSI's) and biodiversity (e.g. UK BAP species/habitat) designated under the Wildlife & Countryside Act 1981 and Natural Environmental & Rural Communities Act 2006 (notably Appendix 3j.6 that covers 'UK Biodiversity Action Plans' is very out of date). These resources are of particular relevance in the consideration of the landfall and wider terrestrial impacts of energy developments.
		<i>There was recognition of Annex 1, UK BAP and OSPAR habitats and species through the ER e.g. the UK BAP list priority species and habitats were described in Appendix 3j.6 and listed in Table A3j.11 (which included those from the constituent parts of the UK).</i>
d	NE	As raised in scoping response, grid connections should be assessed at a strategic level within this SEA and that this should not be left to individual development proposals to tackle in the EIA process. There are real and serious implications of cable routes under consideration by Round 2 wind projects for sites of European nature conservation importance (see Annex 2 provided in NE consultation response). This will only be exacerbated by additional development proposals. This SEA has not sufficiently recognised the importance of assessing the turbines, transmission lines, sub-stations and, to some extent, access roads.
		<i>Noted, see response b above.</i>
e	NE	The in-combination effects of both onshore and offshore issues, particularly related to wind energy developments have also not been sufficiently addressed.
		<i>Noted.</i>
f	NE	The report has not highlighted the high proportion of protected and sensitive areas/landscapes in inshore/coastal locations in relation to grid connection. The sensitivities of and potential impacts on the natural environment should be an integral part of the consideration of the most suitable sites for transmission and connection with the onshore grid.
		<i>Conservation and other designated sites within 10km of the coast were considered in Appendix 3j. See also response b above.</i>
g	NE	Whilst the report recognises that significant expenditure is required to update and provide new infrastructure, it should also identify geographic areas where this is a particular issue. Want to avoid the situation in The Wash where decisions on cable routes are being driven by cost, based on where there is existing onshore capacity and environmental considerations are not integral to this process.
		<i>These areas are identified in the National Grid reports produced for the SEA and published concurrently on the SEA website.</i>
h	SNH	The ER does not consider the onshore impact of gas storage ancillary connections, although these are mentioned in the SEA Scope section (3.6 on p.35). This can have a significant effect on landscape character of the coast. In Box 5.1 'Sources of potentially significant effect', gas storage should be included under the SEA landscape/seascape topic if onshore

		connections are necessary.
		<i>Section 5.9 'Ancillary development' (ER, p.169) states that, "Given the scale of hydrocarbon activity and location of existing oil and gas terminals, in general major additional shore based infrastructure is not anticipated as a result of future offshore oil and gas licensing and gas storage and it is envisaged that maximum use would be made by reusing/adapting existing infrastructure." Additionally, the importation of gas and onshore gas distribution in the UK are not part of this plan/programme. Therefore, onshore works associated with the gas storage element of the draft plan/programme are not considered a source of potentially significant effect.</i>
i	Forewind, SPR	Section 5.9.1 details the potential environmental impacts from the required grid reinforcement activities required to allow the construction of 25GW of offshore wind. This is valid, but should be compared with a baseline of the additional grid reinforcement activities required for the additional generating capacity from non-renewable sources which would be required if the plan of 25GW did not go ahead was applied. For instance, if no offshore wind was built, the UK would need major additional generation capacity regardless, to replace the nuclear and coal fired power stations coming offline in the next 10-15 years. The additional gas fired, coal fired and nuclear plant would also require a major grid reinforcement exercise, with associated environmental impacts.
		<i>The consultees are referred to the National Grid reports produced for the SEA (and published concurrently on the SEA website) which consider a range of energy demand and development scenarios.</i>
j	DDC	Would welcome clarification of how the onshore implications of offshore development will be dealt with through the planning system, as it develops.
		<i>The full establishment of the IPC is anticipated to provide such clarification.</i>

2.2.5.10 Cultural heritage

a	HS	Content with the assessment for our historic environment interests, and have provided some detailed comments on some sections of the ER.
		<i>Comment noted.</i>
b	HS	While the historic environment has been considered during the assessment process it would have been helpful to summarise the findings for this topic within the ER, disentangling the issues associated with landscape/seascape effects - focusing on those effects for the historic environment receptors. The commitment to the development of mitigation measures in line with existing guidelines for seabed developers is welcomed.
		<i>Comments noted.</i>
c	EH	Note the argument made regarding the potential for marine development projects to damage archaeological artefacts or other historic sites (Section 5.4.2), but also how a correctly managed process of environmental evaluation can capture and place in the public realm additional information.
		<i>Noted.</i>
d	EH	Section 5.4.5 (summary of findings and recommendations) - generally concur, but stress that "archaeological sensitivities" should be considered inclusive of access to the information generated and therefore the adequacy of the public archive is crucial; this matter should be considered particularly acute for marine development that occurs outwith of the UK Territorial Sea and thereby beyond the statutory remit of a public body, such as English Heritage's National Monuments Record.
		<i>Comments noted. DECC understand that the archive outside of territorial seas is less coherent than that for nearshore/onshore sites. Where possible, texts indicating potential 'hotspots' of marine archaeology out to</i>

		<i>200nm have been highlighted, particularly in Appendix 3i. It is hoped that one outcome of adopting the plan/programme may well be an increase in knowledge of our marine heritage resources through development led finds, and the use, and further maturation, of best practice in reporting and damage limitation/avoidance to discoveries.</i>
e	EH	Section 5.16 - in reference to cultural heritage, should note that, in itself, mitigation "...through preparatory survey work..." does not constitute sufficient mitigation. It is through commissioning archaeological interpretation of survey material (e.g. geophysical and geotechnical data), gathered in a manner conducive to this analysis, that delivers mitigation.
		<i>Comments noted.</i>
f	HS	Agree with the identification of the potential for direct (physical) effects upon submerged archaeological remains in Section 3.6 (e.g. through anchoring). It is suggested to also include the potential for (indirect) effects upon the setting of historic environment features (in addition to visual intrusion). This will be of particular relevance for those historic environment assets situated on the coastline.
		<i>Comments noted. Attention is drawn in the landscape/seascape Appendix (3c) to Historic Landscape and Seascape Characterisation, and the visual impact on the historic environment is also briefly discussed in Appendix 3i. It is recognised that scheduled monuments, and indeed listed buildings, are regarded not only in their own right but also as part of their wider setting, and that these should be considered in relation to landscape/seascape issues where appropriate.</i>
Detailed comments		
g	EH	While the ER makes reference to the COWRIE (2008) publication on assessment of cumulative impact and the historic environment, reference should also have been made to the COWRIE guidance entitled "Historic Environment Guidance for the Offshore Renewable Energy Sector" (Wessex Archaeology 2007).
		<i>Comments noted. This guidance is mentioned in Appendix 3i. Perhaps a list of relevant guidance could have been provided.</i>
h	HS	Simply for information, Box 5.1, under potential effects to known or postulated archaeological heritage should refer to cultural heritage as opposed to biotopes.
		<i>This is a mistake in the text – comment noted.</i>

2.2.5.11 Other users and material assets

General		
a	Airtricity, Forewind	The SEA addresses several issues which potentially could be viewed as hard constraints, e.g. distances from coastline, oil and gas platforms, navigation routes etc. There are circumstances where it is possible to construct OWFs within these constraints without severe negative consequences for other stakeholders. The SEA should be clearer that a site-by-site discussion between developers and relevant stakeholders must take place to identify and assess the impacts from the specific OWF plan.
		<i>With the exception of certain hard constraints (e.g. certain PEXAs – as indicated on page 151), it is accepted that development may take place within any of the other areas indicated. The constraints mapping is presented as an exercise to indicate those areas which require a high degree of stakeholder involvement to provide an appropriate spatial management solution. It is stated in the ER (e.g. on page 159) that such considerations, inter alia, should be made at the project-specific level.</i>
b	Airtricity	Several further potential constraints (MoD PEXA areas, dredging application and option areas) should be taken into account in the SEA to provide a more robust assessment of the area for offshore wind energy

		installation.
		<i>Comments noted. MoD PEXA areas, dredging areas and other 'hard' constraints are accounted for in Section 5.7.2 of the ER.</i>
c	E.ON	There is a fundamental flaw in the analysis shown in table 5.18. It is claimed that with no relaxation of hard constraints such as a 1nm buffer for primary navigation routes and a 12nm coastal buffer zone, up to 80GW could be developed. Other assessments suggest that significantly less than 25GW could be developed under the Round 3 process, which would make it extremely difficult for the UK to meet the 2020 legally binding target for renewable energy.
		<i>The figure of 80GW is indicative and is subject to several other factors as discussed in the notes below table 5.18 and adjoining text. However, the implication is that a generation target of 25GW could be achieved.</i>
d	EDF	The SEA consistently emphasises the non-exclusive nature of the coastal buffer; however, the presentation of Figure 5.24 appears to contradict this in identifying the areas of potential development where the coastal buffer zone has been used to remove English and Welsh territorial waters entirely and hard constraints have also been applied to further diminish the available area for development within the UK Renewable Energy Zone (REZ).
		<i>There is no implication that the buffer represents a hard constraint. The consultee is directed to figures 5.22 and 5.23.</i>
e	EDF	The assessment in the Round 2 SEA presented extremely useful conclusions in the form of spatial mapping of the sum of ranked scores of socio-economic, ecological and visual constraints (see Figure 21 in Annex 2 of the 2007 SEA), allowing identification of those areas where development would be most challenging and those areas with relatively few constraints. In contrast, the OE SEA provides an extensive description of the categories of impact, but does not address the relative risk that these will arise in any given area in practice.
		<i>It is assumed that the document referred to is the Round 2 SEA of 2003. That SEA covered 3 strategic areas whilst the OE SEA considered all UK waters <60m (excepting the territorial waters of Scotland and Northern Ireland). The OE SEA adopted a different approach to the assessment of spatial constraints (see Section 5.7.2) based on feedback on the Round 2 SEA and discussions with the SEA Steering Group.</i>
f	Airtricity	In the interests of consistency and avoidance of future conflict, the SEA should note the government's position as to the relevance of the various constraints to offshore wind developments.
		<i>The Government's position is that it wishes to achieve the UK renewable obligations without causing significant environmental harm and without compromising existing uses of the sea.</i>
g	Airtricity, Forewind	We consider 50-60m depth a soft constraint based on assumptions that there is likely to be an engineering solution to the challenges of developing in these deeper waters.
		<i>Comment noted.</i>
Shipping		
h	CoS	Comprehensive coverage has been given to the issues that impact shipping operations, services, routes and businesses competitiveness in the UK.
		<i>The consultee's comments are welcomed.</i>
i	BWEA, Centrica, FOR, Airtricity, FP	The shipping data used in the SEA (four weeks worth) is too small a dataset to make any detailed recommendations at a UK-wide SEA scale, particularly in respect to sterilising areas for wind farm development. These data lack the sensitivity to identify the variability of ship routing due to adverse weather. Detail at regional or EIA level would show different results, therefore the SEA should not rule out areas that would show up as

		developable under REA or EIA. Further work is necessary on the key issues before the presumption against development in these large exclusion zones becomes a precedent.
		<i>The SEA used a range of data sources to understand important areas for navigation such as IMO routing measures, AIS data, port freight and passenger volumes, and RYA information (see ER Section 4.2.1 and Appendix 3h). The AIS data used covered each quarter of 2008 aiming to take into account changes in patterns due to seasonal trade and environmental influences. This provides a good indication of the general patterns of traffic over 12 months and where the areas of high density traffic use are at a strategic level. The SEA has not sought to sterilise specific areas of the sea for development but rather offer guidance on the areas that are likely to be most suitable for offshore wind development, taking into account the interests of the many and varied users of the marine environment. The SEA has noted the requirement to refine and periodically update the primary navigation routes data and work is ongoing.</i>
j	FP	AIS data should be presented in maps of a more appropriate scale (temporal and spatial) and with focus on TCE's Round 3 sites. This is important for consideration of in-combination effects with Scottish Territorial Waters (STW) wind projects.
		<i>The analysis carried out for the SEA was for the whole of the UKCS to the limits of the AIS data (approximately 50km from the coast). The CE R3 sites represent the CE's present view of potential locations for development and are subject to revision. It would not be appropriate for the SEA to focus solely on these areas. See also response to comment i above.</i>
k	SPR	It is unclear in Section 5.7.4 what the source of AIS data is; there is reference to the SEA 2007 AIS data yet the Technical Appendix 3h is based on the 4 week 2008 data. Requires clarification.
		<i>The source of the raw AIS data used in the SEA analysis is Department for Transport (DfT)/Maritime and Coastguard Agency (MCA) with four weeks data from 2008.</i>
l	Airtricity	A justification of the method of analysing the AIS data is desirable. It appears that the SEA has applied a lower threshold of density during their analysis than is standard within the offshore wind industry for EIA navigation risk assessment i.e. where over 4 vessels a day is normally considered to be significant. The lower threshold utilised in the SEA work results in much wider shipping lanes.
		<i>The analysis shows the number of AIS points within a 5x5km grid cell rather than the number of individual vessels passing through each cell. This provides an indication of the relative importance (density of points) of that particular cell for maritime traffic. Subsequent analysis has used a higher spatial resolution grid cell of 1x1km providing a more detailed view of vessel traffic patterns. The methodology used in traffic studies for individual sites was not feasible at the strategic level (see Section 5.7.4).</i>
m	BWEA, Centrica, DONG, FP	The types of shipping that will be impacted upon have not been analysed, and it also appears that large areas of the sea have been excluded from the research.
		<i>Disagree, see ER Appendix 3h for the range of navigation considered. The AIS data was used to understand the spatial and temporal patterns of all maritime traffic covered by AIS for the UKCS (to the extent of the AIS data which is some 50 to 80km from the coast). Where necessary and appropriate, primary navigation routes were extended and mapped to the median line to indicate likely traffic routes beyond these limits. The density of traffic, access to major ports and collision risk were deemed more important than individual vessel or cargo types in this analysis.</i>
n	Airtricity	Shipping lanes should be periodically reviewed and refined to ensure an

		accurate view of the actual shipping activity is always maintained.
		<i>The consultee is directed to ER Section 5.7.4 which recommends that the primary navigation routes are reviewed periodically and refined with the results made available to developers.</i>
o	Centrica	Recommend that shipping restrictions should be dealt with on a case-by-case basis using datasets of longer periods, using input from stakeholders, and an understanding of the movements of vessels in periods of bad weather. Recommend that the baseline information gathered under this SEA is not the same method for further SEA rounds.
		<i>The AIS data used in the analysis of maritime traffic was the best available at the time of the SEA and is suitable for use at a strategic level, with limitations to the data noted in Section A3h.2.2 of ER Appendix 3. The requirement for site-specific traffic studies is noted in ER Section 5.7.4 and was regarded as not feasible at a strategic level.</i>
p	BWEA, DONG, E.ON, FOR, ICOWFL, NRL	Concerned that unpublished data (from the MCA OREI 1 report) was used to mark out shipping density and that the analysis of these data could be interpreted in different ways. There needs to be much greater transparency as to how the unpublished MCA data was used and analysed in the SEA and its recommendations. Therefore, the areas treated as 'hard' constraints based on these data should not be considered no-go areas for wind development in the government response to the SEA.
		<i>The OREI 1 data (produced as part of the Future Vessel Routing and Traffic Management Study for UK Waters (2007)) was compared to the processed 2008 AIS data in order to help identify spatial patterns in high density marine traffic use. The high level of spatial correspondence between the two datasets along with MCA guidance on navigational safety and offshore energy installations led to a recommendation of a general prohibition on turbine locations within 1nm of the primary navigation routes that have been identified. The SEA has recognised the potential limitations of the AIS data (see response to comment o above), the use of site-specific traffic studies for SRs, EIAs and ESs and the necessity to refine and periodically update the primary navigation routes.</i>
q	BWEA, ICOWF, RES, NRL	It appears that large areas have been excluded without explanation. The presumption in favour of shipping in the SEA report contradicts the government's renewable energy plan.
		<i>Disagree. The SEA lists all of the hard and other constraints that were taken into account during the screening and spatial constraints analysis. Section 5.7.4 has quantified the area of seabed in water depths of <60m that would be excluded by the primary navigation route with a 1nm buffer and has qualified the reasons for recommending a general prohibition for primary navigation routes. The SEA is in accordance with the UK Renewable Energy Strategy which has recognised shipping as one of several important other uses of the marine sphere whose requirements need to be carefully balanced with those of offshore wind development.</i>
r	E.ON, EDF	Reject the notion that there is a blanket requirement for a prohibition on turbine location within a 1nm buffer of a primary navigation route.
		<i>Disagree. This SEA recommendation is based upon the "high" to "medium" risk threshold of the shipping route template which is included in the MCA Marine Guidance Note (MGN) 371 which highlights issues that developers should take into consideration when assessing the impact of an offshore wind farm on navigational safety. A buffer of less than 1nm would be classed as being high to very high risk and regarded as intolerable.</i>
s	EDF	The SEA is being excessively cautious and tighter margins between shipping and turbines are perfectly adequate. The suggested spacing of Round 3 wind turbine developments is upwards of 1km, which would leave adequate space for most shipping.
		<i>See response to comment r, above.</i>

t	E.ON	Any development as a principle should be assessed on a case-by-case basis. With appropriate mitigation measures, sustainable development from the offshore wind industry can co-exist with the shipping industry; these industries should be treated equally in terms of their importance.
		<i>Individual developments are required to be individually assessed. The conclusions of the SEA have been made at a strategic level and have sought to incorporate and balance the interests of all users of the marine sphere based upon the current and foreseeable environmental and economic conditions.</i>
u	ICOWFL, NRL	The effect of the shipping impact assessment is to sterilise wide expanses of the sea area around the UK, substantially over and above those areas which can be demonstrated to be heavily used by shipping as derived from AIS data. The assessment process should be based upon analysis of vessel densities, thus providing potential for identifying sites for offshore wind farm development within potentially less critical areas for shipping.
		<i>Disagree. The SEA analysis has sought to identify important areas for navigation so that these can form part of the broader consideration of the potential effects of adoption of the draft plan/programme. Vessels carrying AIS transponders are only part of the totality of navigation in UK waters.</i>
v	ICOWFL, RES, NRL	The need to apply a buffer zone of 12nm to protect navigational routes, lanes, port access or even navigational safety seems out of line with the measures already in place e.g. EIA process, Navigational Risk Assessments, MCA guidelines, liaison through NOREL group. These well-established measures should be applied on a case-by-case basis rather than to arbitrarily preclude all development in areas that are important for shipping.
		<i>Disagree. The SEA has recognised the existing legislation and measures in force that are currently used in site-specific assessments for potential offshore wind farm developments. The recommendation of a general 12nm coastal buffer is based upon the evaluation of various major ecological, economic and cultural sensitivities (described in Section 5.7.3) and not solely for shipping. The 12nm zone is not proposed as an exclusion zone as in some areas development may be appropriate closer to the coast while in others further away. The SEA has recommended the collection of detailed site-specific information gathering and stakeholder consultation before major Round 3 or subsequent wind farm projects close to the coast can be assessed.</i>
w	NRL	If the closest to shore routes and navigational areas need to be protected by employing a blanket measure, it is considered likely that these would have been sufficiently protected utilising a smaller buffer area, more in line with the 13km zone used in both NRL's and TCE's mapping exercises.
		<i>See response to comment v, above.</i>
x	Airtricity, Forewind	The navigation and shipping guidance should be supported by further data to ensure that the large generalisations made are supported by detailed data, or revised as appropriate.
		<i>See response to comment v, above.</i>
y	SPR	Agree with a 1nm limit on primary navigation routes although the definition of a primary navigation route is critical; developers must be kept up to date with progress. The location of the primary navigation routes requires further assessment for mitigation such as potential relocation/realignment and other mitigation options. Mitigation options would have been useful as recommendations e.g. traffic separation schemes.
		<i>Noted, and liaison with developers on navigation issues will be maintained through NOREL, BWEA and individual meetings as appropriate. Mitigation in respect of primary navigation routes is expected to normally take the form of avoidance of siting of installations that could affect them.</i>
z	Airtricity	Page xvi of the NTS states that "windfarm siting should be outside areas

		important for navigation (these are mapped in the Environmental Report)". This could be interpreted as defining exclusion zones within the SEA, which would not be appropriate given the limitations in the navigation assessment conducted (as detailed in various comments above). It is requested that this paragraph to be rephrased.
		<i>The consultee is referred to SEA Recommendation 2, and to responses to comments v-y above.</i>
aa	FP	Substantial traffic crosses the North Sea from Scandinavia/Baltic and Benelux regions and due consideration must be applied to direct access to ports from these regions also.
		<i>Comments noted. The primary navigation routes were extended out to the median line (beyond the current extent of AIS data) to take transboundary routes into account.</i>
Fishing		
ab	EDPR-SER	The ER states that, "(...)it is recommended that waters near the coast and certain especially important fishing areas offshore are avoided for future wind farm siting". No definition is provided on these areas or how they are designated.
		<i>Details of important fishing grounds around the UK coast are given in Appendix 3h.13. Also, please see ER Section 5.7.5 and Table 5.19, which give a summary and brief explanation of areas considered to be particularly important.</i>
ac	EDPR-SER, ICOWFL	Disagree that a blanket 12nm buffer to `protect` inshore fisheries is valid or appropriate without consultation. In the past, OWF developers have worked closely and successfully with the fishing industry, and wish to continue in this relationship. The buffer, therefore, seems over-precautionary.
		<i>The consultees' comments are noted. The 12nm buffer (not a blanket, see response ad) was recommended to limit the impact on coastal regions for a number of environmental and human factors and not just inshore fisheries. The main concerns relating to fisheries are that large developments could block small day boats that are limited in their operational range from regular, productive grounds, impacting their viability. The approach taken in the SEA appears to be supported by the recent EC Green Paper on the Reform of the Common Fisheries Policy (CFP) which recognises the social and cultural importance of small-scale and recreational fishing to coastal communities. These fisheries are generally more sustainable than larger-scale fisheries. Planning for developments within or near to relevant fishing grounds would need to take into account increased support for coastal fishing communities in the CFP, reflecting their social, economic and environmental importance.</i>
ad	ICOWFL	Such a buffer may be valid in some areas, where an established inshore fleet exists, but in other zones and Scottish Territorial Waters zones this is not necessarily the case.
		<i>See response ac above, but note it is also stated in the ER that there should be flexibility in the size of the buffer zone – in some areas a buffer of 12nm from the coast may not be deemed necessary.</i>
ae	ICOWFL	Overall, it is suggested that the potential importance of areas for both fishing and offshore wind would suitably be negotiated during the feasibility and predevelopment phase.
		<i>Noted; see also response ac above.</i>
af	SPR	No level of strategic significance is defined as the assessment automatically assumes a coastal buffer. The statement "At a strategic level, caution is required..." is a bit vague.
		<i>The statement "At a strategic level, caution is required..." referred to a consideration for the Government's decision on the draft plan/programme.</i>
ag	EDF	The ER mentions the potential for OWFs to be beneficial to fish stocks, but

		it fails to relate this to both locally significant and international fisheries. In the presence of the recommended 12nm coastal buffer, how would locally significant fishing communities (which rarely venture beyond 12nm) experience such benefits?
		<i>Appendix 3h.13 refers to Wilhelmsson et al. (2006), which found evidence of offshore windfarms in the Baltic Sea acting as areas of aggregation for small demersal fish. The Environmental Report (Section 5.7.5) makes reference to the Barrow (NW England) offshore wind farm, where a “reef effect” has been observed. It also refers to a RAG commissioned study by Linley et al. (2008), reviewing the reef effects of offshore windfarms.</i> <i>The main thrust of this section of the Environmental Report was to note the likely exclusion of fishing activity from OWFs, with the resulting potential for a benefit to the local marine environment, including fish stocks. It is also noted that such benefits may be balanced out by the negative impacts of the displacement of fishing effort.</i>
ah	NRL	The majority of smaller vessels are of limited range and such vessels would be anticipated to fish much closer to shore than 12nm. Therefore, protecting inshore fisheries could be achieved by applying a far smaller buffer zone specifically targeted at protection of the most vulnerable vessels, i.e. inshore waters within 8-13km, which would sit well with the jurisdiction of the SFCs (within 6nm).
		<i>The buffer has been recommended for a number of reasons other than inshore fisheries. However, it is also stated in the Environmental Report that there should be flexibility in the size of the buffer zone – in some areas a buffer of 12nm from the coast may not be deemed necessary.</i>
ai	NRL	While a coastal buffer may well minimise conflict and substantially mitigate displacement effects on the most vulnerable vessels, it is suggested that fisheries liaison (conducted in-line with published guidance) at the feasibility and pre-development phase will provide the most appropriate level of site-specific assessment and mitigation.
		<i>Noted.</i>
aj	NFFO	Welcome the recognition that in principle important fishing grounds should be avoided.
		<i>Noted.</i>
ak	NFFO	It should be noted that the SEA has limited capacity to address the sensitivities of the fishing industry with a degree of precision that would inform windfarm siting.
		<i>It is made clear throughout that the SEA is a strategic overview and that a greater degree of local precision will be required to inform final wind farm siting decisions.</i>
al	NFFO	The report does not mention other factors that can affect vulnerability to displacement, for instance the distribution of the fisheries affected. Shellfish grounds tend to be limited in their distribution and the use of static gear (e.g. pots, static nets) in particular can limit opportunities to relocate. The availability of alternative grounds may be further limited by market access or regulations in force.
		<i>Noted. The vulnerability to displacement of vessels targeting species with a limited distribution is an important factor. This is most likely to affect smaller, inshore vessels and the potential for displacing these has been taken into account in the SEA. See also response ac above.</i>
am	NFFO	The ER recognises that, “exclusion in some areas is likely to result in negative effects on other fishing grounds through displacement of effort.” (p.163), to provide clarification to this statement, displaced effort can have impacts if activity moves from important fishing grounds to areas where environmental impacts are greater or effort is concentrated onto remaining accessible areas leading to local resource depletion and possible conflict

		with other fishing fleets. As well as this, the displacement of local fleets may pose risks to fishing port viability, its facilities and any dependent onshore businesses, which may have local economic and social implications.
		<i>The clarification is noted and welcome.</i>
an	NFFO	Though a spatial constraint, fishing is not included in the constraints mapping analysis within the ER. Spatial constraints analyses should take into account the vulnerability of the fleet to displacement. It is worthwhile noting the preparation of fisheries data layers recently produced under a COWRIE contract which attempt to derive layers based on spatial financial value derived from effort and landings data.
		<i>The OE SEA generated significant new spatial data on fishing activity which were used to inform the consideration. However, in recognition of important data gaps (for example nearshore vessels) it was considered that the derived GIS layers could not be used in the same way as for example IMO shipping routeing measures.</i>
ao	NFFO	Such a large development programme as proposed for offshore wind should have addressed the absence of detailed knowledge (vessels <15m) of the spatial sensitivities of the fishing industry (as is expected to occur under the MCZ planning process). The recommendation to consult at the earliest opportunity, both to address this deficiency and to follow best practice procedures, is strongly endorsed.
		<i>The comments of the NFFO are noted.</i>
ap	NFFO	Reef effects in wind farms, where they did occur, would be incidental and such considerations should not supersede the priority to minimise spatial conflict with fishing activity through good site selection decision-making.
		<i>It is noted in the Environmental Report that reef effects are unlikely to be a significant consideration. The priority should be to avoid spatial conflict where possible.</i>
aq	NFFO, ESFJC	In light of the lack of knowledge on EMF behavioural effects, site selection for OWFs should take into account the location of aggregations of electro-sensitive species.
		<i>Electro-sensitive fish and shellfish are considered in Section 5.5.2.6 of the Environmental Report. Careful consideration and a focus of research efforts are advised particularly in areas that are important for key electrosensitive species.</i>
ar	ESFJC	Emphasise the importance of direct liaison between fishermen and developers to ensure the issues are understood at the local and regional level. This is likely to be of more relevance to export cable routes (traversing inshore areas) than OWF sites. As identified from the SEA Fisheries Stakeholder Workshop (October 2008), inshore fishing vessels can fish to about 25nm offshore, and the geographical area important for fish populations targeted by inshore vessels can extend far beyond the inshore fishing grounds.
		<i>Noted. The 25nm approximate outer limit for inshore fisheries is referred to in Section A3h.13.2. See also response ac above.</i>
as	ESFJC	The ER (p.163) notes that "At a strategic level, caution is required with regard to the siting of major expansion of offshore wind farms to ensure fishing activities and skills of local cultural importance in an area are not inadvertently lost, through the prevention or significant hindrance of fishing activity for a generation during the lifetime of the windfarms." How will this caution be applied at the strategic level? A possible solution is the creation of detailed fisheries maps using information provided by fishermen.
		<i>The purpose of this comment was to highlight the cultural importance of small-scale coastal fisheries in many areas and the importance of ensuring that any development does not render them unviable, potentially resulting</i>

		<i>in the permanent loss of fishing skills from the community. Greater detail in our understanding of the distribution of inshore fishing activity would undoubtedly be of use. As noted below, the mandatory use of VMS on vessels <15m would contribute greatly to obtaining the necessary data.</i>
at	ESFJC	It is suggested that a requirement could be placed on developers/fishermen/regulators to monitor and report fishing activity within OWFs. It is noted that the use of VMS on smaller fishing vessels (<15m) would considerably help this task.
		<i>Agreed. The mandatory use of VMS on a wider range of vessels can only be helpful in managing and monitoring fishing activity, with resulting benefits for the fishing industry and other users.</i>
au	ESFJC	Two further points that were made at the Fisheries Workshop but were possibly omitted from the SEA Report were: <ul style="list-style-type: none"> • Need to investigate opportunities for OWF developers to mitigate/compensate fisheries via “beneficial fisheries projects” • Cables through trawling areas must be buried.
		<i>Noted.</i>
Aggregate extraction		
av	Airtricity	Dredging <i>application</i> and <i>option</i> areas should be viewed as an ‘other’ constraint because although these are precursors to fully licensed dredge areas, the proposed area extents are subject to change and cannot be considered absolute and final. The potential user conflict which these areas present could be resolved through consultation and consolidation by TCE. Dredging areas should not be considered as a ‘hard’ constraint but the in-combination effects of these and OWF activities should be considered during the zonal appraisals and subject to consultation.
		<i>Noted.</i>
Oil and gas infrastructure		
aw	BWEA, Airtricity, Forewind, Dutch Government, RSPB	Whilst fully endorsing the importance of maintaining safe access (principally relating to helicopter movements), the SEA approach to oil and gas infrastructure buffer zones is considered to be overly cautious and does not reflect existing and accepted practice. It would be appropriate to adopt a less conservative approach, acknowledging that development closer to oil and gas infrastructure can be (and has been) achieved through successful consultation between developers and platform owners. A case-by-case approach is more appropriate. It is requested that this ‘hard’ constraint be reviewed and re-assessed.
		<i>Development within 6nm of an installation is for the developer and field operator to agree, with decisions informed by proper safety risk assessment.</i>
ax	Airtricity, Forewind	Treating oil and gas infrastructure buffer zones as a ‘hard’ constraint will put enormous significance on the wind farm overlap guidelines currently being drawn up by BERR/DECC/BWEA. Round 3 developers will not be able to accept a risk that future oil and gas licensing rounds could impose licences contiguous with planned or consented offshore wind projects.
		<i>The consultee is directed to SEA recommendation 1 (ER, p.213). See also response to comment aw.</i>
ay	Dutch Government	Regarding flexibility in the 6nm safety buffer around oil and gas installations, in the Netherlands, the consequences of the limitation in accessibility of the platform is assessed, maintaining a requirement of 5nm in the direction of approach.
		<i>Noted. The 6nm reflects UK CAA guidance.</i>
az	DONG	Where there is a potential conflict between offshore wind and oil & gas efforts should be made to site new oil & gas infrastructure in areas that are already spatially constrained to wind development.
		<i>The consultees’ position is identified in recommendation 1 of the ER,</i>

		<i>p.213.</i>
ba	SPR	The automatic presumption against development within 6nm around all platforms adopted in the assessment implies that siting of offshore wind is 'flexible' unlike oil and gas locations - which is obviously not the case. It should be recognized that the industries have the opportunity to co-exist and there should be flexibility to allow this.
		<i>This potential for coexistence is recognised.</i>
Wet renewables		
bb	NRL	Whilst the safeguarding of potential wet-renewable resource areas is supported, it is not considered appropriate to address this through the application of a 'catch-all' 12nm buffer zone which artificially sterilises vast areas of coastal waters, only a small proportion of which are economically viable for wet renewable developments. A more sensible measure would be to safeguard specific areas.
		<i>This is not the intent of the coastal buffer zone. Future plans for large scale wave and tidal energy development would also be subject to SEA, and a screening exercise has been announced (see http://www.decc.gov.uk/en/content/cms/news/pn052/pn052.aspx). Such technologies would be assessed on their own merits and some of the constraints to wind farm siting may not apply.</i>
MoD Practice and Exercise Areas (PEXA)		
bc	Airtricity	Despite the Appendix text stating that only PEXA 'Danger' areas where live firing occurs are treated as a 'hard' constraint, there is inconsistency in the application of this rule i.e. live firing area in the Moray Firth not considered a 'hard' constraint. The ER should more clearly explain and justify the application of PEXA as a development constraint.
		<i>For consistency, Figure A3h.13 in Appendix 3h – Other Users, shows all MoD practice and exercise areas prefixed D, classed as danger areas. As noted in the text, the presence of a PEXA, including some of those classed as a danger area does not necessarily preclude other activities. In this respect and after consultation with Defence Estates, the larger airforce danger areas present on the east coast of the UK were not included as a hard constraint. The ER also notes the importance of planning and consultation between the offshore energy industries and the MoD to minimise any conflicts of interest where any PEXA exists.</i>
bd	Forewind	MoD PEXA Areas - Consultation with the MoD may resolve conflicts with PEXA.
		<i>Comment noted.</i>
be	NRL	It is important to note that the PEXA danger areas defined already offer a safety 'buffer' around the actual firing range activity. Considering this, and the requirements for project-specific consultation with MoD, there is little to be gained from applying a blanket 12nm coastal buffer zone and it is therefore considered inappropriate to do so in relation to military areas.
		<i>Comments noted. As stated, engagement with MoD for these areas whether within 12nm or not would be a requirement for project-specific consultation, there is no implication that the 12nm buffer is a hard constraint.</i>
bf	EDPR-SER	Discussion has been ongoing for some time with regard to Government consultation with the military, specifically the potential impact on military radar. The SEA states that further discussion is required with the Government, outwith the scope of the SEA. It is absolutely imperative that this consultation is undertaken and clear guidance provided on the siting of the wind farms, to avoid serious impact on the scheduling of wind farms, in line with the Government's 2020 targets, we would ask that the SEA outline this and call for action to be taken as a matter of urgency.
bg	NSFC	The position of RAF Boulmer should mean that there should not be wind farms in the vicinity thereof.

		<i>The position and potential interaction of RAF ASACS sites with the adjoining sea is indicated in Section A3h.4 of Appendix 3h, Other Users and Material Assets. Project specific consultation with the RAF and other stakeholders would be required prior to any development in the vicinity of RAF Boulmer.</i>
Aviation		
bh	NERL	Pleased that the ER has recognised the impact of wind turbines on aviation and surveillance radar and that these concerns have been captured in the consultation.
bi	NERL	It should be noted that NERL comments made with respect to the OE SEA would be relevant for the territorial waters of Scotland and Northern Ireland as well.
		<i>The consultee's comments are welcomed and noted.</i>
bj	ICOWFL, NRL	The application of the 12nm buffer zone to provide for mitigating sectoral conflicts in this instance is again questionable. A blanket 12nm coastal buffer mitigation measure would seem to be an inappropriate measure in terms of safeguarding aviation interests, as it would negate potential development or areas within several Round 3 zones and Scottish Territorial Waters (STW) sites which are clearly outwith any consultation or radar interference area from known installations. The most appropriate route to minimising conflict and thus constraint on either sector is consultation in determining acceptable locations for OWFs.
bk	ICOWFL	There is a range of activity ongoing which is attempting to mitigate wind turbine effects on radar coverage which may provide for development in areas currently subject to potential conflict between the two sectors e.g. NATS (2008).
		<i>These comments are welcomed and DECC is aware of the radar mitigation work (see A3h.3, Appendix 3h).</i>
bl	NERL	The report makes reference to CAA 6nm zones in and around offshore oil/gas operations but there is no mention of protection for the airspace routes joining the platforms to the mainland, which are not seen by NERL primary surveillance radars and are often flown at turbine height. Helicopter operators would almost certainly have a view on the safety of their operations in the vicinity of these routes but we are not sure whether they or the Civil Aviation Flight Operations department have had a chance to respond to this consultation.
		<i>It is appreciated that the issue of helicopter flight routes to and from platforms has been highlighted in NERL's response. Developers will need to have a high degree of stakeholder interaction in order to develop an acceptable strategy for areas where conflicts between, amongst others, helicopter traffic and wind farms may arise, and the relevant organisations mentioned should be consulted in this respect. The organisations mentioned were not consulted as part of this assessment, but they will be borne in mind for any appropriate subsequent projects.</i>
bm	NERL	It should be noted that developments closer to the UK land mass have potential to degrade communication, navigation and secondary surveillance radar performance. These areas are included in the maps.
		<i>Comments are noted and attention is drawn to Section A3h.3, Appendix 3h in relation to this issue.</i>
bn	NERL	Page xviii of the NTS refers to "Area wide mitigation solutions for potential radar interference may be possible but require pilot studies and trials". Investment would also be required for these solutions.
		<i>Noted.</i>
Tourism, recreation and quality of life		
bo	NRL	In general, impacts on tourism, recreation and quality of life are difficult to quantify with any degree of certainty; effects are difficult to discern, and the value of certain areas is not always known. As the SEA has

		recommended a presumption against offshore wind farm developments which "...result in significant detriment to tourism, recreation and quality of life" (p.213), it is imperative that the factors which result in 'significant detriment' are spelled out in terms of the provision of an objective method of assessment.
bp	NRL	Despite the many Public Inquiries in the last 15 years into onshore wind farms in the UK, no such method has emerged to allow the assessment of detriment to tourism, recreation and quality of life by onshore wind farms. It is therefore reasonable to assume that no such method will emerge in the future for offshore wind farms.
		<i>It is hoped that through the landscape, ecological and economic considerations made in the SEA, and that which will follow in subsequent project-specific studies, that the adoption of the plan/programme does not result in negative effects on issues including tourism and quality of life.</i> <i>Though not constituting a set of methods or guidance, Government has conducted renewable energy awareness and attitudes research (see http://www.berr.gov.uk/energy/sources/renewables/planning/public-perception/page18642.html). Public engagement is key to promoting understanding of the need for and probable visual impact of any development among those likely to be affected (whose opinions can be influenced by factors including demography and a priori knowledge).</i>
bq	ICOWFL, NRL	The exclusion of OWF development within the 12nm area would indeed provide for safeguarding of recreational activities around the UK coastline, but the area so protected is significantly greater than that subject to high recreational use. With some exceptions, the focus of coastal tourism interests lies in the close inshore area.
br	NRL	A buffer zone, if any is to be applied, extending to some 8-13km as has been employed previously would seem to provide for appropriate levels of protection for the high-usage areas and it seems likely that extending this area to 12nm from shore will do little to increase this level of safeguarding.
		<i>These comments are noted. The nominal buffer is not intended to be taken as a rigid constraint, and is based on considerations of a number of coastal and marine receptors other than coastal tourism. It is realised that, along with a number of other coastal sensitivities highlighted in the report (ecological and anthropogenic), tourism is highly variable, and that in some instances developments may be permitted closer than 12nm.</i>
bs	RYA	AIS data will not pick up the majority of recreational craft which are not required to carry an AIS transponder.
		<i>Comment noted. This issue is indicated in Appendix 3h but could also have been explicitly mentioned in the ER.</i>
bt	RYA	Pleased to see the RYA Atlas of Recreational Boating has been used and would expect this information to be used in site-specific selection, although it should be understood that sailing yachts will not necessarily follow a direct line between A and B; their line of travel depends on the direction of the wind on the day. Unconstrained navigation routes are vital to the UK and a requirement in both territorial and EEZ waters under UNCLOS.
		<i>DECC are aware that the RYA atlas provides indicative routes and that these may be subject to some alteration depending on weather conditions etc. Other comments are noted.</i>
bu	RYA	In favourable conditions, a mariner would be happy to transit an OWF and we would not expect them to be excluded from the site. In unfavourable conditions, the mariner may opt to avoid the site altogether, therefore extending time at sea and increasing safety risks.
		<i>These comments are noted and the validity and importance of the issue raised and its relation to marine safety and fuel usage is acknowledged. A high degree of stakeholder interaction with developments arising from the</i>

		<i>adoption of the plan/programme is expected to identify areas where such a scenario may arise.</i>
bv	RYA	The safe rotor clearance height for the majority of recreational craft developed by the RYA is 22m above MHWS. It is noted that the ER states this clearance should be adhered to unless there is proof that a lower level carries no added risk; a proposal where this height is reduced would not be supported. As vessels increase in size and technology improves, mast height is likely to increase.
		<i>The indication that the 22m MHWS minimum clearance may be subject to change following proof of no risk by the developer is drawn from guidance provided by the MCA (Marine Guidance Note 371), though comments relating to the likely development of recreational craft in this context are noted.</i>
bw	RYA	<p>With regard to TCE's proposed Round 3 zones, the following zone-specific issues arise:</p> <ul style="list-style-type: none"> • West of Isle of Wight. Cannot see any part of this zone that could be safely developed. The zone is in a heavily used navigational area with vessels entering the Solent through the Needles Channel and heading towards or from the Eastern entrance to the Solent. In addition, vessels leave the coast at Poole, the Needles and Christchurch for France and the Channel Islands bisecting the zone in several places. High speed cross-channel ferries also cross this area. This area is a good example of recreational craft and commercial vessels being able to stay out of conflict. Safety of navigation would be seriously compromised should any area be developed which would be contrary to the SEA objectives. Additionally, over half of the area lies within the 12nm buffer which again is contrary to the SEA recommendations. • Hastings. This zone lies almost entirely within 12nm from the coast, and would appear to be of limited potential for development on the SEA's own recommendations. From the recreational perspective, there is only limited opportunity for development whilst ensuring navigational safety. • Norfolk. There are several routes crossing the North Sea from UK ports to Holland, Belgium and France which should be safeguarded. However, there are parts of the zone that we believe could be safely developed. • Holderness. The area further offshore can be safely developed in terms of recreational boating, whilst the area closest to the shore is crossed by a number of routes, some of which would be adversely affected due to the existence of proposed Round 2 sites. • Firth of Forth and Moray Firth. Both of the Scottish sites are crossed by coastal cruising routes which should be preserved. However, there may be some scope for development. The SEA should have taken into account the latest proposal from TCE and the Scottish Government as the cumulative effects of the proposals within 12nm from TCE and those in this SEA outside 12nm. There is a clear need here for integrating the planning for offshore renewables. • Irish Sea. This zone impinges on the shipping lane as commercial vessels leave the Traffic Separation Scheme (TSS) and approach Liverpool Bay. This will leave little or no area for recreational vessels that are navigating alongside the TSS and the shipping lane heading for the same destination. The zone is also crossed by numerous routes between Wales, Ireland, England, Scotland and the Isle of Man. There may be some scope for development in such a large zone. Any prospective site must fully examine the recreational and commercial navigation use of the area. • Bristol Channel. This site lies almost entirely within the 12nm zone and in a busy navigational area which would be contrary to the SEA's

		recommendations. The site is crossed by numerous routes. We believe there is limited potential to develop this zone without adversely impacting recreational boating.
		<i>The area specific comments in relation to recreational boating and navigation in general are noted and should be directed to those developers and consenting authorities who apply for licenses in these areas on adoption of the plan/programme. There will be further opportunity to consult with developers on these issues through the EIA process.</i>
bx	RYA	Much of the potential risk posed to recreational will be avoided by keeping development beyond 12nm. There may be some scope for development within the 12nm buffer but this would be based on more work. It is assumed that this would be in areas lightly used by navigation (commercial and recreational) as well as for other reasons.
		<i>Although the SEA recommended that the bulk of new wind generation capacity be sited beyond 12nm of the coast, it also acknowledged that there may be scope to develop within 12nm where there is stakeholder and regulatory acceptance based on a site-specific study of the proposed development. Such a study would require the inclusion of, amongst other considerations, recreational boating.</i>

2.2.5.12 Transboundary effects and international considerations

a	MoEF	Acknowledge the conclusions and recommendations of the ER, and stress that it is important that the procedures for transboundary consultation for projects are followed at the time when the projects are undertaken.
		<i>Noted and agreed.</i>
b	RSPB	Negative transboundary effects on birds cannot be ruled out. This is because i) bird populations are transboundary, and ii) the Round 3 zone extends to the edge of UKCS, e.g. Dogger Bank, therefore potentially abutting other Member State offshore wind farms and oil and gas proposals as well as existing infrastructure and the effects of fishing activities.
		<i>The potential for negative transboundary effects on the on the mortality of migrating birds is noted in the SEA (see Section 5.15). However, it is considered that the scale of affects in adjacent territories due to activities resulting from the adoption of the draft programme will be relatively insignificant when compared to UK waters.</i>
c	Dutch Government	Collision and barrier effects on birds may be significant through transboundary accumulation with OWFs in other nations' waters.
		<i>Noted, and will require international liaison and potentially collaborative study.</i>
d	Dutch Government	The conclusion that "the scale and consequences of environmental effects in adjacent territories due to activities resulting from the proposed leasing/licensing will be less than those in UK waters and are considered unlikely to be significant" might be premature. At least, coordination in building might need to be arranged between neighbouring countries. If pile-driving is issued, in order to reduce the combined effect of the R3 development zones and adjacent Dutch ("Borsele") and planned Belgian OWFs.
		<i>Noted. It is agreed that coordination between users to limit combined stresses on the environment is always desirable.</i>
e	Dutch Government	Boundaries for two SACs, Doggersbank and Klaverbank, have been submitted to Brussels, with full designation expected by 2013. This may influence the assessment of offshore activities not yet incorporated in the SEA.
		<i>Noted. Where applicable, potential effects impacts of the draft plan/programme on Natura 2000 sites in UK and adjacent waters will be managed through the AA process.</i>

f	MoEF	Note that there are 4 potential offshore Natura 2000 sites close to UK waters and briefly draw attention to the tests of determining the significance of potential effects.
		<i>Noted. See response to comment e, above.</i>
g	MoEF	Acknowledge the temporary and localised nature of construction impacts on seabed geology and substrates, and conclude that no impact on sediment transport at the scale of the English Channel and the North Sea and only very localised operational-phase effects are expected as a result of the draft plan/programme.
		<i>Noted.</i>
h	Dutch Government	The probable future Dutch OWF “Ijmuiden” lies adjacent to UK waters and an area identified by TCE as an indicative Round 3 zone; suggest cooperation during planning.
		<i>Noted.</i>
i	DFO	The North Norfolk Sandbanks, Hornsea area and particularly the Dogger Bank are important fishing grounds for the Dutch fishing fleet - this is not recognized in the ER. Construction of OWFs in these areas and subsequent displacement of fishing effort will have a large economic impact on the Dutch fishing industry, including increased fuel and labour costs. Ask that Dutch fishing activities be considered as activities of significant importance, and wish to be closely involved in the process of energy licensing and leasing in UK waters. Would be willing to provide additional information on the Dutch fishing industry.
		<i>The importance of areas of Regional Sea 2, including the Dogger Bank to Dutch fishing vessels is noted in Appendix 3h.13.7. The fishing grounds mentioned are of important for UK vessels (and those of several other nationalities) and this has been taken into consideration. The offer of additional information is welcome.</i>
j	MoEF	Stress that OWF development within the Renewable Energy Zone (REZ) could raise concerns with regard to maritime safety in areas of dense marine traffic, and emphasise the need to take great consideration of this issue.
		<i>Shipping traffic and navigation has been extensively covered in the SEA, and a number of related recommendations are made. See Appendix 3h.2 and Section 5.7.2 of the Environmental Report for details and mapping.</i>

2.2.5.13 Atmospheric emissions and climatic factors

a	E.ON	Do not believe that there are significant effects from constructing and operating OWFs on local and regional air quality. Accept that where this may be a risk, appropriate mitigation measures should be considered via the normal EIA process.
		<i>Noted.</i>
b	WWF-UK	Consider the only statistically valid conclusion from an SEA for oil and gas licensing is that this plan will lead to a net increase in CO ₂ emissions and that of other potent greenhouse gases, with a direct and indirect impact on the climate which is cumulative, synergistic and transboundary. This conclusion should be made explicit in the SEA.
		<i>The SEA was undertaken in the context of and explicit reference to the range of UK and EU policy and legislative actions on energy supply and climate change responses.</i>
c	DDC, WWF-UK	Question the conclusion in the NTS that, “Domestic hydrocarbon production would be neutral in the attainment of UK climate change response policy objectives, and potentially positive in respect of oil, since associated gas is put to beneficial use rather than mostly flared as in some other sources of potential supply”.

		Acknowledge the relative benefits of domestic hydrocarbon production, but the suggestion that it is 'neutral' or 'positive' (as opposed to 'less negative') in meeting climate change objectives and legally binding carbon emission reduction targets undermines the credibility of the SEA process. This directs decision makers towards decisions which may not be based on a true reflection of the significance of this plan's impacts on the environment (including human users). Suggest that DECC amends this position.
		<i>Noted. See response to comment b above.</i>
d	WWF-UK	Believe the phrase "carbon positive" to be misleading and suggest it should be removed from the ER. Recommend the phrase "carbon neutral" should be clearly defined.
		<i>Disagree, the full sentence is considered to be accurate and logical.</i>
e	WWF-UK	<p>Recommend/request greater consideration of cumulative effects from atmospheric emissions, including:</p> <ul style="list-style-type: none"> • Better prediction of impacts from emissions relating to the plan to license for oil and gas exploitation, including prediction of likely quantities of emissions based on the barrel of oil equivalents. • Incremental effects from emissions from end use of all hydrocarbons produced as a result of all licensing rounds since 1964. <p>The conclusion should be amended to acknowledge that cumulatively, the series of rounds of plans to license for oil and gas has a significant CO₂ emission level and impact on the climate. The SEA is duty bound then to propose ways to reduce the impacts on the climate and mitigate (off-set in this context) any residual impacts on the climate; previous advice supplied on this matter to offer constructive ideas of how this might be approached (See Annex 1).</p>
		<i>Noted. However, see responses 2.2.3b, and f and i below.</i>
f	WWF-UK	Recommend/request the Climatic Factors section and climate change discussions receive greater prominence in the ER, with the former dominated by information on energy supply and production. This section fails to calculate or properly predict the potential impacts, their significance, importance, reversibility etc, as required by the SEA Directive. The section has no conclusions, recommendations or potential mitigation measures, and is inconsistent with other sections. This oversight must be addressed to complete the SEA and to be compliant with the SEA Directive.
		<p><i>Disagree; see ER Sections 5.10 and 5.11. As described in Section 2 of the ER, the draft plan/programme must be seen in the context of the UK Government's overall energy strategy and two serious long term challenges for the UK:</i></p> <ul style="list-style-type: none"> • <i>Tackling climate change by reducing carbon dioxide emissions both within the UK and abroad; and</i> • <i>Ensuring secure, clean and affordable energy as we become increasingly dependant on imported fuel.</i> <p><i>The ER emphasises that, in the near term, UK energy demand not met from indigenous sources (whether fossil or renewable) will be supplied by imported fossil fuels, with little distinction in terms of resultant emissions to atmosphere. The ER recognised that "Atmospheric emissions from the potential activities following implementation of the draft plan/programme will contribute to local, regional and global concentrations of CO₂ and other greenhouse gases, although in the case of offshore wind farm developments these will be offset by the production of renewable energy." In response to climate change concerns, the UK Government and EU have and are introducing a variety of policy initiatives intended to stabilise and reduce greenhouse gas emissions. All recognise the long term nature of</i></p>

		<i>the venture and that there is no one solution. Contributory steps include reduction in energy demand through increased energy efficiency, promotion of renewable fuels and electricity generation, fuel switching to lower carbon alternatives, carbon capture and sequestration etc. However, as the Energy White Paper 2007 recognised “We will continue to need fossil fuels as part of a diverse energy mix for some time to come.” In the near term, UK energy demand not met from indigenous sources (whether fossil or renewable) will be supplied by imported fossil fuels – with little distinction in terms of resultant atmospheric emissions. If the UK seeks to maximise hydrocarbons from indigenous sources, it will allow much greater control over associated greenhouse gas emissions given that associated gas is put to beneficial use rather than mostly flared as in some other sources of potential supply. Importation of oil or gas also has an additional climate change penalty through emissions generated through transportation.</i>
g	BWEA, FOR, EDF, WWF-UK	The environmental benefits of offshore renewable energy development brought through climate change mitigation should receive a much higher prominence. Similarly, the negative impacts of climate change on the economy and people resulting from greenhouse gas emissions should be given proper consideration.
		<i>Noted.</i>
h	WWF-UK	On p.179, the ER states “CO ₂ emissions which may be linked to climate change”. This phrase should be removed from the SEA. The link between CO ₂ and climate change is virtually certain, as defined by IPCC, and it is damaging for DECC to be undermining this science basis.
		<i>Noted, the ER did not seek to question the science of climate change.</i>
i	WWF-UK	Using language such as “positive radiative forcing” rather than familiar phrases such as climate change or global warming, makes the ER less accessible and so is not consistent with SEA Directive requirements for public participation.
		<i>Noted for future SEAs.</i>

2.2.6 Environmental baseline

2.2.6.1 General

General		
a	NRL	Although the SEA has identified various additional datasets and also provided detail in terms of the Regional Sea baselines, the baseline information provided in the ER is in broad agreement with that collated and considered in the work undertaken to date by NRL and also in the MaRS collated by TCE.
		<i>Noted.</i>
b	SDJC	Suggest future reports to be consistent in terminology and units. Distances at sea should be in nautical miles and navigational speed in knots. Reference to kilometres, if required, should follow nautical miles in brackets. Depths and heights should be measured in metres.
		<i>These constructive comments will be taken into account in future SEAs.</i>

2.2.6.2 Benthos

General		
a	CCW	Have recently undertaken a number of information gathering exercises that provide better resolution of the environmental baseline in Wales. These include the HABmap project, which has completed detailed assessment of the seabed and work continues in order to improve the geographical coverage of this study.
		<i>Noted. All additional sources of information are welcome and will be taken</i>

		<i>into account in future SEAs.</i>
Appendix 3a.2		
b	JNCC	In some of the Regional Sea sections, benthic habitats and communities are described separately for “offshore” and “nearshore” areas. In a regulatory context, the offshore area comprises waters beyond 12nm. It is unclear whether the SEA uses the same definition. We therefore recommend clarifying what is meant by “offshore” and “nearshore”.
		<i>Nearshore and offshore are used in the ER as descriptive ecological terms, and not linked to a regulatory context. The comment will be noted for future SEAs.</i>
c	JNCC	Page 19: Both the Braemar and Scanner pockmark areas have been approved by the UK Government for designation as SAC. They were submitted to the EU Commission in August 2008 and are currently candidate SACs.
		<i>Noted. Please see Section A3j.2.2, where the current status of these and other SAC sites is reported.</i>
d	JNCC	Page 21, paragraphs 2 & 3 (A3a.2.5.1): These paragraphs describe statistical analyses undertaken to characterise the epifaunal communities in the North Sea but do not provide any environmental information. It remains completely unclear which are the characterising species of the epifaunal communities of Regional Sea 2.
		<i>Further details of the epifauna and infauna of the benthic community is given throughout Section A3a.2.5. The purpose of these paragraphs is to emphasise the significant differences between benthic communities of the southern North Sea and northern North Sea, with further community distinctions observable within the southern North Sea. Full references for these papers are listed following the Environmental Report and should be consulted for more detailed information.</i>
e	JNCC	Page 21: CEFAS, BGS and Envision Ltd. on behalf of JNCC have recently completed an information gathering exercise that provides better resolution of the geomorphological and biological baseline of the Dogger Bank dSAC (Diesing <i>et al.</i> 2009). This new information should be taken into account prior to finalising the SEA document. Copies of the report are available on request from JNCC’s Marine Protected Site Team (offshore@jncc.gov.uk).
		<i>Noted. Any additional information is welcomed.</i>
f	JNCC	Pages 25 & 26/27: Information from the Eastern English Channel Marine Habitat Map project (James <i>et al.</i> 2007) should have been used and referenced as an additional source of information for the section covering Regional Sea 3.
		<i>Noted. Please note that James et al. (2007) was used and cited in Appendix 3b – Geology, Substrates and Coastal Geomorphology.</i>
g	JNCC	Page 56: Consider that more information on the Hatton Bank should be provided within the final report. A comprehensive summary on the environmental baseline of the Hatton Bank can be found in the SAC Selection Assessment document for the Hatton Bank dSAC (http://www.jncc.gov.uk/pdf/HattonBank_SelectionAssessment_1.0.pdf).
		<i>Noted. Please also see response to comment below.</i>
h	JNCC	Page 57: References should be provided for the ecological functioning and distribution of <i>Sabellaria spinulosa</i> reef (paragraph one & two of this section).
		<i>The text reflects published and unpublished information on the species. See e.g. http://www.marlin.ac.uk/speciesfullreview.php?speciesID=4278</i>
i	JNCC	Noted that both Natural England and the JNCC will be commencing consultation (on behalf of Defra) on the designation of a series of new SACs. Information on these sites will shortly be available (end of April 2009) on the Natural England and JNCC websites. Believe that the final SEA report should consider these new potential conservation sites.

		<i>The two new Offshore Draft SACs, Bassurelle Sandbank and the Hatton Bank, were formally advised to DEFRA in February 2009, after the release of the SEA report for public consultation. The Bassurelle Sandbank is a linear sandbank in the Dover Strait (Regional Sea 3), with benthic communities dominated by polychaete worms and characteristic fish species including weever fish and sandeels. The Hatton Bank is a large volcanic bank in the Northeast Atlantic (Regional Seas 10 & 11). The stony, bedrock reef supports an array of corals, seafans and sponges, as well as cold water Lophelia pertusa and Madrepora oculata reefs. These newly designated sites should be considered where appropriate in future.</i>
j	CCW	The text in Appendix 3a.2 seems rather disjointed. Some aspects are covered in great detail whilst others are dealt with less comprehensively. In general, the clarity of the Regional Sea sections would be improved if the structure, based on habitat types, is the same for each. Where a particular habitat type does not occur the relevant section should perhaps record “absent from this Regional Sea area”.
		<i>The constructive comments of the consultee are noted.</i>
k	CCW	Page 28 - The section covering Regional Seas 4 and 5 should include a subsection on Biogenic Habitats. For instance <i>Sabellaria</i> is known to occur in the Severn and Bristol Channel area.
		<i>Comments are noted.</i>
l	CCW	Page 34 - Although the sublittoral habitats and communities of the Bristol Channel and the Severn Estuary have been relatively well studied there remains considerable uncertainty about the precise distribution of subtidal <i>Sabellaria</i> reef.
		<i>Agreed.</i>
m	CCW	Page 37 - The statement that “to the east of Tremadog Bay, the seabed is varied but dominated by current swept coarse cobbles sustaining, in places, minimal epifauna (Rees 1993),” needs checking. It is not clear what is meant by “east of Tremadog Bay”. Furthermore, the currents are not particularly strong on the eastern side of Tremadog Bay.
		<i>The text should read “to the west of Tremadog Bay” and refers to the tide swept areas off the Lleyn peninsula.</i>
n	CCW	Figure A3a.2.5 - a reference should be provided for this figure.
		<i>Source: The figure is modified from Holmes & Tappin 2005 and Mackie 1990 (see Bibliography).</i>
o	CCW	Page 39 - The phrase “In offshore parts of Cardigan Bay, finer sediments dominate the substratum” is ambiguous as it’s not clear whether this means finer than the cobbles mentioned in the previous paragraph, or finer as in fine sands (the former is generally accurate but the latter interpretation would be incorrect).
		<i>Agreed that greater clarity would be helpful here. The “finer sediments” of Cardigan Bay are described in relation to the cobbles to the northwest of the Lleyn Peninsula. Figure A3a.2.5 illustrates this and shows offshore areas of Cardigan Bay to be dominated by sandy gravel and gravelly sand.</i>
p	CCW	Page 40 - The statement that “Nearshore habitats along the west coast of Wales from the Lleyn Peninsula at the northern limit of the scenario to Milford Haven in the south are characterised by a mixture of sandy gravel and gravel” is a considerable oversimplification that appears to be based on BGS maps where all grain sizes in excess of 2mm are classified as ‘gravel’ (so includes pebbles, cobbles and small boulders) and where rock is under-represented. In reality there is a wide range of sediment and rocky habitat types which should be classed as mixed sediments that include sand, gravel, pebbles and cobbles.
		<i>Noted.</i>
q	CCW	Page 41 - disagree with the statement that the “Coast around Strumble Head and Skomer consists of a series of bays separated by headlands

		characterised by a relatively impoverished fauna determined by the degree of exposure.” Strumble Head and Skomer are characterised by a number of species-rich rocky habitats. Furthermore, it is not really clear which sections of coast are described by this passage; for instance, does this also include St Brides Bay?
		<i>Accepted that this is an oversimplification of the complexity and richness of parts of this coast. The text referred to the most exposed rocky shores and did not include St Brides Bay.</i>
r	CCW	Page 42 - The section on biogenic habitats should also include mention of the extensive <i>Modiolus</i> bed off the North Lleyn (it wasn't surveyed as part of SEA 6 as the extent was already known) and reference to <i>Musculus</i> beds.
		<i>Noted.</i>
s	CCW	Page 43 - Other communities of conservation importance in the Regional Sea 6 area should be included such as seagrass, oyster and maerl beds.
		<i>Noted.</i>

2.2.6.3 Geology, substrates and coastal geomorphology

Appendix 3b		
a	JNCC	Page 266: The SEA correctly identifies Pobie Bank as an area containing potential Annex 1 reef habitat. Please note that JNCC are currently reviewing the results of a contract that analyses existing data from surveys conducted on Pobie Bank.
		<i>Noted.</i>
b	JNCC	Page 271: The SEA states that “The covering of sandy sediments in shallower <20m depth areas to the southwest and its associated benthic fauna ... falls within the Annex I classification”. Please be aware that the 20m depth contour does not define the shallow sandbank feature for which the Dogger Bank dSAC is recommended. The 20m depth contour has been used by JNCC, following European guidance, as an indicator to help identify areas which may qualify under Annex I of the Habitats Directive as “Sandbanks which are slightly covered by seawater all the time”, although the habitat can extend beneath 20m depth where these areas are part of the feature and host its biological assemblages; this is the case for the Dogger Bank dSAC. This and other relevant paragraphs should be amended considering the above comments.
		<i>The clarification is noted.</i>
c	JNCC	Page 274: Noted that since publication of Johnston <i>et al.</i> (2002), substantial progress has been made with regard to the identification of Annex I habitat, and this should be acknowledged in the SEA. Up-to date information on the marine SAC work programme can be found at JNCC’s website and Committee Papers (follow links at http://www.jncc.gov.uk/page-1445 & http://www.jncc.gov.uk/page-2671).
		<i>Noted. Please see Appendix 3j for more information on marine SACs.</i>
d	JNCC	Within the Eastern English Channel, the Median Deep is no longer under consideration as potential SAC for Annex I reef habitat (http://www.jncc.gov.uk/pdf/comm06n09.pdf) but the Wight-Barfleur reef is currently classified as an Area of Search (AoS) containing potential Annex I bedrock and stony reef habitat (http://www.jncc.gov.uk/PDF/comm_08P14a.pdf).
		<i>Clarification is noted and welcome.</i>
e	JNCC	Within the Rockall Trough & Bank Regional Sea, the Anton Dohrn and George Bligh area are currently classified as offshore AoS for bedrock reef. Hatton Bank has now been formally advised to Defra as dSAC.
		<i>Noted. An AoS is an area where the presence of Annex I habitats</i>

		<i>(sandbanks slightly covered by seawater all the time, reefs and submarine structures made by leaking gases) may lead to future designation as an SAC. Hatton Bank was advised to DEFRA in February 2009, after the release of the SEA report for public consultation.</i>
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2.2.6.4 Marine mammals

General		
a	CCW	Information about marine mammal distribution in the Irish Sea will shortly be published which incorporates new data and provides an assessment of the distribution of key mammal species at a higher resolution than was previously available. This new information should be taken into account prior to finalising the ER.
		<i>Noted. All relevant information is welcome and will be considered during the consenting process, regardless of its availability at the time of publication of SEA documents.</i>
b	CCW	The "Likely evolution of the baseline" section (4.4 of ER) on marine mammals should also highlight the fact that distribution is strongly affected by food availability, abundance & distribution.
		<i>This is covered in the noted section, both in terms of climate-driven and fishing-driven shifts in prey distribution, including: "Additionally, prey distribution and abundance can show considerable variation in response to fisheries exploitation; this is likely to have knock-on effects on marine mammals which predate on the exploited fish populations." This topic is discussed in further detail in Section A3a.7.15 (p.249) in Appendix 3a.7.</i>
c	WDCS	There is an over reliance on the SCANS surveys to provide information on cetacean distribution; these are broad transect surveys and not designed to give site-specific information.
		<i>SCANS survey data represent the most widespread, reliable and uniform source of data regarding cetacean distribution in UK waters, and therefore the most useful at a nationwide strategic level. More area-specific distributions have been described where these exist within individual Regional Sea sections.</i>
Appendix 3a.7		
d	WWF-UK	Request the inclusion of harbour porpoise (<i>Phocoena phocoena</i>) in the assessment in Section A3a.7.17 and throughout the SEA as harbour porpoise are an Annex II Habitats Directive species along with <i>Tursiops truncatus</i> (bottlenose dolphins).
		<i>The status of harbour porpoise as Annex II Habitats Directive species is noted in Section A3a.7.17.1: "The harbour porpoise, bottlenose dolphin, grey seal, harbour seal and otter are also listed in Annex II of the Habitats Directive". Harbour porpoise are considered throughout the assessment.</i>

2.2.6.5 Birds

Birds		
a	JNCC	Agree that the Offshore Vulnerability Index (OVI) needs to be updated in consideration of the publicised changes in seabird numbers, distribution and breeding success. However, when incorporating new data, analysis is needed to ensure that the OVI model remains valid considering the varying methods used for data collection, e.g. the inclusion of aerial survey data. Industry and/or government should contribute to the required updating, including the cost of filling in any survey gaps. It may be more realistic to commission targeted ESAS surveys.
		<i>As noted in the ER and supporting reports, DECC have commissioned boat based surveys targeted at 3 areas selected on the basis of the data</i>

		<i>gap analysis completed in 2006 and areas of likely developer interest. These surveys used ESAS compatible methods and analysis of the data will help inform an assessment of the continued validity of OVI scores.</i>
b	CCW	Figures 5.19 & 5.20: These two maps are both based on ESAS data. The legend indicates that these maps are based on data sourced in 2004. Survey work has since been undertaken (on behalf of BERR/DECC) in some areas for which there was previously poor survey coverage (e.g. Cardigan Bay). Suggest that these maps may need to be updated to include the more recent information.
		<i>The paragraph preceding Figures 5.19 and 5.20 indicates that the figures show OVI information based on the ESAS database and the legend includes the JNCC reference. The DEFRA 2004 reference in the legend denotes where the Regional Sea area boundaries are derived. All figures which include these RSAs have this reference. At present, information from aerial surveys is not incorporated into the ESAS database.</i>
c	CCW	Table 5.5: In relation to Regional Sea areas 4 and 6, Manx shearwater should be identified as being potentially at risk of collision (given that the risks are identified as 'unknown' in Table 5.4). For Regional Sea 6, gannet, of which there is a major colony on Grassholm Island, should also be included as a collision risk. Red-throated diver should be included as being potentially displaced in Regional Sea 6 as there are large concentrations of them in the northern area of Cardigan Bay.
		<i>These comments are welcomed.</i>
d	NE	The new boat based data from the SEA gaps analysis, whilst being a good snapshot, is a single survey only. It was carried out a time when terns have finished nesting and will have dispersed so feeding aggregations (if present) will have been missed. It was also conducted too late to note moulting auk aggregations (although it is noted that a significant number were seen around Dogger).
		<i>The final report of the DECC commissioned North Sea surveys recommends that repeat charters in the same survey areas at different times of year should be considered. DECC will work with the SEA Steering Group and other stakeholders to identify the need and priorities for future survey work to inform the SEA process.</i>
e	NE	The general seabird distribution at sea data is based on summaries from 1987/95. In view of changes in sea temperature/ fish abundance and distribution, are these likely to have changed? Are the trends still valid? This is acknowledged on p.197, but no reinterpretation has been attempted.
		<i>As noted the SEA acknowledged the age of the seabird data, particularly in reference to the ESAS and distribution data. In the absence of updated data, currently available information was used with the caveats noted.</i>
f	NE	The only information presented on migratory species is that from SPA counts, so there is no acknowledgement of potential issues with species such as pink-footed geese and whooper swan for instance. Little or no information is presented on key flyways, though they are mentioned. A synthesis of some of the OWF studies would have been beneficial to the chapter. Some mention is made of mass passerine migration to/from Europe.
		<i>Accepted. A review of the potential impacts of offshore wind farms on migrating and overwintering swans and geese in the SEA 5 area was prepared by Cork Ecology for the SEA process in 2004. This report was used to inform the OE SEA consideration but was not referenced.</i> <i>The SEA indicates that the British Isles lie on some of the major migratory flyways of the east Atlantic. It also acknowledges that large numbers of birds traverse UK seas bi-annually on migration but there do not appear to</i>

		<i>be fixed corridors used. Focus was given to birds that winter/stop over on the British Isles and the principal areas relative to potential development, i.e. northern, central and southern North Sea areas, the Channel and the Celtic/Irish Seas.</i>
g	NE	In the recent SEA 'gaps surveys', only three of the potential Round 3 zones are covered (Dogger & the zones in the English Channel). The areas due east of Flamborough, off east Anglia, and between Anglesey and the Isle of Man are not covered.
		<i>The DECC commissioned boat based surveys were not intended to cover R3 zones, see response to comment a, above.</i>
h	RSPB	<p>The following ornithological data needs are identified:</p> <ul style="list-style-type: none"> • There needs to be sample resurvey to determine the suitability of continuing to depend on ESAS data (e.g. as the basis of the OVI) in terms of how relevant it is to today's distributions and abundance. • Additional surveys are essential to cover all those SEA areas that may attract interest from offshore wind developers (within suitable depth parameters), and that have not already been covered in Rounds 1, 2 and 3 surveys. There is a need to continue surveys beyond this year and to review priority areas. The programme put forward for 2007/08 should be extended to provide data over a minimum of two to three years before planning applications are submitted in order to address gaps in knowledge about the distribution and abundance of birds at sea. • In order to utilise the same survey platform before and after construction, a solution must be found to the problem of low flying in post-construction wind farms. • Additional boat surveys are necessary to enable simultaneous collection of behavioural observations and environmental variables. These types of boat surveys are more suitable for identifying some species of seabirds, and therefore should be integrated into data collection programmes. • In terms of practical survey work, it will be necessary to strike an appropriate balance between expedient coverage of large survey areas, and adequate coverage to enable robust density estimations. Transect separation will be the means to address this potential conflict, but caution is needed in increasing transect separation too much and thereby missing concentrations – a potential problem especially for species with clumped distributions. • There is scope for expanding current tracking studies (mainly using GPS loggers) to other species and other colonies with funding input from government and industry to assist with information provision for R3. • A GIS atlas of bird distribution and abundance would be an extremely useful component of a constraints assessment for offshore energy, whilst also enabling information gaps to be identified. If such an atlas is to be relevant to R3, it needs to be progressed as soon as possible. • It is recommended that a minimum of two years data collection precede a planning application, plus ongoing annual pre-construction data-collection (Langston 2008, C. Barton pers. comm.) and data collection during the construction period.
		<i>These comments are welcomed and will be discussed through the SEA Steering Group (and other fora) to identify priorities and routes for implementation.</i>
i	RSPB	Recommend the publication of a research plan for collecting environmental data in the marine environment. This research plan should address the data needs outlined in the RSPB Round 3 offshore wind farm report (Annex 1, provided with consultation response).

		<i>See response to comment h, above.</i>
j	RSPB	Fully agree with the recommendation in Section 4 to integrate data collected for various purposes, notably for OWFs and marine SPA designation, which is necessary to progress the designation of marine SPAs and to provide baseline information to determine suitability of proposed development zones for R3 offshore wind.
		<i>Noted.</i>
k	RSPB	There is scope, as recommended in Langston (2009), for expansion of existing tracking studies (on several seabird species associated with several breeding colonies) to other species and colonies with funding input from government and industry to assist with information provision for R3. Most work to date has been to identify foraging areas associated with specific SPAs.
		<i>Noted, see also response to comment h, above.</i>
Detailed comments		
l	RSPB	Section 4.2 - With respect to the description of bird fauna on p.40, there are additionally birds that occur on passage, during their migrations between more northerly breeding areas and southerly wintering areas, when they stopover in the UK (applies also to p.vii in NTS).
		<i>The descriptions in Section 4.2 and NTS are brief summaries only, with a direction showing fuller details could be found in ER Appendix 3a.6.</i>
m	RSPB	Section 4.2 - In the description of Regional Sea 2 & 3 (p.45-46) there is no mention of migratory waterbirds.
		<i>Accepted.</i>
n	RSPB	The evidence presented in Table 4.2 is not borne out of Austin <i>et al.</i> (2008) as suggested. Suggest amendments to statements on turnstone, dark-bellied Brent geese, shelduck and bar-tailed godwit. (further details provided in consultation response).
		<i>The last paragraph referring to the declines being detected in the above named species over the last three decades came from Eaton <i>et al.</i> (2007), The State of the UK's Birds 2006.</i>
o	RSPB	Fully support text on p.127 which highlights the need to obtain up to date data and to plug data gaps, notably with respect to identifying foraging areas by breeding (sea)birds and, furthermore, to determine links with onshore SPAs (as well as identifying the marine SPA suite).
		<i>Noted.</i>

2.2.6.6 Landscape/seascape

General		
a	CCW	The definition of seascape is limited to visibility and views and needs expanding so that effects on seascape character can be considered too. Since the UK government signed and ratified the European Landscape Convention, the following definition is increasingly used: "An area of sea, coastline and land, as perceived, whose character results from the actions and interactions of land and sea, by natural and/or human factors". The definition of seascape and other relevant terms should also be included in the Glossary.
		<i>Comments noted, it is agreed that the definition provided is a more comprehensive single sentence explanation of seascape. However, under this definition, ecological, environmental and human factors all contribute to overall seascape. Note that these factors are all considered elsewhere within the SEA.</i>
b	CCW	The Registered Historic Landscapes (unique to Wales) should be included in relation to designated landscapes. The registers are a non-statutory material planning consideration.

		<i>Comments noted and these will be included in future studies.</i>
c	CCW	<p>Reference has been made in places to the Welsh seascape assessment and calculations of 'value' have been created, based on (in summary) the percentage of the seascape unit that is designated. Note that the final Welsh seascapes study (Briggs & White 2009) stops short of this, though relative levels of sensitivity are given. The value scores have been included from an unpublished draft version of the Welsh seascapes study (White 2008). Note these scores were based on the level of designation.</p> <p>CCW did not prescribe an overall level of value as it tempts 'adding up scores', which risks comparing fundamentally different things via their scores (e.g. 2 World Heritage sites does not equal a National Park). Furthermore, the European Landscape Convention reminds us that all landscapes matter, and an approach that considers who values what, where and why (at an appropriate scale), would be preferable to an approach that assumes that undesignated areas have no value.</p>
		<i>Comments are noted. It is recognised that in seascape studies to date, 'value' scoring using designated landscapes is only one aspect of assessment, and there is a distinct move towards considering landscapes in the context of their inherent physical and cultural characteristics rather than purely on the basis of statutory designations. Such designations do provide a starting point for a strategic study and have been used here in order to try and initially scope out areas which may be regarded as nationally important. It is expected that more comprehensive local/regional scale studies should follow on from the technical reports supporting the SEA and at a project-specific level, which will fully take into account the potential changes to seascape character that may be imposed by a given OWF development.</i>
d	CCW	<p>Since the draft ER was published for consultation, CCW has also published detailed regional assessments of seascape character including an assessment of sensitivity to marine energy developments (Briggs & White 2009). This study represents an important step forward by providing a rigorous and robust process for characterising seascape and assessing impacts of activities upon it.</p>
		<i>Noted. All additional information is welcomed and will be taken into account in future assessments.</i>
e	NE	<p>Believe that the ER does not deal well with the implications on seascape/landscape and this is because the environmental baseline concerning landscape/seascape is inadequate and the characterisation work needed to underpin the SEA has not been carried out. The document "The Offshore Energy Strategic Environmental Assessment (SEA) Seascape Study – Identification of Seascape Units around the English coast and consideration of Seascape Buffer Zones" is watermarked "Work in Progress". Additionally, the Expert Assessment Workshop and the Stakeholder Workshops (early Sept. '08 and Oct. '08) were held before the seascape work commenced.</p>
		<i>The coastline of England, in contrast to that of Wales and Scotland, has not been systematically characterised. DECC commissioned the identification of seascape units for the English coast, with a consideration of the distances offshore that the visual impact effects would be insignificant wind farms. The results of this work have been considered in the decision on the draft plan/programme.</i>
f	SNH	<p>Pleased that the Scottish seascapes study (2005) is referenced in the SEA. It should be highlighted, however, that although the seascape units identified within the study are still considered sound, the forces for change and the scenario on which the sensitivity analysis is based should not be used to inform this SEA or the assessment of individual projects.</p>
		<i>Comments noted and agreed. The SNH (2005) study considers a single</i>

		<i>development scenario and is therefore not universally applicable. Any results presented for such studies clearly indicate the scenario on which they are based. Despite this limitation, it is still an excellent indicative regional scale study on the relative variability in the capacity of Scotland's seascape to accommodate OWF developments.</i>
g	SNH	Recognise that the ER was published prior to the current TCE inshore Award of Exclusivity Agreements in January 2009. It would appear that there is scope for significant cumulative effects of these with the Round 3 wind energy areas identified in the SEA, as 5 of the 10 Exclusivity areas abut or are close to the outer Forth and Moray Firths. These areas are potentially visible from the coast and their interaction requires careful consideration which is not covered in the Recommendations section.
		<i>Comments noted. In response to the inshore award of Exclusivity Agreements in the context of this plan/programme (i.e. in proximity to R3 areas), it is understood that a number of inshore areas have been awarded to operators in the Firth of Forth (Inch Cape, Bell Rock, Neart na Gaoithe, Forth Array) and Moray Firth (Beatrice), with overall capacities ranging from 415 to 920MW. These capacities are comparable to R2 sites such as Walney (450MW) up to developments of the size of Gwynt Y Mor (750MW) and even the London Array (1,000MW). It is acknowledged that there is considerable scope for cumulative visual impacts, amongst others, and that the development of any R3 sites in the Forth and Moray Firth areas should take account of plans associated with the exclusivity areas. Consultees are initially directed to the Crown Estate website in relation to this consideration.</i>
Detailed comments		
h	SNH	With regard to the Regional Sea 1 summary (Section 5.6): <ul style="list-style-type: none"> • No reference is made to long distance paths; e.g. the Southern Upland Way, which is generally walked from west to east which means that at its eastern end there are views towards the sea, the Fife Coast Path or Speyside Way. These are all considerations when considering sensitivity and should be shown on Figure 5.21. • Coastal local landscape designations in Fife, Forth and Lothians are not referenced. • The Moray Firth section underplays sensitivity expressed in the aforementioned seascapes report, especially in relation to the Beatrice offshore windfarm as a benchmark. The third generation of offshore windfarms will be much larger in all respects.
		<i>These comments are noted. Reference is made to long distance routes/national trails in Appendix 3h. It is accepted that parts of these routes are intervisible with the coast and should be given due consideration, like any viewpoint which should be identified in project-specific investigations. Routes which access the coast are of increasing importance given the implications of the Marine and Coastal Access Bill, and it is understood a similar national coastal path is to be identified for Scotland (See Section 5.6.3 of the Environmental Report).</i> <i>Although LLDs are not referenced in the ER, they are indicated separately in Appendix 3c, Figure A3c.1. It is understood that future OWF developments are likely to be larger in extent (footprint) and with regard to turbine size in this 3rd and subsequent offshore wind leasing rounds, and this is expressed in Section 5.6.3.</i>
i	SNH	With regard to the Regional Sea 6 summary (Section 5.6): <ul style="list-style-type: none"> • Forces for change do not mention the Scottish segment at all. • The large amount of existing and proposed onshore wind development and tourism aspects need to be highlighted. • The generally high and medium sensitivity of the seascape needs to be further highlighted.

		There are extensive local landscape designations – regional scenic areas, sensitive landscape areas, AGLV – which are not mentioned in the text.
		<p><i>It is acknowledged that there are a number of onshore wind farm sites currently in operation (e.g. Artfield Fell, Hadyard Hill, Ardrossan, Wardlaw Wood and Beinn an Tuirc), consented (e.g. Mark Hill, Kelburn), in planning (e.g. Carscreugh, Waterhead Moor, Knoweside) or under construction (e.g. Arecleoch, North Rhins) in this area, and within a short distance from the coast. Should any offshore wind farms be constructed in this area as a result of the adoption of the plan/programme, their intervisibility with other such structures onshore may generate cumulative effects, and these should be identified at the project-specific level.</i></p> <p><i>It is further acknowledged that this area has a number of statutory National Scenic Areas including North Arran, the Nith Estuary, Fleet Valley, East Stewartry Coast, Knapdale and the Kyles of Bute, which are indicated in figure 5.21 and also in Appendix 3c, and that these areas, inter alia, are extensively used for recreation.</i></p> <p><i>LLDs are accounted for in Appendix 3c, Figure 3c.1. Comments regarding the inclusion of LLDs and AGLV in the assessment are noted, and in future every effort will be made to include them in the discussion located in the ER and associated baseline.</i></p>
j	SNH	With regard to the Regional Seas 7 and 8 summaries (Section 5.6) there is no mention of designations in the text for these summaries. National Scenic Areas and Areas of Great Landscape Value cover extensive stretches of the coast in these Regions.
		<i>The summaries do make mention of NSAs though not specific instances, and these are indicated in figure 5.21 and Appendix 3c. If it was not made apparent enough in the ER, it should be made clear that NSAs are Scotland's only statutory landscape designation, and their sensitivity to, albeit just one development scenario, was previously tested in the SNH report, Scott et al. This report indicated that these areas were those with the greatest 'value', the highest visibility in terms of views of the sea from land, the most sensitive and with the least capacity to accommodate the given scenario.</i>
Appendix 3c		
k	CCW	A3c.1 Introduction - Although visibility is a significant aspect, the definition of 'seascape' should be broader.
		<i>Comment is acknowledged – see comment a, above.</i>
l	CCW	A3c.1.1 Designations - The Register of landscapes of Outstanding and Special Historic Interest (CCW/CADW) should be included. (This non-statutory material planning consideration is unique to Wales).
		<i>Noted.</i>
m	CCW	A3c.2 Landscapes Seascapes Background - Note that the final Welsh seascape assessment considers sensitivity but it does not define seascape 'value' and hence it also does not provide seascape 'capacity' scores.
		<i>Noted.</i>
n	CCW	A3c.4 Evolution of the Baseline and Issues - As a general rule, it is helpful to distinguish between changes to views and changes to the character of a place. The two are different concepts and both are relevant in seascape assessment. Although impacts from offshore wind farms are not direct impacts on the coastline or landscape, the importance of the visual aspect is acknowledged here as being especially important.
		<i>Noted.</i>

2.2.6.7 Cultural heritage

Appendix 3i - Cultural Heritage		
a	NIEA	Impressed with the comprehensive annex and associated OES covering the various archaeological aspects of the offshore zone. This summarises the relevant current state of knowledge and opportunities for further research, legal conditions applying in each of the jurisdictions and the range of possible threats to the cultural heritage from development of the offshore seabed.
		<i>The views of the consultee are welcomed.</i>

2.2.6.8 Conservation of sites and species

General		
a	NE	Welcome acknowledgement in the report that there will be some new Natura 2000 sites at sea to be consulted on during this year. Acknowledge that boundaries of future marine SPAs and a number of SACs have yet to be identified and emphasise that they wish to work with DECC to develop Impact Assessments and advice on management in relation to these sites to ensure that both conservation objectives and licensing decisions in and near these sites are robust and based on evidence.
		<i>Noted.</i>
b	Forewind	The potential for MCZs and offshore SPA designations could have a significant impact on the proposed Round 3 zones, yet there is insufficient clarity in the SEA over whether key stakeholders such as the JNCC have been engaged, and if a “best-guess” indication of where these designations is likely to be included in the GIS mapping of hard and soft constraints. Recommend further information being provided in the SEA regarding this issue and indication as to whether key stakeholders have been consulted.
		<i>Representatives of the JNCC, NE, CCW and SNH are all members of the SEA steering group. They were also present at the assessment workshop and several of the stakeholder workshops. Therefore, extensive dialogue between the SEA team/DECC and the conservation agencies took place during the preparation of the ER. This information is referred to in the ER and Appendix 2.</i> <i>It is not possible to consider any potential sites where boundary information is lacking within the spatial constraints analyses. Areas of search for marine SACs and SPAs within each Regional Sea are referred to in Appendix 3j. As described on p.592 of Appendix 3j, the process for designating MCZs/MPAs is currently under development. The consultee’s attention is drawn to the detailed information and references contained within Appendix 3 ‘Environmental baseline’ which provide an indication of the distribution of rare/threatened/representative habitats and species for which protected areas may be designated in the future. It is noted that MCZ/MPA designation will involve wide regional stakeholder consultation to ensure social and economic aspects are given full consideration.</i>
c	CCW	In Appendix 5 “Regulator Controls”, sub-sections relating to habitats and species protection should also include reference to consenting and assenting mechanisms that apply to works affecting SSSIs under the Wildlife & Countryside Act 1981 as amended.
		<i>Noted.</i>
Appendix 3j		
d	CCW	Section 3j.6 ‘Biodiversity Action Plans’ is now considerably out of date and should be re-written. It fails to recognise that arrangements for managing BAP’s are now devolved, and not UK led, and that the BAP process also

		now has a statutory basis provided by the Natural Environment & Rural Communities Act 2006. The UK BAP process underwent a period of review in 2005, which culminated in 2007 in a revised UK list of priority species and habitats. Individual administrations have drawn on the UK list of priority species and habitats but lists differ markedly between each country. The text and tables in this section need to better reflect the differences between the priority biodiversity and national BAP arrangements for each country. Information about Welsh BAP arrangements and relevant species and habitat lists and can be obtained from www.biodiversitywales.org.uk .
		<i>The clarifications are welcome; however, Appendix 3j includes much of the information noted.</i>
e	CCW	Page 596 - paragraph 3 – mentions the devolved listings of habitats and species. However, it needs to be clarified that these species and habitats are not subject to UK action plans (each devolved country identifies action relevant to its own area) and are not confined to those listed as UK priorities (Wales, Scotland and NI have added extra habitats and species to their devolved listings).
		<i>Noted. See also response to comment d, above.</i>
f	CCW	Page 624 - paragraph 4 should be amended, as <i>Zostera</i> beds do not grow in saltmarshes.
		<i>Noted. The sentence should be amended to “coastal habitats in the region include saltmarsh communities and Zostera eelgrass beds....”</i>

2.2.6.9 Other users and material assets

Shipping		
a	Dutch Government	Would like to share views on the use of wind farms by vessels under certain conditions; until now, any kind of use (except maintenance) is not allowed.
		<i>DECC would welcome further comments/discussion on the subject.</i>
b	Dutch Government	Would like to share views and seek cooperation on the research on radar and radio interference.
		<i>DECC would welcome further discussion and cooperation.</i>
Fishing		
c	DFO	The North Norfolk Sandbanks are an important fishing ground for the Dutch fishing fleet, particularly for the beam trawl fleet of Texel, Den Helder, Urk and Katwijk (~16 vessels). The Dogger Bank, is an even more important area for the Dutch fishing fleet, for almost the whole of the Dutch beam trawl fleet and flag vessels (~40-50 vessels). The importance of these areas for these vessels varies between 90% and 40% of their total income, and the areas have been key fishing grounds for over 40 years. Furthermore, the beam trawl fisheries in these areas have very little discards; the reduction of discards is a high priority of the European Commission and our fishing fleet. The area Hornsea is an important fishing ground for ~35 vessels from the northern ports (Texel, Den Oever, and Den Helder), targeting both flatfish and <i>Nephrops</i> .
		<i>The importance of Regional Sea 2 to Dutch beam trawlers is considered in the SEA. This additional detail is welcome and noted.</i>
d	NSFC	Extrapolating from figures for the value of fin and shellfish landed produces an average of £49,000 per fisherman before costs which is felt to be in excess of the average income of local fishermen, particularly in Northumberland and the North East of England.
		<i>The values of landed fin and shellfish given in the baseline were taken from UK Sea Fisheries Statistics 2007, a report produced by the MFA. This extrapolation is not considered valid, without taking costs and other stakeholders in the industry (e.g.: processors, marketing) into</i>

		<i>consideration.</i>
e	NFFO	The use of chart outputs on the spatial distribution of fishing activity should be subject to careful interpretation in collaboration with industry stakeholders. Given the limitations of the underlying data, such outputs provide only a proxy for the spatial sensitivities of the industry. A more detailed description of the methodology used in deriving chart outputs from Vessel Monitoring Scheme (VMS) and log book data would highlight the limitations of the procedure used and facilitate correct interpretation.
		<i>Comments are noted. The limitations and caveats of each method of spatial distribution are described in the relevant sections and figure legends.</i>
f	ESFJC	The need for fisheries mapping was highlighted by various participants at the October 2008 fisheries workshop, and was discussed at the recent FLOWW meeting (March 2009). A national review of fisheries mapping work could highlight current information and identify the data gaps.
		<i>Agreed.</i>
Grid		
g	RES	The “likely evolution of the baseline” should also consider grid. Meeting future UK power demands will require significant reinforcement of the current Transmission Network, whether that demand is met by offshore wind or other forms of energy production.
		<i>Noted.</i>
Appendix 3h		
h	FP	A3h.2.3 - it is unclear what is meant by ‘Anchorage and Places of Refuge’ or the term “Harbour of Refuge.”
		<i>A safe anchorage is defined in A3h.2.3 as “locations around the coast which offer particularly protected environs and good holding ground in which ships can shelter during adverse conditions”. A place of refuge (whether anchorage or harbour) is defined by the MCA as “a location into which a ship in need of assistance can be brought to be stabilised through repair or transhipment of cargo”.</i>
i	FP	There is no mention under Table A3h.1 of areas available between Bridlington and Fraserburgh (for e.g. Rivers Forth and Tay).
		<i>Accepted.</i>
j	NERL	A3h.3 Aviation p.441 - in the second paragraph wind turbines and turbine motion do not generate an electromagnetic signal.
		<i>Accepted.</i>
k	NERL	A3h.3 Aviation p.441 - in the third paragraph and the aviation related constraints map, there seems to be both 15km & 17km stated as the consultation area.
		<i>The consultee’s observation is correct. The text relates to the guidance on aerodrome safeguarding and consultation zones provided in the DTI (2002) interim guidance, “Wind Energy and Aviation Interests” – i.e. 15km and 30km buffers. The 5 and 17km buffers indicated in Figure A3h.11 were provided by the RESTATS Renewable Energy website, and are based on CAA Policy and Guidelines on Wind Turbines (CAP 764), which was published after the Environmental Report was completed.</i>
		<i>To clarify the content of the appendix; the consultation zones indicated in Figure A3h.11 are taken to be correct by the SEA team, and the following supporting text is drawn from the CAA (2009) guidelines:</i>
		<i>“Developers will be referred to the aerodrome licensee of aerodromes with a surveillance radar facility within 30 km of the proposed wind turbine development or to the distance specified by the aerodrome or indicated on the aerodromes published wind turbine consultation map. The distance</i>

		<p>can be far greater than 30km depending upon a number of factors including the type and coverage of the radar and the particular operation at the aerodrome. To this end, aerodrome licensees should formally advise the Directorate of Airspace Policy of any requirement to extend the 30km impact range associated with radar issues;</p> <p>Developers will be referred to the aerodrome licensee of non-radar equipped licensed aerodromes with runways of 1100 m or more within 17 km of the proposed wind turbine development;</p> <p>Developers will be referred to the aerodrome licensee of non-radar equipped licensed aerodromes with runways of less than 1100 m within 5 km of the proposed wind turbine development”</p>
I	NERL	<p>A3h.3 Aviation p.441 - in the fourth paragraph the reference to the Raytheon Solution should read “NERL and its radar sensor provider Raytheon have identified a number of potential solutions to mitigate the effects of wind-turbines on its en-route primary surveillance radar systems. This work has been proposed as a research and development programme under the Aviation Plan (ref BERR website) and is pending confirmation of funding availability (as of March 2009).”</p> <p><i>Noted. The clarification is welcomed.</i></p>
m	NERL	<p>A3h.3 Aviation p.441 - in the fourth paragraph are unclear on the reference to “output stage radar data”. Suggest that this is deleted.</p> <p><i>Accepted.</i></p>

2.2.6.10 Likely evolution of the baseline

a	Forewind	<p>Within Section 4.4, there is an excellent discussion on the potential evolution of the baseline for environmental impacts. Recommend this discussion be mentioned in the rest of the ER. Further information should be gathered on the described potential effects on fish stocks, birds and marine mammals, and these should be adequately modelled in all impact assessments. OWFs will have a material role in reducing the described impacts, but also some of the consequences of climate change may, for example, significantly reduce commercial fishing activities, and hence reduce the impact of OWF developments on such activities.</p> <p><i>Comments are noted. Greater detail on likely evolution of the baseline is included in Appendix 3 individual environmental baselines.</i></p>
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2.2.6.11 Relevant existing environmental problems

a	JNCC	<p>Table 4.1 is not clear, and clarification of who is responsible for addressing these implications and how they will be delivered through the SEA Recommendations would be welcome. For example, consider the problem “vulnerability of seabirds and coastal water birds to pollution and disturbance from shipping and industry,” where the implication is to: “Review areas to be licensed for oil and gas or offshore wind activities and ensure awareness so that potential activities do not exacerbate problem.” What do statements such as these mean, who is responsible for ensuring “awareness”, and how will this be delivered? Suggest that reference be made to the recommendations, and greater detail provided as to whom should be responsible for addressing these.</p> <p><i>Constructive comments are noted and welcomed.</i></p>
b	JNCC	<p>In Table 4.1, it is not clear how the proposed measure of “Maintain awareness of research developments. Review potential blocks to be offered and ensure licensee awareness so that potential activities do not exacerbate problems,” would be of any value to address the issue of</p>

		“Marine mammal sensitivity to disturbance, contaminants and disease.” The statement is general and provides no helpful indication of what could be done to prevent disturbance, contamination and disease in marine mammals.
		<i>Noted.</i>
c	EH	Note In Table 4.1 in the “implications” column that licensees should be “aware of areas of potential heritage value”, but wish to add that the licensee should also work to ensure, that where necessary, appropriate mitigation measures are implemented, in agreement with national curatorial advisors such as English Heritage.
		<i>Noted.</i>
d	RSPB	The “Vulnerability of seabirds, coastal waterbirds etc” heading on p.52 should include that SPAs also include birds on passage (Stroud <i>et al.</i> 2001) and coastal colonies also provide safe areas for moulting.
		<i>Noted.</i>
e	RSPB	Table 4.1 on environmental problems relevant to offshore oil and gas licensing and wind should also note under the “Fishing and changes to fishing communities” heading on p.52 that there are various bird species also susceptible to fishing bycatch, although totals in UK waters are unknown.
		<i>Noted.</i>
f	WWF-UK	In the information given on the impacts on the marine environment, it would be worth utilising and referring to www.mccip.org.uk
		<i>MCCIP report cards have been referred to in various sections of the SEA.</i>

2.2.7 Recommendations and monitoring

Note, in this section the recommendations are numbered and described as in the OE SEA Environmental Report. A revised and reordered list of final recommendations is given in Section 3 of this post consultation report.

2.2.7.1 General comments on recommendations

a	JNCC, SNH	Welcome the provision of the broad range of recommendations as an outcome of the SEA process, although are not convinced that the recommendations as currently presented are sufficiently robust to ensure that environmental risks will be adequately addressed; the process by which they have been reached is not always obvious and the scientific basis or rationale not always clear.
		<i>See responses to comments on specific recommendations below.</i>
b	JNCC, SNH	The recommendations are not presented in any logical manner; a more logical sequence would help the recommendations to be better understood and implemented. Three main categories are suggested by the JNCC: addressing environmental risk by managing uncertainty; spatial planning; and, best practice/mitigation. NB: further details provided in consultation response.
		<i>Noted. The recommendations (Section 3) have been re-ordered into five categories and are presented at the end of this document.</i>
c	SNH	A use of a matrix approach (e.g. as advocated in the Scottish Government SEA Toolkit: http://www.scotland.gov.uk/Publications/2006/09/13104943/0) in the presentation of recommendations would be clearer and would show more transparently how the recommendations have been arrived at.
		<i>These constructive comments are welcomed and will be considered in future SEAs.</i>
d	JNCC, SNH, SEPA	A critical issue for the draft plan/programme is the effective implementation

		of recommendations; a sufficiently resourced implementation plan, that can be effectively monitored and reviewed, is required. Recognise the challenges this presents and are keen to continue to work collaboratively with DECC, TCE and industries to facilitate a successful outcome.
		<i>Noted. DECC welcome the suggested collaborative approach to the implementation of the SEA recommendations. See also response 2.2.5.1h.</i>
e	JNCC, NE, SNH, SEPA	It would be helpful if the implementation of the recommendations relates back to each of the oil and gas, gas storage and offshore wind sectors. Most relate to offshore wind; this is understandable but does mean that at a superficial level the other industries appear somewhat overlooked. Clear ownership is essential for their implementation, whether by government departments, agencies or by industry.
		<i>Noted. The majority of recommendations apply to all elements of the draft plan/programme; see Section 3 (final recommendations) where their attribution to the particular element(s) is given.</i>
f	JNCC	Ideally, future iterations of both spatial planning and best practice/mitigation recommendations will more effectively take account of environmental risk as uncertainty is addressed. As a general principle, believe that recommendations that seek to address uncertainty by improving the evidence base should take precedence over those that apply the precautionary principle, unless there are overriding reasons, for example concerning cost/benefit.
		<i>The consultee's support for this principle is noted. Attention is drawn to the text of the relevant recommendations (Recommendation 3 and Recommendation 6) which recommend application of the precautionary principle, "Until there is a firmer base of information available to inform adaptive management", "Unless suitable evidence indicates otherwise", and, "Until adequate information is available". Therefore, these recommendations acknowledge the value of an improved evidence base and encourage uncertainty to be addressed. Furthermore, Recommendation 9 identifies areas of particular uncertainty in the evidence base which will need to be addressed to support future marine spatial planning as well as project-specific consenting.</i>
g	JNCC	For recommendations relating to addressing environmental risk, JNCC consider that prioritising the recommendations would enable environmental risks that could potentially jeopardise implementation of the draft programme/plan to be more effectively managed. Those risks that can be addressed by an improved evidence base should be a priority for action.
		<i>Noted.</i>
h	BWEA	It is vital that a holistic approach is adopted whereby the recommendations from the SEA are balanced against economic drivers and the current lack of any offshore transmission network to ensure that delivery of offshore wind is both practical and economically feasible.
		<i>Noted.</i>
i	SPR	It needs to be made clear that these recommendations are only for the respective plan/programme i.e. an additional 25GW by 2020. Any implications for Scottish Territorial Waters (STW) and other plans (e.g. Round 4, extensions to Rounds 1, 2 or 3) should be made with caution - there is a risk of misuse and misinterpretation.
		<i>The recommendations apply to the plan/programme considered by the Offshore Energy SEA. It is envisaged that the implementation of the SEA recommendations will lead to an improved information base to help inform the assessment of future plans/programmes.</i>
j	TCE	The recommendations of the ER with respect to offshore wind energy are broadly supported, with certain exceptions to recommendations 4 and 19. It is entirely reasonable (and consistent with the purpose of SEA) to suggest that future, more detailed, technical and environmental

		investigations for proposed developments close to the coast are acceptable.
		<i>Noted. Comments are addressed in the relevant sections below.</i>
k	TCE	Suggest that the unnecessary restrictions contained in recommendations 4 and 19 are removed and that the wording of Alternative 3 be amended to provide greater flexibility e.g. (additional wording underlined) "To restrict the areas offered for leasing and licensing temporally or spatially <u>unless detailed technical and environmental investigations prove that such restriction is not warranted</u> ".
		<i>The wording of the alternatives has been subject to scoping, discussion with the SEA Steering Group, and public consultation through the ER. It is not felt appropriate that they are changed now since the suggested caveat is already explicit in the SEA conclusions.</i>
l	Forewind	Throughout the report, analysis of UK waters is broken down into Regional Sea areas. Section 6 would be significantly improved if there was a section giving the key issues and recommendations by Regional Sea area.
		<i>Constructive comments are noted. It was considered that this approach would result in a great deal of repetition, as the general issues and principles behind recommendations are consistent across Regional Seas.</i>
Additional recommendations		
m	JNCC	The SEA describes the conclusions and recommendations of several COWRIE studies (e.g. Diederich <i>et al.</i> 2008, Nehls <i>et al.</i> 2007), but it is not clear whether the SEA is recommending their adoption. It would be useful if the SEA derived clear recommendations or endorsement of the studies reviewed.
		<i>The SEA recommendations were informed by a wide range of literature and discussions with stakeholders; it is not considered appropriate that the SEA endorses third party studies.</i>
n	JNCC, NE	Supportive of initiatives to improve our knowledge of receptors and effects, and encourage continued and further opportunities for Government (including regulators) to collaborate with industry and research groups to facilitate innovation and ensure that new technological developments are focused towards enabling environmental benefits, including at a strategic level. Would support a more explicitly focused recommendation for industry and government to seek ways to collaborate in order to enable development of new technologies that more effectively address environmental risks. An example relates to the uncertainties with respect to the impact of noise on marine mammals. These would be likely to be significantly addressed if pile driving was not required during installation, i.e. if alternative base structures were used such as gravity-base foundations.
		<i>The consultees' constructive suggestions are welcomed.</i>
o	EH	Add that an additional recommendation should be included regarding the deposit in a public archive of all information generated in support of marine development projects located within the UK Territorial Sea or UK Continental Shelf.
		<i>This is addressed by Recommendation 21.</i>
p	HS	Query why historic environment factors are not represented here, particularly within recommendation 2. This would seem a good opportunity to highlight the need to consider environmentally sensitive and appropriate locations for development.
		<i>The information base for the marine historic environment is not considered sufficient for strategic-level spatial controls to be identified as necessary; significant spatial conflicts are not envisaged. As stated in the ER (NTS, p.xviii), it is through site-specific surveys that cultural heritage features would be identified and mitigation measures to be developed, in line with</i>

		<i>existing guidelines for seabed developers.</i>
q	CCW	Round 3 is likely to result in development at a very large scale; the ER should contain a recommendation for a comprehensive review of the adequacy of existing mitigation developed to minimise the effects of OWF development during Rounds 1 and 2 (e.g. in respect of combined effects of piling noise).
		<i>This suggestion is welcomed, and is being addressed through the reviews of Round 1 and 2 wind farm monitoring results, coordinated by the MFA.</i>
r	WWF-UK	Request the coastal strip be devoid of oil and gas drilling and production installations, comprising a minimum width of 8km, but extending to 13km in areas of particular sensitivity, due to the potential for damage and pollution to the sensitive coastal strip, which applies only to oil and possibly gas production but not at all to wind farms.
		<i>This proposal is not supported by the SEA assessment.</i>
s	WWF-UK	Recommend that their comments on previous SEAs are considered as still valid, as they continue to reflect their concerns for licensing in those areas. This especially applies to requests to withhold licensing Blocks 15/20c and 15/25d, which contain shallow gas pockmarks.
		<i>Following discussions with the SEA Steering Group and further studies by BGS ("Investigations of the origin of shallow gas in Outer Moray Firth open blocks 15/20c and 15/25d"), these blocks were offered and awarded in the 24th Round, announced in February 2007.</i>
t	WWF-UK	Recommend/request that this SEA considers CCS as a mitigation measure for oil and gas licensing. It should be conditioned, for example, that all new pipelines should be sufficient specification to withstand the corrosiveness of CO ₂ , in case it is possible to use the site for CCS in the future.
		<i>As noted above, CCS is not part of the scope of the current SEA. DECC is considering an SEA including a draft plan/programme for offshore CCS and the consultee's suggestion could be considered in that exercise.</i>

Recommendation 1

"In areas with high renewable energy generation potential DECC should ensure decisions on renewable energy leasing and licensing for oil & gas (including natural gas storage) are coordinated to minimise potential sterilisation of areas for other industries. This recommendation extends to maintaining options for potential future geological storage of captured carbon dioxide."

a	NE	Recommend that decisions taken now for offshore wind and oil and gas minimise sterilization potential for future wave and tidal energy generation in particular.
		<i>This is the intent of this recommendation.</i>
b	REA	It is imperative that this recommendation specifically states that the coordination relates to wave and tidal energy generation.
		<i>This is not considered necessary.</i>
c	SEPA, DONG, BWEA	This is welcomed/supported.
		<i>Noted.</i>
d	BWEA	It should be remembered that suitable areas for OWFs are limited by water depth and seabed conditions so cannot be easily relocated.
		<i>DECC acknowledge the current technological constraints on OWF location, although are also aware that other renewable energy industries are also subject to their own technological constraints on location.</i>
e	Centrica, FOR, Forewind	This recommendation appears to conflict with recommendation 2 which states that OWFs can be effectively sterilised by other industries. Further clarification is sought regarding this premise. There is no legislative basis for OWF development to be treated in a non-equitable way.

		Forewind believe that recommendation 1 should also, or preferably only, stipulate that DECC and other government departments should mandate other sea users to minimise potential sterilisation of areas for the offshore wind industry, in order to facilitate the offshore wind industry achieving DECC's legal obligations.
		<i>The consultees' concerns are noted, but appear to be based on misconceptions regarding existing uses of the sea and UK international obligations on navigation.</i>
f	FOR	At present it appears that spatial conflicts between different energy sources will favour hydrocarbons, gas storage and the potential for carbon capture and storage. Where there is future conflict for oil and gas exploitation, compensation is offered as mitigation for conflicts and this continues to be a cause for concern with OWF developers.
		<i>Disagree. A coordinated approach to licensing and leasing is recommended to ensure minimisation of sterilisation for other industries which would benefit from a high renewable energy potential or captured carbon storage potential.</i>
g	FOR	Understand that future licensing/leasing of carbon capture and storage will require a separate SEA so are concerned that future decisions may conflict with the offshore renewables programme. This introduces significant uncertainty for offshore wind developers and needs to be clarified and articulated through the forthcoming suite of National Policy Statements.
		<i>As required in the SEA Directive, any future SEA relating to carbon capture and storage will be required to consider spatial conflicts with other users of the marine environment and other relevant initiatives, which will include the development of offshore renewables.</i>

Recommendation 2

"The draft plan/programme for an additional 25GW of offshore wind farm (OWF) generation capacity will require wind farm development on a massive scale. In advance of a formal marine spatial planning system being in place for the UK, the leasing and consenting of OWFs must ensure the minimisation of disruption, economic loss and safety risks to other users of the sea and the UK as a whole. In particular, there should be a presumption against OWF developments which:

- a. impinge on major commercial navigation routes, significantly increase collision risk or cause appreciably longer transit times
- b. occupy recognised important fishing grounds in coastal or offshore areas (where this would prevent or significantly impede previous activities)
- c. interfere with civilian aviation including radar systems
- d. could potentially jeopardise national security for example through interference with radar systems or significant reductions in training areas
- e. result in significant detriment to tourism, recreation and quality of life"

General		
a	CCW, NE, SNH, SEPA	There should also be a presumption against any activity that is likely to result in a significant deterioration in biodiversity status and the quality of habitats and landscape. Such impacts need to be clearly defined.
		<i>Agreed.</i>
b	BWEA, Centrica, Econcern, FOR, EDF, DONG, SPR, ICOWFL, NRL, TO'R	The ER contains a theme of presumption against offshore wind energy development wherever spatial conflict arises with other sea users, areas of high nature conservation and cultural heritage value. The offshore wind industry appears to be treated as lower priority than other industries. This theme is generally considered to be unhelpful towards maximizing delivery of offshore renewable energy and meeting associated Government targets.
		<i>The consultees' comments are noted and, along with those of others, will</i>

		<i>inform Government's decision. However, under the objectives of the SEA, it is necessary to identify potential mitigation measures to prevent, reduce and offset significant adverse impacts on the environment and other users of the sea.</i>
c	ICOWFL, NRL	Rather than balancing the relative benefits and costs of developing offshore wind resources against the existing marine interests, the ER adopts a precautionary approach whereby existing activities and interests automatically take precedence over the development of offshore wind projects often based upon intuition as opposed to evidenced based rationale.
		<i>Disagree, the ER clearly has an evidenced based rationale. See response above.</i>
d	Econcern	In their current precautionary form, several SEA recommendations will have a discouraging effect on decision-making. Presume that this is not the intention of the SEA.
		<i>This is neither the intent nor the effect of the SEA. Through a consideration of relevant stakeholder activities and their spatial use of the marine environment, along with ecological and heritage considerations, the SEA has highlighted areas of UK waters which are more and less suitable for OWF siting which will inform and assist decision making. At a strategic level, the recommendations made are a pragmatic approach to both delivering offshore wind capacity while maintaining the integrity of existing activities of key importance to the UK economy as well as protection of habitats, flora and fauna.</i>
e	BWEA	Whilst human safety must remain of paramount importance, the scale of the challenge of meeting the UK's renewable energy targets suggests that there will be some disruption of other activities.
		<i>Noted. The SEA sought to avoid or minimise the negative consequences of adoption of the draft plan/programme.</i>
f	BWEA, Econcern	The evaluation of offshore wind energy should be more consistent with the existing regulatory instruments which recognise the unique nature of OWF developments and allow the proper assessment of project-specific conditions, and not take general presumptions as the starting point.
		<i>The ER recognises that site-specific investigations will be required for each OWF development, and that in some cases, the constraints suggested in the ER may be alleviated through mitigation including regulator, developer and stakeholder engagement. At this strategic level of assessment, the recommendations of the OE SEA reflect the most important spatial issues which will need to be taken into account in the progression of the draft plan/programme. It should be recognised that these issues are those which through their national or strategic importance (e.g. Natura 2000 sites, commercial navigation, defence radar) will, in some cases, preclude development or require significant mitigation.</i>
g	BWEA, FOR	Acknowledge that the SEA is intended to identify potential mitigation measures to prevent, reduce and offset significant adverse impacts on the environment and other users of the sea. However, believe that the UK Government's 2020 renewable energy targets are of such strategic national importance that a presumption in favour of renewable energy development should be written into the National Policy Statement (NPS) for Renewable Energy, and reflected in other key NPS', especially the Marine Policy Statement.
		<i>Noted. See also response to comment b.</i>
h	Econcern	Would recommend a more positive approach and suggest modifying the overall "presumption against" position into "yes, with appropriate consideration of alternatives" within the non-excluded areas.
		<i>Noted. See also response to comment b</i>

i	Forewind	Propose that a section of general text is added in the SEA at this point using words to the following effect; "In particular, if adequate solutions are not found after discussions between developers and stakeholders, there should be a presumption against...".
		<i>Noted, although such words are already included in the ER, for example in respect of general avoidance of coastal waters.</i>
j	BWEA	Spatial conflicts should examine mitigation rather than expulsion and/or compensation.
		<i>Recommendation 2 does not advocate a policy of expulsion without consideration of mitigation, it recommends a presumption against OWFs where certain conflicts arise; through the use of mitigation measures, of which careful siting of activities is one of many, such conflicts may never arise. The ER makes no reference to compensation.</i>
k	RES	Importantly, the SEA should consider Environmental Impact Assessment as a tool to identify and mitigate potential impacts on the plan/programme.
		<i>The use and value of EIA is indicated throughout the ER.</i>
l	FOR	The resolution of spatial conflicts should be based on a clearly defined set of principles for marine spatial planning (MSP) which will enable Government to meet targets and optimise sustainable development in the marine environment.
		<i>Noted.</i>
m	Econcern	Recommendation 2 appears to assume a fixed status quo, e.g. that there are no conceivable alternatives to existing commercial navigation routes or that fishing in existing grounds will continue uninterrupted and unaffected by other developments, for instance quotas and changes in EU fisheries rules.
		<i>See response to comment j - the recommendation strives to minimise conflicts, not exclude development from fixed areas irrespective of attempts to mitigate conflicts.</i> <i>It is recognised that the spatial use of certain areas of the UKCS may change, for instance spatial conflict with offshore oil and gas surface infrastructure and decommissioning. The evolution of the baseline (Section 4.4 of the ER with more detail in each respective baseline section) indicated in the SEA goes some way to identifying the trajectory of certain activities and environmental parameters.</i>
n	Centrica, DONG	This statement should not be used to prevent development in areas that may have an impact on the listed issues. Responsible developers, investing significant time, resources and funds to engage stakeholders and understand potential environmental impacts, would expect these issues to be investigated during the EIA process, with development occurring only where a significant impact will not occur or appropriate mitigation measures can be put in to place. This statement could be used as an excuse for other stakeholders to erect barriers to development and not engage with developers, DECC needs to ensure that developers are still able to investigate all opportunities to prove that any impact will not be significant.
		<i>Comments are noted, and the ER indicates in a number of places that EIA should inform project-specific developments. The recommendation states that it is a presumption, and does not infer that no agreement could be met between stakeholders and developers. The SEA is to inform Government strategic decisions on the draft plan/programme, in the absence of site-specific development proposals.</i>
o	DONG	Requests clarification from DECC whether it considers the areas presented in the SEA GIS exercise as potential hard constraints are now considered off-limits to OWF development, or whether there is scope for

		interpretation (e.g. using improved data etc).
		<i>The ER is explicit that there may be scope in various areas for flexibility in consideration of constraints based on data, justification and consultation. However, it must be recognised that in some areas there is limited flexibility possible.</i>
p	DONG	The definitions of some of the points a-e require clarity, such as “important fishing grounds” and “major commercial navigation routes”, and if there is scope for determining these definitions either broadly or in specific cases, within the EIA process.
		<i>With regard to important fishing grounds, see response to comment r below. Major commercial navigation routes refers to those presented in the SEA constraints analysis, as derived from AIS data analyses and MCA OREI 1 zones.</i>
q	Centrica	Have concerns as to how this recommendation will be interpreted by other stakeholders with concern for some of the affected Round 2 and Round 3 planned OWFs.
		<i>Noted.</i>
b. fishing		
r	ESFJC	The wording leaves room for debate on what are “recognised important fishing grounds” and whether the presence of OWFs will “prevent or significantly impede previous activities” – especially in light of the paucity of spatial information, or historic records, on fishing activities.
		<i>It is hoped that the various initiatives advancing the concept of marine spatial planning will inform such debate.</i>
s	FOR	Are concerned that this presumption is based on existing fisheries interests and that the evidence base is not extensive. Patterns of fisheries activity may change in the future. Note the potential significance of transboundary issues and the levels of effort by non-UK vessels in certain UK waters and that data for these areas will be difficult for developers to acquire. Would like to see increased effort from DECC to engage with the relevant fishing organisations from other member states than is apparent in the SEA. Protracted consultation and negotiation with other member states could cause considerably delays and increased costs.
		<i>Noted.</i>
c. & d. civilian aviation and national security		
t	SPR	There is a lack of strategic assessment with regard to civilian radar. This can be dealt with in EIA but would have been useful to have overall guidance for plan. Acknowledge the difficulty and would highlight the BWEA sub group on aviation as a key resource for strategic discussions.
		<i>Civilian radar was considered in the ER, for example in Sections 5.7.2 & 3 and particularly in Appendix 3h, although there is obviously a need for site-specific consideration in the future.</i>
u	FOR, SPR	Would like to see some assurance that the relevant Government departments will work together to bring forward technical solutions relating to civil aviation and military radar, whilst maintaining the integrity of national security, and this should be reflected in the relevant National Policy Statements.
		<i>Noted. The DECC led aviation working group is fulfils this function.</i>
v	Forewind	If this recommendation is read literally it can be interpreted such that any windfarm which e.g. interferes with a radar system, should be avoided. Concerned by this blanket recommendation and the potential for an Agreement for Lease application for an identified windfarm project, to be rejected by the Commissioners (i.e. The Crown Estate) should it interfere with radar systems.
		<i>Noted. See revised Recommendation 1 in Section 3 of this document.</i>

w	EDF	The SEA does not give any precise siting constraints surrounding civilian and military radar. Limits for consultation with the relevant authorities should be identified in the SEA to avoid confusion.
		<i>Constraints relating to military ASACS and civilian radar are indicated in Appendix 3h, Section A3h.3. With regard to civil radar, the appropriate consultation zones are indicated in figure A3h.11 and are further explained in comment 2.2.6.9k. Constraints for individual developments require site-specific consideration and consultation.</i>
e. tourism, recreation and quality of life		
x	Centrica, FOR, EDF	Request clarification on the economic bias toward tourism. Believe that this factor should not be used as a presumption against OWF developments, nor should recreation or quality of life. There are relatively few studies that have considered in detail the socio-economic impacts of OWF development on local communities; the SEA appears to present a presumption against development in those areas which it considers tourism and recreation to be major activities, assuming the impacts to be negative. The experience to date is that OWFs have been welcomed as a positive contribution to local coastal communities. This is clearly a subjective issue and clarification should be provided as to how this will be assessed. Centrica suggest that these presumptions are removed from the SEA or clarified by further work.
		<i>Disagree - The recommendation suggests a presumption against OWFs which result in significant detriment to tourism, recreation and quality of life; it does not automatically assume impacts to be negative or recommend a presumption against development wherever tourism and recreation are major activities. This recommendation is a reflection of the SEA's objective to prevent, reduce and offset significant adverse impacts on the environment and other users of the sea; there is no economic bias towards tourism.</i>
y	FOR	Developers put considerable effort into the assessment of potential visual impacts of OWFs through the EIA process and although in general it is more acceptable that large scale developments are best sited further offshore, each project should be considered on its own design merits, and that in many cases development of a scale proportional to the seascape is not a visual intrusion.
		<i>Comments noted. It is acknowledged here, and in the SEA, that EIA is the most appropriate level to assess the visual impact of a development, and that the assessment of visual impacts must take account of, inter alia, the physical characteristics of the coast and the design of the development.</i>
z	FOR	The reduction in carbon emissions afforded by the development of offshore renewables, and its contribution to the energy supply, should be promoted as a positive benefit on the quality of life.
		<i>Noted.</i>

Recommendation 3

“Until there is a firmer base of information available to inform adaptive management, in respect of ecological receptors a precautionary approach to siting is recommended since the offshore wind industry is relatively young, with appreciable technological development expected in for example, turbine size, rotation speed, spacing and potentially rotational axis. This precautionary approach dictates that unless suitable evidence indicates otherwise, avoidance (for the present) of areas known to be of key importance to waterbird and marine mammal populations, including breeding colonies, foraging areas and other areas essential to the survival of populations.”

a	RSPB, SoS	Welcome this recommendation.
b	JNCC, BWEA, Centrica	Industry and regulators would benefit from clarification on the use of the precautionary principle, including how it is incorporated into “adaptive management”, to effectively manage environmental risk. It would be helpful to develop some criteria that would enable decisions about when the precautionary principle should be used. BWEA requests Government to develop specific guidance on this.
		<i>Noted.</i>
c	NE, WDCCS	Support this recommendation but do not consider that the ER provides developers with sufficient spatial information to avoid areas known to be of key importance to waterbird and marine mammal populations.
		<i>The ER is supported by extensive appendices detailing the known ecology, distributions and abundances of birds and marine mammals in UK waters (see Appendices 3a6 and 3a7). This is synthesised as far as possible into the identification of key areas of sensitivity for marine mammals (ER, Section 5.3.6, p.97, with a revised list in Appendix 1 of this document), descriptions of Regional Sea specific bird species of greatest concern (ER, Table 5.5, p.123) and mapping of designated protected areas. When considered alongside the relevant assessment and baseline sections and recommendations, these provide a valuable tool in the strategic identification of more and less suitable areas for OWF development. More precise identification of key areas requires data collection on a finer scale than is available at this strategic level, and will be collected under the requirements of EIA.</i>
d	WDCCS	Important areas could be graded, for example: <ul style="list-style-type: none"> • areas not to have developments • areas where there is currently insufficient information to make a decision at this time i.e. avoid on a precautionary basis • areas where there is sufficient information to propose developments pending the outcome of a full EIA
		<i>These constructive suggestions are noted and acknowledged.</i>
e	FOR, BWEA, REA, SPR	Are concerned that the ER uses the precautionary principle too frequently and liberally, and its application to all uncertain issues gives a conservative assessment which can be too vague and can cause un-necessary delay in the consenting process. Guidance was expected from the SEA looking further into approaches of adaptive management and proportionality.
		<i>Precaution is considered necessary in view of the potential scale of wind development, technological uncertainty and nascent evidence base on certain impacts. The SEA’s objectives include to prevent, reduce and offset significant adverse impacts on the environment and other users of the sea, to inform the Government’s decision on the draft plan/programme, and to facilitate public consultation.</i>
f	BWEA, FOR, SPR, REA	The marine renewables community is by definition environmentally aware and the industry embraces environmental best practice. While the OWF industry may still be considered immature, it has already invested significant time and money into providing much environmental data to the UK marine community and statutory advisors, either through baseline studies and the EIA process, or through post construction monitoring. Increasing data are available from other European projects.
		<i>Noted.</i>
g	FOR, BWEA, REA, SPR	Believe that there is now a substantial amount of data to inform adaptive management and enable a more pragmatic approach to be taken on decision making during the consenting process. In areas where sufficient data from previous studies exists and the effects are well understood, consenting authorities should consider this and the precautionary principle should not be quoted. The REA would encourage regulators to accept that some uncertainty is inevitable and that there is a need to get projects in the

		water to start “learning through doing”.
		<i>Noted, although there remains the need to apply the precautionary principle and in the case of Natura 2000 sites, to have certainty about significant effects (following the Waddenzee judgement, European Court of Justice Case C-127/02).</i>
h	BWEA	It should be noted that environmental statutory consultees are keen for win-win situations with dual use and appropriate monitoring. This is considered to be a better solution than exclusion through the over-application of the precautionary principle.
		<i>Noted; this requires site-specific consideration.</i>
i	Centrica, BWEA	Ecosystems are complex and many of their characteristics (e.g. marine mammal and seabird foraging areas) are known to shift and change considerably over time. It will be necessary for developers and regulators to make positive decisions on development in face of some environmental uncertainties if large-scale renewable energy delivery is to be achieved by 2020. Consequently, the SEA should not look to impose a hard constraint such as the precautionary approach, on such aspects that are not spatially and temporally fixed. This particular recommendation should be reviewed.
		<i>Noted; see also response e above.</i>
j	Econcern	This recommendation may refer to the existing process for defining protected areas and the assessment of the impact on these areas (e.g. SACs or SPAs). As stated in recommendation 15, these sites are not intended to be strict no-go areas. The emphasis in recommendation 3 on the application of a precautionary approach could be interpreted as an additional level of assessment effectively excluding development in these areas.
		<i>Noted. See also response to comment g, above.</i>
k	EDPR-SER	The precautionary approach dictating that “(...) unless suitable evidence exists, areas known to be of key importance to waterbird and marine mammal populations should be avoided” may be misused. The SEA is non specific about “key importance” and does not allow the AA process to consider the evidence generated through study as all wind development sites are required to do.
		<i>Noted. However, AA for individual project proposals would take account of all relevant information including site-specific study results.</i>
l	JNCC	A reference here to the report section detailing the “areas known to be of key importance” is necessary.
		<i>Noted. For detail on UK seabird and marine mammal populations and distributions, please see Appendices 3a6 and 3a7.</i>
m	FOR	Acknowledge the general paucity of quality spatial and temporal data for areas furthest offshore and that the location of these preferred areas for development will require a significant data gathering and zone assessment programme by developers.
		<i>Noted.</i>
n	FOR	Developers would welcome greater guidance from statutory consultees to deal with, for example, cumulative and in-combination issues to enable the context of individual projects within a larger development area to be understood.
		<i>Noted.</i>
o	WDSCS	This recommendation should extend to the oil and gas industry as well.
		<i>There is considered to be less technological uncertainty regarding the likely nature and scale of oil and gas activities, and their effects are better understood. In addition, the prospective areas are already well developed. A precautionary approach to areas of uncertainty is reflected in Recommendation 11.</i>

Recommendation 4

“Reflecting the relative sensitivity of multiple receptors in coastal waters, this report recommends that the bulk of this new generation capacity should be sited well away from the coast, generally outside 12 nautical miles (some 22km). The proposed coastal buffer zone is not intended as an exclusion zone, since there may be scope for further offshore wind development within this area, but as mitigation for the potential environmental effects of development which may result from this draft plan/programme. The environmental sensitivity of coastal areas is not uniform, and in certain cases new offshore wind farm projects may be acceptable closer to the coast. Conversely, a coastal buffer in excess of 12nm may be justified for some areas/developments. Detailed site-specific information gathering and stakeholder consultation is required before the acceptability of specific major Round 3 or subsequent wind farm projects close to the coast can be assessed. Marine spatial planning proposals are under consideration in Parliament, which would give coastal regulators and communities further opportunities to have a say in the way the marine environment is managed, in addition to the existing routes for consultation as part of the development consent process.”

a	CCW, NE, RYA, DCC, ESFJC	Generally agree that there are a greater number of users and sensitive receptors within territorial waters, and that the bulk of new generation capacity should be located away from the coast, generally outside 12nm.
		<i>Noted.</i>
b	RSPB, ESFJC	This is a useful recommendation which does not preclude development, but highlights a means to reduce the bird species of concern by limiting development within inshore waters. This non-exclusionary buffer zone which reflects the great sensitivities of inshore waters, not only for ecological receptors but for all interests including fisheries, navigation and other users, and also incorporates the flexibility for consideration of developments within this area on a case-by-case basis, is welcome.
		<i>Noted.</i>
c	SNH	Support the recommendation that detailed site-specific information gathering and stakeholder consultation is required before the acceptability of specific major Round 3 OWF projects can be assessed.
		<i>Noted.</i>
d	JNCC, NE	The uncertainties and information gaps are greatest offshore; any recommended coastal buffer should remain flexible in order to progress those developments within territorial waters where it can be demonstrated that there would not be significant impact. The value of an evidence-based approach to EIA of individual proposals should be acknowledged; it would be of concern if this precautionary recommendation undermined an evidence-based approach or if it resulted in proposals being located in offshore areas where they resulted in greater impacts.
		<i>It is considered that the consultees' comments are already addressed in the wording of the recommendation. See revised and renumbered recommendation (2) in Section 3.</i>
e	TO'R	The current limited knowledge of marine ecology beyond 12nm and the proposed offshore SAC designations should re-emphasise the unsuitability of a 12nm buffer.
		<i>Disagree that there is a division in marine ecological understanding at 12nm.</i>
f	CCW, NE	This recommendation provides only a very approximate guide to developers and fails to provide the certainty necessary to facilitate timely decision-making required (by the IPC) to allow projects to proceed at a pace consistent with that needed to meet renewable energy targets. It is not clear in which 'certain cases' new offshore wind development may be acceptable closer to the coast than 12nm, or whether the SEA is leaving it to developers to gather the more detailed site-specific information or if more information is being gathered by the SEA process (e.g. the seascape baseline and sensitivity information is currently work in

		progress).
		<i>Noted. The SEA process is intended to inform the Government's decision on the draft plan/programme. It is not intended (nor can it) to provide all the answers in respect of individual projects. Site-specific studies and assessment are stated as being needed to inform individual project decisions.</i>
g	CCW, NE, EDF, TCE	The spatial constraints mapping work outlined in Section 5.7.2 should have gone further to identify areas (both within and outwith 12nm) within which the risks to the environment and uncertainties are lowest (i.e. where development is most likely to be successful), and also to areas where risks and uncertainties are highest whereby developments could encounter many hurdles before consent can be successfully gained.
		<i>Disagree; such assessment requires to be made at a project level, informed by site-specific information which is beyond the scope of SEA. See response to comment 2.2.4n.</i>
h	EH	At present, there is no independent, public source of advice regarding the historic environment for the UK Continental Shelf adjacent to the English area of the UK Territorial Sea. Consequently, this response has been copied to DCMS should they wish to comment directly on this matter.
		<i>Noted.</i>
i	JNCC	The 12nm buffer zone appears to be inconsistent with Rounds 1 and 2 of OWF leasing.
		<i>Round 1 was not informed by SEA. The Round 2 8 and 13km coastal buffers were established on the basis of visual impact only. The OE SEA recommendation is based on a broad range of considerations (see ER, Section 5.7.3)</i>
j	Airtricity	With regard to existing approved OWFs within 12nm in England and Wales, does the SEA consider there to be a cumulative issue within 12nm that should be considered in relation to further development?
		<i>Cumulative impacts are required to be considered for each development.</i>
k	TCE, DONG, FOR, BWEA, Econcern, EDPR-SER, RES, SPR, Airtricity, Forewind, SWRDA & RSW, EDF, NRL, TO'R, WWF-UK	Do not feel that the assessments in the ER lead to the conclusion that a 'blanket' nominal 12nm coastal buffer is the best way to manage potential environmental (including other users) impacts of OWF development. Acknowledge and welcome the non-exclusive nature of the recommended coastal buffer, but in practice, a nominal buffer zone of 12nm that may not be required in some instances or may be required to be larger in others instances is a confusing concept. Emphasis should instead be placed on the need for more detailed case-by-case, site-specific assessment of the potential implications of proposed OWF developments in line with the variable nature of British coastal waters. It could be suggested that certain, specified issues become more prevalent the closer to shore development occurs and should therefore expect to receive detailed examination in any development's EIA.
		<i>Noted, but reiterate the non-exclusive nature of the recommended area.</i>
l	FOR	Concerned that the phrasing of this recommendation may be construed as a precedent and strong presumption against any development.
		<i>This is not the intent of the recommendation.</i>
m	BWEA, TCE, SPR, ICOWFL, EDF, RES, SPR, Airtricity, Forewind, SWRDA & RSW, EDPR-SER, EDF, NRL, TO'R, WWF-UK	There appears to be no clear basis for the recommendation against much development taking place within the 12nm limit.
		<i>Disagree. Coastal waters are unquestionably more complex in terms of morphology, habitats, archaeology, cultural features, and existing uses, than areas further offshore. Many parts of the UK coast are protected for</i>

		<i>their internationally important bird breeding colonies, with the adjacent waters acting as feeding grounds.</i>
n	Airtricity, Forewind	Suggest that the ER provides more objective justification for this buffer and also denote that development outside this area was less contentious, and therefore be likely to require a lower level of assessment. Suggest that this be developed further within National Policy Statements.
		<i>Noted. The considerations that led to the recommendation are documented in the ER (and in particular Section 5.7.3) and its appendices.</i>
o	EDF	The SEA does not quantify the benefits that a buffer would deliver, so it is impossible to assess whether this measure is appropriate.
		<i>Noted, although quantification of such benefits would be challenging, largely subjective and requires site-specific proposals.</i>
p	ICOWFL, NRL	The proposed buffer zone does not take into account the fact that development in closer proximity to the coast may be acceptable, particularly taking into account mitigation strategies such as careful consideration of the number, arrangement and height of turbines.
		<i>Disagree, such site-specific considerations are covered by the recommendation.</i>
q	ICOWFL	A buffer zone, if any is to be applied, of 8-13km as has been employed previously would seem to provide for appropriate levels of protection for high-usage areas; extending this area to 12nm from shore will do little to increase this level of safeguarding.
		<i>As indicated in response i above, the 8-13km zone was established to mitigate visual impact only.</i>
r	TCE, BWEA, Centrica, FOR, SPR, EDF	As written, the recommendation of a 12nm coastal buffer invites different interpretations (largely due to slightly different wording in the Non-Technical Summary and Section 6.1). It is not clear how much "the bulk of" refers to, or whether this applies on a site-by-site or 'all of Round 3' basis. Clarification is required.
		<i>The "bulk of" refers to future new offshore wind generation capacity.</i>
s	Airtricity, Forewind, EDF, CPRE	The reasoning behind the "100MW" figure quoted in the NTS but nowhere else in the ER is not clear. Clarification is sought on what is a "major" OWF development. If a nominal size restriction is to be recommended, a threshold of numbers of turbines (rather than MW) would be more appropriate for landscape/seascape issues.
		<i>The figure was informed by the threshold established for projects to fall into the remit of the Infrastructure Planning Commission. A number of factors are of relevance to landscape/seascape issues, including turbine number and size.</i>
t	BWEA, Econcern, TO'R	"Detailed site-specific information gathering and stakeholder consultation" is already required and stakeholder consultation requirements are already in place. It is unclear if this recommendation adds a new layer of investigations and consultation or if this refers to the existing consenting process. Introducing additional assessment and stakeholder consultation for projects within 12nm is at odds with the recent consultation guidelines for Nationally Significant Infrastructure Projects, which does not advise different scales of engagement for different projects.
		<i>Different scales of engagement are not being proposed; the recommendation is reflecting the greater complexity of coastal waters and the larger number of stakeholders likely to be affected/involved.</i>
u	TCE, ICOWFL, NRL	If rigidly implemented, this recommendation is too prescriptive and may prejudice future strategic planning policies such as, for example, National Policy Statements under the Planning Act 2008 as well as marine spatial planning proposals under the Marine and Coastal Access Bill.
		<i>It is not intended that the recommendation be rigidly implemented nor prejudice forthcoming NPSs.</i>

v	EDF, TO'R	If adopted, this recommendation is likely to impede the development of offshore wind generation. Such a buffer would greatly increase the uncertainty for developers, and therefore the project risk. Many areas within 12nm that could be developed without significant impact will not be taken forward, as areas outside the zone will have inherently lower development risk. The lack of transparency over the basis of the zone will prevent developers from assessing the acceptability of a particular area of development.
		<i>Disagree. Site-specific considerations will allow a developer to reach a business decision regarding particular areas.</i>
w	EDF	From the perspective of UK renewable energy policy, the SEA recommendation is not consistent with the UK Government's ambition to meet its renewable energy targets in part from utilising its territorial waters around England and Wales.
		<i>This is not the intent of the recommendation.</i>
x	BWEA, Econcern, FOR, SWRDA & RSW, NRL	The blanket 12nm recommendation will risk the clear economic advantage of near shore construction (as identified in the Carbon Trust report "Big Challenge, Big Opportunity").
		<i>The recommendation does not advocate a blanket application.</i>
y	BWEA, TCE, FOR, RES, ICOWFL, SWRDA & RSW, NRL, Airtricity, Forewind, TO'R	Objectors to renewable energy projects will undoubtedly use this 12nm recommendation as a reason to oppose near shore projects. This 12nm recommendation therefore creates increased difficulty for 3 entire Round 3 zones and the closest areas of 2 other zones.
		<i>Promoters have the opportunity to make their case justifying particular sites through the EIA process and its public consultation.</i>
z	Airtricity, Forewind, TO'R	Although the SEA report states that in an 'international' context, Belgium and the Netherlands have adopted wind farm zones beyond 12nm from the coast; there appears to be limited and insufficient justification for application of a similar figure around the UK coastline. Human activities and features of conservation interest within the UK are generally concentrated along the coastline, significantly inshore of the proposed buffer zone, rather than out to 12nm.
		<i>The international practice was provided in the ER as context. See response n above in respect of the presence of coastal sensitivities.</i>
aa	EDF	Denmark, a country with one of the longest records of operating OWFs, are now recommending that OWFs are constructed closer to shore on both economic and lack of visual sensitivity grounds.
		<i>Noted.</i>
ab	BWEA	Recommends that the Government ignores the SEA report's 12nm recommendation and that Government does not reference any specific distance in their decision report. EIA is, and will continue to be, sufficient to inform decisions on sensitivity of wind farm proximity to the coast.
		<i>Disagree. The effect of such an approach would be to suggest that there was no need for Directive 2001/42/EC or its implementing legislation.</i>
ac	Centrica	Would welcome the assurance that such a limitation of 12nm would not be imposed on developers and that the matter of landscape and visual assessment is dealt with on a case-by-case basis at the EIA stage.
		<i>This is not the intent of the recommendation.</i>
ad	REA	Are concerned that this statement is unnecessarily harsh and may deter developers from taking forward viable offshore wind projects, because of the expected consequential cost of underwater cabling.
		<i>This is not the intent of the recommendation.</i>
ae	SPR	The assessment of the coastal buffer should comment on the residual environmental impact on the key aspects it is designed to mitigate e.g. given the coastal buffer the landscape impact is insignificant, fishing impact

		is restricted to large vessels operating outwith 12nm.
		<i>Such residual impacts can only be assessed in the light of specific project proposals.</i>
af	SPR	If there is scope for development within 12nm then the SEA should recognize and identify it, perhaps by stating what capacity is available e.g. XGW/or a % within 12nm and/or identifying which regional areas.
		<i>The recommendation is explicit that there may be scope for further offshore wind development within this area but that detailed site-specific information gathering and stakeholder consultation is required before the acceptability of specific projects can be assessed.</i>
ag	FOR	Note the reference to forthcoming plans for the development of marine spatial plans (MSP) through the Marine Bill but are concerned that at present this adds another layer of uncertainty to the development process going forward, as it is not clear as to how Government intends to develop its marine spatial planning framework. UK Government has indicated that it will designate Marine Conservation Zones to comply with its international obligations for a network of MPAs by 2012. It is unclear how these areas will be selected and what impact they will have on offshore windfarm projects within Round 3 timescales.
		<i>Noted. See also responses to recommendation 14 below.</i>
ah	BWEA, SWRDA & RSW, NRL	It is vital that the government recognises the importance of near-shore OWF development and the significant benefits for practical, cost efficient construction and operation. No consideration is provided of the increased risk and economic implications of the recommended 12nm buffer in the ER, but should be in the subsequent Government thinking.
		<i>Noted.</i>
ai	NRL	A principal justification of the application of the 12nm buffer within the ER seems to be that even with its application and that of the hard constraints it is still possible to exceed the 25GW capacity target of Round 3, citing a potential capacity of 80GW. NRL are concerned that the draft plan/programme may adopt an overdependence on the development of OWFs over a large proportion of the Dogger Bank, which seems at odds with the potential restrictions which are likely to constrain development since the area is a draft SAC. Question whether the scale of development over the Dogger Bank as suggested in Figures 5.22-5.24 would be given consent following AA.
		<i>Noted. Figures 5.22-5.24 in the ER are illustrative and not indicative of a proposed scale of development (although there is close agreement with the TCE Round 3 zone also illustrated for the area).</i>
aj	NRL	Considering the likely constraints on development within the Dogger Bank draft SAC and that Figures 5.22-5.24 indicate that much of the unconstrained wind resource areas lie outside the 9 TCE development zones, it is questionable whether the 25GW by 2020 target for Round 3 is achievable within the 6 TCE zones that would remain after applying the 12nm coastal buffer.
		<i>Noted. Figures 5.22-5.24 in the ER are illustrative and not indicative of a proposed scale of development.</i>
ak	EDF	Measures such as zones of restricted development should be developed, determined and implemented by the new Marine Management Organisation (MMO).
		<i>Noted.</i>
TCE detailed comments		
al	TCE, NRL	Section 5.7.3 of the ER, in consideration of a coastal buffer, makes specific reference to <i>Planning Policy Guidance Note 20: Coastal Planning (PPG20)</i> . It is not clear that the policies contained in PPG20 are relevant to the consideration of the planning of offshore wind farms (although it is recognised that PPG20 may be relevant to certain onshore development

		e.g. substations).
		<i>Noted.</i>
am	TCE, NRL	Section 5.7.3 of the ER, in consideration of a coastal buffer, makes specific reference to <i>Planning Policy Statement 22: Renewable Energy (PPS22)</i> . For planning purposes as a general rule, the limit of the coastal zone in the seaward direction is mean low water mark (MLWM). Decisions on development proposals below mean low water mark are generally outside the scope of the planning system, although they are subject to control by a number of agencies, usually related to the type of activity. Therefore, the policies contained in PPS22 do not extend to developments for offshore renewables and the relevance of PPS22 in the consideration of a 12nm coastal buffer is questionable. In fact, the PPS is clear that “Regional planning bodies and local planning authorities should not create ‘buffer zones’ around international or nationally designated areas and apply policies to these zones that prevent the development of renewable energy projects” (paragraph 14).
		<i>Accepted although PPS22 is considered to be relevant context for the ER section.</i>
an	TCE	Acknowledge the importance of national designations and that the siting of offshore wind farms should not compromise the objectives of designation of the area. However, at SEA level, TCE does not consider that it is possible (or warranted) to determine whether the development of offshore wind farms will compromise these objectives. Realistically this can only be ascertained through case-by-case, site-specific investigations and rigorous assessment against the objectives of designation of the area.
		<i>Noted. However, it is both possible and warranted to consider within an SEA if the proposed plan/programme could affect the objectives of national designations.</i>
Relationship to leasing in territorial waters in Scotland and Northern Ireland		
ao	JNCC, Centrica, FOR, BWEA, ICOWFL, EDPR-SER, TO'R	The 12nm buffer zone appears to be inconsistent with the licensing round currently being progressed in Scottish Territorial Waters (STW) and while not directly applicable, it may influence the licensing round in these waters.
		<i>This SEA and its recommendations do not apply to wind farm developments in the territorial waters of Scotland or Northern Ireland.</i>
ap	Airtricity, Forewind	A clear statement that this does not apply to development in Scotland is required.
		<i>See response ao above.</i>
aq	FOR	Concerned that this recommendation will directly contradict Scotland's plans for offshore wind and will cause considerable confusion amongst stakeholders, especially where proposed developments are close to the Scotland/England boundary. It does not provide for the “joined-up approach to marine planning” being promoted through the UK and Scotland Marine Bills.
		<i>See response ao above. Coordination of marine planning across the UK is being advanced through other fora.</i>
ar	SNH	While the principle of a coastal buffer zone of 12nm for OWF development in England and Wales is commendable, SNH would not endorse such an approach or figure in Scotland. It is more important in Scotland to determine suitable distances from shore for windfarm development on a site-by-site basis.
		<i>Noted, see response ao above.</i>
as	RSPB	A similar 12nm buffer zone will not be workable for STW as it would automatically exclude the vast majority of potential offshore wind farm sites. We recommend that the ongoing SEA for STW, and also the NI offshore wind and marine renewables SEA, adopt an appropriate buffer zone based on environmental rationale.

		<i>Noted, see response ao above.</i>
at	ICOWFL	This undermines and substantively weakens the position of Scottish developers to successfully progress development in STW.
		<i>Noted, see response ao above.</i>

Recommendation 5

“To minimise habitat change and to ensure areas developed as a result of the current draft plan/programme are left fit for previous or other uses after decommissioning, the volumes of rock used in cable armouring, foundation scour protection and pipeline protection must be minimised and there should be active promotion of alternative protection methods through the consenting process.”

a	NE	Fully support this recommendation but feel that the evidence presented in the SEA rather undermines the need to minimise habitat change and promote alternative methods.
		<i>Noted. In the interests of overall sustainability it is considered that proper consideration should be given to alternatives to rock dumping.</i>
b	BWEA	Question the significance of this impact on habitat change. When considered in relation to habitats, any residual materials will be minimal and highly localised.
		<i>The recommendation reflects the potential scale of development and applies to all elements of the draft plan/programme. It therefore covers a wide range of seabed habitats from the robust to the potentially vulnerable.</i>
c	BWEA, FOR, Centrica	Environmental considerations are important in deciding protection methods and materials; these will be dealt with during detailed EIA studies on a case-by-case basis. However, human safety, security of assets and the economics of a project must not be compromised due to equipment or infrastructure becoming exposed or being made unstable.
		<i>Agreed.</i>
d	FOR	Scour protection and cable armouring requirements will be site-specific, so additional guidance on alternative protection methods would be welcome. FOR wish to know whether DECC will be undertaking research into this issue to assist developers.
e		<i>The SEA considered the potential environmental implications of scour protection and armouring. There is extensive UK and international experience of the application of such mitigation techniques under various marine conditions to which it is expected that developers and their engineering advisers will have access.</i>
f	BWEA, FOR	Government, TCE and industry have worked successfully to develop accepted decommissioning guidelines. Decommissioning plans consistent with international and national obligations must be approved prior to construction.
		<i>Noted.</i>
g	NFFO	In the interests of minimising safety risk, this recommendation should be extended as follows: <ul style="list-style-type: none"> • cabling within and between windfarms and to the shore should be buried. • a clear seabed policy should apply to the decommissioning of windfarm structures.
		<i>Noted. These issues are considered to require site-specific assessment.</i>
h	ESFJC	Support this recommendation.
		<i>Noted.</i>

Recommendation 6

“For areas (zones and blocks) which contain good examples of habitats/species on the Habitats Directive Annexes, developers should be made aware that a precautionary approach will be taken and some areas with relevant interests may either not be leased/licensed until adequate information is available, or be subject to strict controls on potential activities in the field. Similarly, developers should note that DECC will continue to conduct Appropriate Assessments/screenings to consider the potential of proposed leasing/licensing and subsequent activities to affect site integrity.”

a	JNCC	Recommend that in the final sentence “DECC” should be replaced with “relevant competent authority”, given that DECC will not be the consenting authority for all projects e.g. offshore wind over 100MW. Further clarity on the consenting process would be valuable to industry, particularly detailing timescales for consenting, the role of the IPC and how appropriate assessment fits within the overall process for consenting (including the time required for any public inquiries).
		<i>Accepted, see revised recommendations in Section 3.</i>
b	RSPB	This recommendation should also note that Natura 2000 sites (and other MPAs) may not be leased/licensed until adequate information is available or, in some case, may not be leased at all.
		<i>See Recommendation 6 which states, “For areas (zones and blocks) which contain good examples of habitats/species on the Habitats Directive Annexes, developers should be made aware that a precautionary approach will be taken and some areas with relevant interests may either not be leased/licensed...”</i>
c	BWEA, Centrica, FOR	Have concerns over the application of the precautionary principle, as mentioned in response to recommendation 3.
		<i>Noted, see earlier response.</i>
d	Centrica, FOR, SPL	Further clarity will be required on the Government’s approach to AAs with regard to Round 3.
		<i>See responses in Section 2.2.5</i>
e	SPR	Assuming that the existing mechanism used for Oil/Gas SEA AA is adapted, the uncertainties/lack of data from some of the area may hold up the assessment and delay the timescales.
		<i>Noted, although there remains the need to apply the precautionary principle and in the case of Natura 2000 sites, to have certainty about significant effects (following the Waddenzee judgement, European Court of Justice Case C-127/02).</i>
f	SoS	With some qualification, endorse this recommendation.
		<i>Noted.</i>

Recommendation 7

“The effects of noise on marine mammals particularly from piling and seismic survey remain an issue of debate. A range of mitigation measures are available and their adoption is normally required through consenting. However, there is a need for cross-industry coordination of what noisy activities are planned, where and when, to facilitate the assessment of cumulative effects and implementation of temporal/spatial mitigation actions. The approach would require a mechanism to facilitate the exchange of information, for example through a web-based forum hosted by DECC, JNCC or the future MMO.”

Cross-industry coordination		
a	JNCC, EDPR-SER, SPR, ESFJC, SoS	Welcome and support the cross-industry coordination indicated in this recommendation, noting that it has to be well managed.
		<i>Noted.</i>
b	BWEA, FOR	Concerned about how combination noise effects from installation activity, seismic activity and other sectors activity would be dealt with. In particular,

		how this would be addressed in licence application and delivery. To be effective, cross-industry coordination will need to encompass all industries, internationally, that operate in the marine environment, not just renewables and oil and gas.
		<i>The UK and other EU member states have obligations for the protection of, for example, European Protected Species. DECC recognise the challenges implicit in the implementation of this recommendation and will discuss options with various stakeholders.</i>
c	Econcern, DONG, SPR	Any system developed must be equitable to all industries and developers, and should aim to coordinate activity to prevent delays. The needs of different industries must be considered within this coordination e.g. the construction planning of OWFs is done well in advance and the timing of activities may be restricted on many fronts - interruptions of the installation process can be extremely costly and cause considerable delays. Such coordination may require difficult choices over programming of activities.
		<i>Noted.</i>
d	DONG, Centrica, ESFJC	Recommend that clear guidance and direction is forthcoming from the departments and bodies involved in this coordination.
		<i>Noted.</i>
Web-based forum		
e	JNCC	Whilst willing to provide as much support as possible to enable this to happen, JNCC do not currently have the resources to host a web based forum.
		<i>Noted.</i>
f	Centrica	Support the idea of a web-based forum to facilitate the exchange of information. The organisation most likely to run this effectively is the JNCC with further funding from the Government.
		<i>Noted.</i>
g	FOR	Consider a web based forum to be sensible in concept, but limited in reality.
		<i>Noted.</i>

Recommendation 8

“Although there has recently been significant survey effort in coastal waters, the lack of modern data on waterbirds in offshore areas is noted. Developers need to be aware that access to adequate data on waterbird distribution and abundance is a prerequisite to effective environmental management of activities for example in timing of operations and oil spill contingency planning.”

a	BWEA, FOR, SPR	Agree with this recommendation.
		<i>Noted.</i>
b	RSPB	Particularly welcome this recommendation.
		<i>Noted.</i>
c	JNCC	In the current format this recommendation does not offer any viable solution as to how up-to-date waterbird data in the offshore environment can be obtained. It puts the onus on developers to obtain this information. Whilst it may be appropriate for renewable developers to collect ornithological data for the purposes of their baseline prior to a development, individual oil and gas companies are not normally expected to collect seabird survey data before any developments.
		<i>It is to be hoped that a strategic and collaborative approach to the collection of required environmental information will be taken where appropriate. It is noted that the oil industry collaboratively funded the then Nature Conservancy Council to undertake the initial phase of the Seabirds at Sea Team surveys, with individual companies contributing funding to subsequent phases according to their areas of interest. Similarly, the</i>

		<i>Atlantic Frontier Environmental Network collaboratively funded a major programme of research to inform environmental management of operations to the west of the UK (see the 2001 special volume of Continental Shelf Research vol. 21 and Pollock et al. 2000).</i>
d	JNCC, BWEA	The current wording of this recommendation does not highlight the need for a collaborative approach between industry, TCE and/or government to contribute to the collection of offshore seabird information. Offshore developers will inevitably focus on relatively localised areas of search, and if there is limited spatial coverage it is not always possible to make a valid comparison with relevant areas (i.e. immediate vicinity) outside of the proposed development area - a difficulty often encountered by developers.
		<i>See response to comment c above.</i>
e	Forewind, BWEA	Agree that adequate data is required, but it should not be excessive. It would be unrealistic and unreasonable to expect developers to survey everywhere therefore it will surely fall to the Government to fund survey works outside of the Round 3 Zone boundaries.
		<i>See response to comment c above.</i>
f	JNCC	There is an opportunity for survey effort to be focused on spatial and temporal gaps such as those which have been identified through the SEA gap-analysis process. Would support proposals to fund organisations that can carry out European Seabirds At Sea (ESAS) type surveys. A priority should be to acquire data in areas of potential developer interest that have old or insufficient data.
		<i>Noted.</i>
g	Centrica, Forewind	Agencies and major stakeholders such as the RSPB need to formulate early guidance on the detail of the studies expected for Round 3 and the zones. It is recommended that the Government facilitate discussions with stakeholders to ensure the appropriate guidance is given during the scoping period. Suggest a characterisation approach across the Zones with more detailed study within the wind farm areas located for offshore.
		<i>This is considered to be the role of scoping consultations.</i>
h	BWEA, FOR, ICOWFL, NRL	Acknowledge that the Round 3 zonal approach will enable assessment over a wider area than with individual project EIAs, allowing individual projects to be put in context for a better analysis of cumulative and in-combination effects.
		<i>Noted.</i>
i	FOR	Are concerned that conventional survey techniques might not be wholly suitable for data collection over very large offshore areas and would welcome greater guidance from the statutory conservation advisors with regard to acceptability of more innovative survey techniques (such as high definition cameras currently being developed and tested).
		<i>Consider the regional scale survey methods developed by SAST and ESAS to be adequate, but suggest this subject is raised during scoping consultations.</i>
j	FOR	Would like to see more resources going into the development and updating of the ESAS database.
		<i>Noted.</i>

Recommendation 9

“There remain a number of subject areas for which the information base is limited and will need to be enhanced to support future marine spatial planning as well as project-specific consenting. These information gaps include aspects of the natural world and human uses, with regional context and long-term trend data notably lacking. These gaps include:

- *Seabed topography and texture. For some areas there is excellent data for example from multibeam mapping undertaken variously including by the MCA, BGS and the SEA programme,*

but the UK lacks a coordinated programme to marshal such data, to identify priority gaps and to find ways to fill them

- Recent information on the distribution of fish eggs and larvae, and variability in space and time
- Detail of bird migration patterns, and variability in space and time including flight heights in different weather conditions
- An understanding of the marine areas routinely used by breeding birds for foraging, in particular those adjacent to SPAs
- Ecology of most marine mammal species and in particular important areas for breeding, foraging and resting
- Finer scale distribution of fishing effort, gears and catches for smaller vessels (<15m)
- Precision on the offshore distribution of navigation (AIS data coverage typically only extends 80km from shore)
- Effects on fishing activity in and immediately adjacent to constructed wind farms”

a	JNCC, FOR	Agree that there is a need to enhance datasets that will support future marine spatial planning. Government should consider the coordination of the several existing databases e.g. MEDIN & UKDMOS, its resource implications and an implementation strategy as a priority. A wealth of data from numerous marine sectors exists; this needs to be made available for development purposes.
		<i>Noted.</i>
b	RSPB	Agree that these are important information gaps, although point (c) may be difficult to address for some species groups.
		<i>Noted.</i>
c	BWEA	Agree that marine spatial planning will benefit from further research into these areas and support further work in this direction.
		<i>Noted.</i>
d	NE, Airtricity, Forewind, FOR, EDF	It would considerably enhance the value of the SEA if the final plan expanded on how these data gaps may be filled, and who would take a lead role in funding and managing data gathering exercises. Would welcome clarity on the process and timescales, and their implications for meeting the 2020 targets.
		<i>It is envisaged that the SEA Steering Group and a range of stakeholders will be involved in future discussions on the routes and options for filling agreed priority data gaps.</i>
e	EDF	Development should not be used by stakeholders to obtain new data for unmapped areas, but should only provide data that is relevant and specific to inform the development in question.
		<i>Noted.</i>
f	Centrica	The statement in paragraph one reads that there are a number of subject areas for which the information base is ‘limited’ and contains ‘information gaps’; however, this appears to conflict with the statement on p.217 which states that “This existing monitoring activity...to date has been found adequate”. Further clarity should be provided.
		<i>While current programmes monitoring ecological changes due to offshore industrial operations may be considered adequate, it is still the case that the baseline data in a number of areas is lacking. Improving the information base and expanding knowledge in these areas will serve to increase the effectiveness of monitoring processes currently in operation.</i>
g	WDCCS	Successive SEAs for oil and gas licensing have highlighted the lack of information on cetacean distribution, important areas of habitat for cetaceans, actual impacts of many developments and the actual status of most cetacean populations. Until further work is carried out on these issues, the SEAs will fail to adequately address cetacean conservation needs and the UK Government is therefore not fulfilling its obligation for strict protection of cetaceans.

		<i>Disagree. The SEA process has contributed significantly to the improvement of the understanding of marine mammals. For cetaceans this includes the contribution to the CODA survey and the analysis of SOSUS records for large whale vocalisations. DECC is also funding a major programme of research on cetaceans and seals in the Moray Firth.</i>
h	WDCS	Would like to see a specific commitment to a programme of cetacean surveys, similar to the programme of bird surveys.
		<i>As indicated in response to comment g, DECC has contributed to regional scale cetacean surveys; as part of the SEA and related processes the Department will continue to seek such opportunities in collaboration with other stakeholders.</i>
i	SoS	With some qualification, endorse this recommendation.
		<i>Noted.</i>
Priority and additional data gaps		
j	NE	Recommend that completion of the seascape characterisation and sensitivity work is included.
		<i>Accepted, this work will be discussed with NE and others.</i>
k	NE	Recommend that further research to understand the spatial and temporal implications of co-locating renewable energy generation with future or existing marine protected areas is added to this list of information gaps.
		<i>Noted, propose that such research be discussed with NE and others.</i>
l	BWEA	Recommend research into the ecological significance of the effects of offshore wind development. Many of the above issues are complex and spatially and temporally variable and therefore may never be understood to the desired levels. It is therefore imperative that decisions can be made in the face of incomplete information or there will be a danger of "paralysis by analysis".
		<i>Noted.</i>
m	BWEA, DONG, ESFJC, NFFO	The use of a VMS system for smaller fishing vessels would aid future marine spatial planning - DECC should discuss this with the MFA. This would help developers and fishermen by giving developers increased certainty when planning projects and considering important fishing grounds.
		<i>The provision of VMS data for fishing vessels <15m would certainly help the identification of key inshore fishing areas. Please see responses to earlier comments, specific to fisheries.</i>
n	DONG	"Recent information on the distribution of fish eggs and larvae, and variability in space and time" - this should be a priority area for research and funding effort by the SEA process, DECC and Defra etc. More certainty in this area would help reduce unnecessary construction delays, aid conservation of stocks and reduce developer risks. Similarly, bird migration, bird breeding areas and marine mammals - these three points are all areas that should also be priorities for government research funding.
		<i>Noted. See also response to comment d above.</i>
o	ESFJC	Possible solutions: (i) expansion and updating of Coull <i>et al</i> (1998)'s Fisheries Sensitivities Maps (possibly using information gathered in oil & gas/OWF/other environmental surveys); (ii) Nationally-coordinated fisheries mapping project; (iii) requirement on developers/fishermen/regulators to monitor and report fishing activity within OWFs. Use of VMS on smaller fishing vessels (<15m) would considerably help this task.
		<i>Noted. See also response to comment m above.</i>

Recommendation 10

"In areas of cold water coral reefs and other vulnerable habitats and species, physically damaging activities such as rig anchoring and discharges of drilling wastes (from hydrocarbon or renewable energy related activities) should be subject to detailed assessment prior to activity consenting so that

appropriate mitigation can be identified and agreed which may include no anchoring and zero discharge.”

a	SNH	This presumes that consent will be given to development in environmentally sensitive areas, subject to appropriate mitigation measures being in place. In practice, depending upon the sensitivity of the site and the nature of the activity planned, developers should be aware that development may, in exceptional circumstances, be refused (e.g. it may not always be possible to identify mitigation that both enables development and meets a site's environmental objectives). Thus while strongly supportive of the sentiments reflected in these recommendations, they should be re-worded to reflect this possibility.
		<i>Noted, see revised recommendation in Section 3.</i>

Recommendation 11

“For the area to the west of the Hebrides (covered in SEA 7) it is recommended that blocks west of 14 degrees west should continue to be withheld from oil and gas licensing for the present. This recommendation also applies to the deepest parts of the Southwest Approaches. This is in view of the paucity of information on many potentially vulnerable components of the marine environment, and other considerations. Once further information becomes available, the possible licensing/leasing in these areas can be revisited.”

a	JNCC	Regarding areas to the west of Hebrides, it is not clear what is being proposed to address the paucity of information or what criteria might be used to decide when sufficient information has been collated.
		<i>The ER recommendation was made in light of the paucity of information and a precautionary approach. Based on past examples of a similar application of a precautionary approach in SEA conclusions, DECC would discuss information needs with the SEA Steering Group. It is anticipated that a revaluation, informed by new information, would be included in an SEA and subject to public consultation. See also response 2.2.7.2s.</i>
b	RSPB	Welcome this recommendation.
		<i>Noted.</i>

Recommendation 12

“Potential applicants for licences in the 26th and subsequent oil and gas licensing rounds should be reminded that the expectation for facilities design will be for zero discharge of oil in produced water.”

No comments received.

Recommendation 13

“The Department has a central role in UK energy and climate change response policies; in recognition of the national and international focus on climate change and curbing fossil fuel emissions, DECC should seek and give consideration at both the oil and gas licensing and project consenting stages to CO₂ emission reduction proposals e.g. capture and storage (rather than venting) of CO₂ from gas treatment offshore.”

a	SEPA	This is welcomed and is consistent with submitted scoping comments.
		<i>Noted.</i>
b	BWEA, FOR	Agree with this recommendation.
		<i>Noted.</i>
c	FOR	Carbon capture issues are not considered in this SEA and are likely to be subject to a separate SEA. Consider it important that national policies do

		not favour carbon capture over offshore renewable energy and that this is reflected in National Policy Statements and within marine spatial planning consultations.
		<i>Noted. See also responses g and h of Recommendation 1.</i>
d	SPR, EDF	In the assessment on CO ₂ emissions there is a clear omission of data from the burning of oil/gas, yet a full life cycle analysis of a windfarm and its impact is included. It is inappropriate to omit the environmental impact of extracting and burning 15-25 billion boe of oil and gas* on the basis that it would be imported and therefore burnt anyway; this is still a major environmental impact at a strategic level. Calculations for indicative atmospheric emissions resulting from this SEA programme should have been included. A stronger argument could be made of benefits from offshore wind in operation, recognising the low operational emissions from wind farms compared to traditional methods of electricity generation. The programme for offshore wind should be framed within the 2020 targets for renewable energy. *NB: Calculations of CO ₂ emissions provided in consultation response.
		<i>See response 2.2.5.13f.</i>

Recommendation 14

“Efforts are (or will be) underway to identify offshore Marine Conservation Zones/Marine Protected Areas e.g. under the Marine Strategy Framework Directive, OSPAR and the Marine and Coastal Access Bill. Where the objectives of the conservation sites and renewable energy development are coincident, preference should be given to locating wind farms in such areas to reduce the potential spatial conflict with other users.”

a	JNCC, CCW, NE	The wording of this recommendation is a little unclear. Whilst recognising the importance of optimising the use of space in the marine environment, and acknowledging the potential to reduce spatial conflict, it is also important to balance this against potential adverse impacts of co-locating renewable energy developments and Marine Protected Areas. Co-locating renewable energy technologies with future or existing conservation areas may be possible, but this arrangement should not automatically be considered in preference to co-location with other developments and users.
		<i>See revised and renumbered recommendation (4) in Section 3. It is anticipated that each case will be considered on an individual basis.</i>
b	Centrica	This recommendation is unclear and further clarity is required, particularly under what instances the objectives of a conservation site and a renewable energy development would be coincident, and what is meant by giving preference to locating wind farms in such areas to reduce spatial conflict with other users.
		<i>See response a to recommendation 14 above.</i>
c	JNCC, CCW,	There is a significant challenge in providing a robust evidence base that the objectives of both uses are coincident. The risk of a renewable energy development helping to meet conservation benefits of certain conservation features but potentially damaging others also needs to be recognised - some MPAs may be unsuitable for development due to their particular conservation objectives.
		<i>The consultees’ comments are noted.</i>
d	JNCC, CCW, NE, DONG	The possible benefits of OWF development to the local environment are not well understood from either a technical or policy perspective. Further research is required on the spatial and temporal implications of co-locating renewable energy development with protected areas, both at the level of the individual site but also at the scale of the protected area network. Without this understanding, developers will face greater risks and longer

		development timescales than for developments outside of such areas.
		<i>The recommendation was made in recognition of the growing competition for marine space and that the mechanisms for marine spatial planning are not yet fully established.</i>
e	RSPB	This recommendation runs counter to some other recommendations and is inconsistent with the precautionary approach. It 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..." While offshore wind farm and MCZ objectives can be compatible, they cannot be defined as 'coincident'.
		<i>See revised and renumbered recommendation (4) in Section 3.</i>
f	WT	Seek clarification concerning the siting of OWFs in respect to the ecologically coherent network of MPAs to which the Government is committed to achieving. Whilst there may be a role for OWFs within the network, development of network is paramount and designation of MPAs should be first and foremost.
		<i>Noted, see response a to recommendation 14 above.</i>
g	EH	Note the statement regarding "...the objectives of the conservation sites and renewable energy development are coincident...", but add that any consideration of "conservation sites" should also consider the implications to historic environment features.
		<i>Noted.</i>
h	ESFJC	Would support this approach but note that each development must be assessed individually for its effects.
		<i>Noted, see response a to recommendation 14 above.</i>
i	BWEA	Agree with this recommendation but wish to state that proposals for projects can only be considered in the context of what actually exists or has definite plans to exist. Proposals for future MCZs may not succeed and may not therefore be material considerations.
		<i>Noted.</i>
j	BWEA, Centrica, FOR	Would like to note that MCZs must be designated on sound evidence-based data and the socio-economics impacts of the designations must be considered prior to designation by the competent authority. MCZs should not be influenced by landscape and visual opinions which are not evidence-based. It is noted that there are no buffer zones for onshore development around Areas of Outstanding Natural Beauty.
		<i>Noted.</i>
k	BWEA, FOR	Support the stakeholder led approach to MCZ designation that will include representation from marine-based industries.
		<i>Noted.</i>
l	BWEA	Uncertainty over the effects of MCZ designation on other activities remains. It is understood that until the habitat or species to be protected is known, it is naturally difficult to say what restrictions on development will be required. Wherever possible, the reduction of this uncertainty is clearly in the best interests of the environment and renewable energy development.
		<i>Noted.</i>
m	DONG	Welcomes the recognition that this type of cooperation between OWFs and conservation zones is a possibility.
		<i>Noted.</i>
n	DONG	Would be concerned that in instances of spatial conflict wind developers are pushed in to areas that require longer to develop (e.g. AAs), and carry a greater risk of failing to be granted consent.
		<i>This is not the intent of this recommendation, which is potential mitigation for the growing competition for marine space.</i>
o	FOR	Support the need for adequate nature conservation, but wish to see greater visibility as to the site selection process for MCZs, and greater guidance

		from the statutory conservation advisors with regard to the potential nature and level of development permissible within MCZs. Consider that offshore windfarm sites can help achieve management objectives within MCZs.
		<i>Noted.</i>
p	FOR	Have some concerns over the timetable for selection and designation of MCZs, as this is likely to coincide with the period when developers are undertaking extensive environmental surveys across the Round 3 zones, which could cause delays to development plans.
		<i>Noted.</i>

Recommendation 15

“Similarly, as part of the Natura 2000 initiative, further offshore SACs and extensions to SPAs are being identified. Such sites are not intended to be strict no-go areas for other activities and a number have been mooted in areas with significant potential for offshore wind farm development. Wind farm developers should be aware that SAC/SPA designation may necessitate, subject to the conclusions of any appropriate assessment, suitable mitigation measures so as to avoid adverse effects on a designated site or species.”

a	JNCC, CCW, NE, SNH, RSPB	Although in agreement that with robust evidence, it is likely that developments can proceed in protected areas (and that future SPA/SAC designations can be made without significant effect on developing projects), there may be areas where development is deemed not suitable following an AA, and this should be explicit here.
		<i>Accepted, see revised and renumbered recommendation (5) in Section 3.</i>
b	SNH	Emphasise that the same requirements would also apply to the oil and gas and gas storage industries.
		<i>Accepted, see revised and renumbered recommendation (5) in Section 3.</i>
c	BWEA, NRL	Emphasise that the SEA report indicates the least constraints for renewable energy development in the Dogger Bank area. This area is also earmarked as a potential SAC.
		<i>Noted.</i>
d	BWEA	Please also refer to comments on recommendation 14.
		<i>See relevant responses in recommendation 14 above.</i>
e	FOR	Emphasise that OWFs can be accommodated in certain areas designated as offshore SACs or marine extensions to SPAs without significant impact, and with innovative, cost-effective mitigation measures could make a positive contribution to the fulfilment of conservation objectives.
		<i>Noted,</i>
f	FOR	Concerned that there will be a significant reliance on developers to bring forward data that could then be used to identify and designate Natura 2000 areas which then exclude development.
		<i>Developers need to collect adequate environmental and other information on potential development sites. Such information is normally placed in the public domain and can in exceptional cases be used to identify potential Natura 2000 sites (examples from the oil and gas industry include the Darwin Mounds, Saturn reef, and Braemar pockmarks). If habitat or conservation features of national or international importance are discovered in developer studies, it is expected that these would be given due consideration in EIA and subsequent environmental management decisions.</i>
g	E.ON, NRL	It is notable that 58% of the 25GW total is assumed to be delivered from the Dogger Bank zone. But the development of such a large proportion of the Dogger Bank area seems at odds with the potential restrictions which might accrue should the area become designated as the result of an AA. Equally, development of such a large proportion of the area would

		undoubtedly lead to significant cumulative effects.
		<i>The OE SEA Environmental Report does not make such an assessment (although the Dogger Bank did emerge as an area with comparatively few spatial constraints). The issue of cumulative impacts would require assessment at a zonal and project-specific basis.</i>
h	SoS	With some qualification, endorse this recommendation.
		<i>Noted.</i>

Recommendation 16

“Gas storage projects need an EIA under the requirements of the EIA Directive. However, it is unclear at present under which UK regulations EIA for such projects would be undertaken, and early resolution is desirable in light of the drivers for increased UK gas storage capacity.”

a	FOR	Welcome clarity as to the regulatory framework for gas storage and also an indication as to how future projects will influence marine spatial planning and potentially impact proposed OWFs.
		<i>It is anticipated that such clarity will be available in the near future.</i>

Recommendation 17

“The Offshore Vulnerability Index (OVI) to surface pollutants developed by the JNCC should be reviewed in the light of results from recent aerial and boat based bird survey data, and updated if necessary. Consideration should also be given to whether the development of UK-specific individual waterbird species sensitivity indices and mapping of a Wind Farm Sensitivity Index (WSI) in UK waters would be useful in support of site selection and consenting.”

a	DONG	Agree that this is a useful area to be researched further.
		<i>The consultee’s support is noted.</i>
b	JNCC	Agree that the OVI (for the oil industry) should be updated in light of aerial and boat based survey data. Clarification of who would undertake a review and the allocation of resources is required.
		<i>The consultee’s support is noted. As with other SEA recommendations, it is envisaged that mechanisms for implementation will be discussed with the SEA Steering Group and other stakeholders as appropriate.</i>
c	JNCC, BWEA	There are particular challenges that need to be addressed in the development of a WSI, particularly the uncertainties involved due to the lack of data and the science of impact assessment. Greater understanding of the potential effects of OWFs on birds is required.
		<i>Noted.</i>
d	BWEA	A high WSI scoring species may be present in a development site but any effect could be insignificant. The presence of the high WSI could present a barrier to successful permitting without genuine good reason.
		<i>The consultee’s concerns are noted. If developed, a UK-specific WSI would provide one of several considerations in assessing the likelihood of potentially significant effects, and would not bias the outcomes of a robust evidence-based EIA.</i>
e	JNCC	Such a WSI conceivably has the potential to inform temporal mitigation decisions, but the level of detail needed for this would be equivalent to EIA resolution studies and therefore would be better assessed at this stage.
		<i>Noted.</i>
f	JNCC	Emphasis should be on improving baseline knowledge, potentially through regional level assessments, to highlight key species of concerns for siting decisions and in respect of consenting decisions.
		<i>The consultee’s suggestions are welcomed, although it is noted that regional assessments require a broader scale context.</i>

g	FOR	Recognise that WSI could be a useful tool to inform aspects of site selection and consenting, but is one of many tools that could be used.
		<i>Agreed. See response to comment d on recommendation 17, above.</i>
h	BWEA, FOR	Advice from industry is that PVA models for specific species would prove of more value; these should be further investigated and developed, including beyond the remit of current COWRIE studies. Who would be responsible for taking forward such work and to what timescale so as to assist the Round 3 development programme?
		<i>Recommendation 18 promotes the development of PVA.</i>
i	BWEA, Centrica, FOR	It should be noted that seasonal restrictions on windfarm operation are very unlikely to be economically feasible and must therefore be considered unrealistic.
		<i>Noted.</i>

Recommendation 18

“The existing initiatives to develop waterbird Population Viability Analysis for sensitive species should be progressed, including, if necessary, research to improve the accuracy of inputs to the models.”

a	RSPB	While there are some issues with these indices, they are a good starting point. Expert judgment will be key in supporting appropriate site selection and consenting. A workshop to discuss and resolve the above issues would be useful.
		<i>The consultee’s views and suggestion are noted.</i>
b	BWEA, DONG	Agree that this should be a priority for the Government, possibly in collaboration with TCE and industry.
		<i>Noted.</i>
c	FOR, Centrica	Clarity is sought on the reason for singling out PVA. The recommendation should be broader and encompass the development of a range of standardised tools and guidance to assist in the EIA and decision making process. Such methodologies need to be agreed between developers, conservation advisors and key NGOs at the scoping stage.
		<i>Due to its potential value as a tool for assessing the significance of effects at a population level and extensive data requirements, the development of PVA is considered a priority task. As stated in Section 5.5.4.1 (ER, p.125), it was agreed at a COWRIE workshop on the cumulative impact of OWFs on birds that PVA should form the basis for assessing whether the magnitude of any change in population was likely to be significant (Norman et al. 2007). While acknowledging its limitations, Maclean et al. (2007) suggested that PVA provides a robust framework for taking a scenarios-based approach to determine likely impacts. The use of PVA as a tool in Cumulative Impact Assessment (CIA) was further encouraged by the discussion paper produced by Maclean & Rehfish (2008).</i>
d	BWEA, Centrica	This work is likely to take a long time and although useful for informing future development it cannot be allowed to delay projects.
		<i>The consultees’ views are noted, although attention is drawn to the regulatory requirement for a robust assessment of potential cumulative effects within EIA for OWFs.</i>

Recommendation 19

“The potential for capacity extensions to existing Round 2 wind farm leases requires careful site-specific evaluation since significant new information on sensitivities and uses of these areas is now available (see also Recommendation 2 above). As a general rule it is recommended that any such site extensions are to the seaward rather than the landward side. Round 1 sites are closer to the coast and it is anticipated that the majority would not be extended; any application for this would also require detailed site-specific evaluation.”

a	RSPB	Agree that Round 1 sites should not be expanded and note that seaward expansion of Round 2 sites, while preferable to landward expansion, may cause adverse cumulative effects on some bird populations. Therefore, Round 2 expansions should be considered on a case-by-case basis.
		<i>Noted.</i>
b	SPR	Agree that extensions to Round 1 and 2 sites require site-specific assessments as a separate process.
		<i>Noted.</i>
c	TCE, BWEA, Centrica, FOR, Forewind	It is not helpful or justifiable to generalise the restrictions that might apply to the extensions of Round 1 and 2 sites. It is not clear that, in all cases, the most appropriate direction of extension would be seaward, nor that it would be unlikely that Round 1 sites would be extended. In light of the diverse settings of existing sites, the emphasis should be on site-specific investigations. The wording of this recommendation should be revised to remove unnecessary restrictions.
		<i>Disagree, the wording of the recommendation is considered to be explicit that in all cases detailed site-specific evaluation would be required for potential site extensions.</i>
d	Forewind	Several Round 2 sites are further from shore than the recommended 12nm coastal buffer, and therefore the reasoning behind a general rule of extensions on the seaward side does not necessarily apply.
		<i>Accepted, but in all cases detailed site-specific evaluation would be required for potential site extensions.</i>

Recommendation 20

“Siting and consenting processes for offshore wind farms must remain flexible to allow for technological innovation, including in mitigation measures.”

a	BWEA, FOR	Agreed. It is of utmost importance to allow sufficient flexibility to optimize renewable energy generation.
		<i>The consultees’ support is noted.</i>
b	FOR	Greater clarity on the IPC process and requirements would be welcomed.
		<i>These details will become available in due course, see for example: http://www.communities.gov.uk/documents/planningandbuilding/pdf/routemap.pdf which indicates that the IPC will be able to start advising on process and applications by autumn 2009.</i>
c	SNH	Though not directly applicable to Scotland, except insofar as it may apply to Round 3 windfarm developments beyond 12nm, it would be helpful to have further clarification on what this means in practice.
		<i>Recommendation 20 acknowledges that the offshore wind industry is relatively young, with appreciable technological development expected, some of which may reduce the potential for adverse effects. Hence through site- and project-specific mitigation, development may be feasible in areas previously considered unsuitable.</i>

Recommendation 21

“The information collected by offshore renewables and oil industry site surveys and studies is valuable in increasing the understanding of UK waters. The initiatives such as the UKDEAL, COWRIE and UKBenthos databases to ensure that such information is archived for potential future use should be continued and actively promoted during the consenting processes. Similarly, there should be encouragement for the analysis of this information to a credible standard and its wider dissemination.”

a	JNCC	Regarding increased understanding from site surveys and studies, it is not
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		clear how the costs of carrying out this useful piece of work will be met.
		<i>There are various potential funding routes for data syntheses and interpretation, which can be explored in discussion with interested parties.</i>
b	JNCC, CCW	There is a wider need for facilitated data exchange and information management, and new initiatives should be developed with consideration for, and in co-ordination with, UK-wide data management policy and processes such as those covered by the Marine Environmental Data Information Network (MEDIN). Perhaps the SEA could provide a more direct recommendation about the needs of data management/sharing across the marine planning community?
		<i>The sentiment of the consultees' comments is supported.</i>
c	RSPB	Support this recommendation and urge data deposition requirements to be included within OWF consents. There needs to be a long-term resolution of how this database is used and managed (currently there is a backlog of data and the database is not used effectively). Updating the database could be carried out alongside a strategic level Cumulative Impact Assessment (CIA).
		<i>It is a TCE lease requirement to submit environmental data for public release.</i>
d	RSPB	Data collected for OWFs and marine SPA designation should be integrated to i) progress the designation of marine SPAs and ii) to provide baseline information to determine suitability of proposed development zones for Round 3 offshore wind.
		<i>Agree that such data should be widely utilised. The data sharing promoted in this recommendation, if implemented effectively, should help to facilitate this. It is noted that data requirements differ between intended uses; data collected for OWF planning and marine SPA designations, while likely to be mutually beneficial in terms of increasing understanding of the marine environment, may not be directly compatible. Communication between data collectors/users is encouraged.</i>
e	BWEA, FOR	Agree and note that TCE lease requires environmental data to be submitted for public release. At present the data is being made available through COWRIE, and TCE has indicated that in the future information will be made available through its MaRS initiative.
		<i>Noted.</i>
f	Centrica	Support this recommendation, but note that data collected by developers during the development of OWFs can be commercially sensitive and of high monetary value to the developers that collected it. Would welcome developer involvement in agreeing how the data is used and what confidential measures are placed on the data before it is provided.
		<i>Noted.</i>

Recommendation 22

"It is recommended that in certain key areas of marine mammal sensitivity, operational criteria are established to limit the cumulative pulse noise "dose" (resulting from seismic survey and offshore pile-driving) to which these areas are subjected. This could be implemented within the existing regulatory framework for activity consenting, but will require a mechanism to facilitate the exchange of information, for example through a web-based forum hosted by DECC, JNCC or the MMO when established, with suitable links to all parts of the UK."

a	JNCC	Welcome the consideration of approaches to address the potential for cumulative effects of noise on marine mammals. However, the proposal to establish operational criteria in key sensitive areas needs careful consideration and might only be useful in certain situations. Clarity would be welcomed on how this would add value and could be achieved through the current regulatory framework, as proposed.
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		<i>Noted, these are issues to be explored in discussion in the future.</i>
b	JNCC	Support, in principle, the development of a web-based forum for exchanging information on noise production and recording wildlife licences, but note that JNCC would not have the resources to do this. Developing such a web-based forum might not be a priority at present; the primary focus should be on working with industry through scenarios of construction and undertake an assessment of potential cumulative effects based on these.
		<i>Noted.</i>
c	BWEA, DONG, FOR, SPR	See responses to recommendation 7.
		<i>Noted.</i>
d	BWEA, FOR	Restrictions on wind farm construction must be considered in the full view of the safety, practical and cost effects they have on the wind farm, and therefore overall project viability. For example, weather windows for installation work offshore dictate short periods of time that are safe to work within. Further restricting installation times will ultimately delay delivery of renewable energy in the UK.
		<i>It is recognised that the successful attainment of the various UK policy objectives will require the various interests to be considered and balanced.</i>
e	Centrica	Support this recommendation, and suggest that the expertise lies within JNCC to facilitate the web-based forum. However, JNCC will need additional funding to carry this out and Government should recognise this.
		<i>Noted.</i>
f	SoS	With some qualification, endorse this recommendation.
		<i>Noted.</i>
g	Forewind	Would like DECC to be more specific regarding this recommendation. For example, if several zones coincide within a “key area”, and were all being developed concurrently by separate developers (who could potentially be working to similar construction timetables and thus have a high likelihood of piling during similar periods), how would the “noise dose” be allocated amongst developers/activities? Would there be a first-come-first-served principle to ensure that noise limits are (<i>not</i>) exceeded? Onerous conflicts could arise. Further work on alternative mitigation solutions to alleviate the potential subsea noise impact to fish and marine mammals would be welcomed.
		<i>Noted, these are issues to be explored in discussion in the future. The measure proposed is one of several options for mitigating the potential impacts of noise on marine life. Section 5.3.4 (ER, p.83) describes potential engineering solutions to reducing the impacts of underwater noise from piling as investigated by Nehls et al. (2007). Recommendation 20 encourages consenting to take consideration of technical innovation, including mitigation measures.</i>
h	Forewind	Discussion surrounding the potential noise impacts from piling activities is currently limited to evidence from monopile foundation installation. However, it is probable that the majority of the planned 25GW of offshore wind will not be installed on monopile foundations: <ul style="list-style-type: none"> • For jacket, tripod or tripile foundations, the structure will be piled to the ground with multiple smaller diameter and shorter piles than would be used for a monopile foundation and therefore the maximum source noise and piling duration would be less than considered in the ER. Numbers of piles could be increased with a subsequent impact on mitigation methods. • For Gravity Base Structures, piling operations would not be required at all, and hence it is unlikely that subsea noise impacts would be considered as a material consideration.
		<i>Noted, the assessment did consider a potential worst case scenario for</i>

		<i>piling noise.</i>
i	BWEA, FOR	It should be noted that there is still considerable debate amongst specialists as to the significance of noise on marine mammals.
		<i>This is noted in the SEA and stated explicitly in Recommendation 7. DECC continue to maintain an awareness of research into this field and its implications for the consenting of noisy activities.</i>
j	DONG	Recommend that clear guidance and direction is forthcoming from the departments and bodies involved on the definition of what will be considered harmful doses of noise.
		<i>Noted.</i>

Recommendation 23

“To assist developers and the achievement of conservation objectives, DECC and others in Government should encourage the adoption of consistent guidance across the UK on the implementation Habitats Directive requirements, for example disturbance of European Protected Species (Annex IV species).”

a	JNCC	Regarding the Habitats Directive, agree that the adoption of consistent guidance should prove helpful. In that context it will be important to note the technical differences in devolved Scottish statute. Guidance to industry on if/how these technical differences will affect their management of environmental issues would be helpful.
		<i>Agreed.</i>
b	RSPB	JNCC have written guidance clarifying a uniform approach for projects.
		<i>Noted.</i>
c	BWEA, FOR, SoS	Agree with this recommendation and suggest that it should be progressed with urgency. UK guidance should be in line with European Commission guidance work which is currently underway.
		<i>Noted.</i>

2.2.8 Monitoring

a	JNCC	Not all the monitoring recommended in relation to previous SEAs and windfarm leasing rounds has been carried out. The monitoring review of FEPA conditions for offshore wind developments currently being carried out by CEFAS should provide a useful update.
		<i>Noted.</i>
b	JNCC	In line with government initiatives to streamline the consents regime, the monitoring of construction impacts of built windfarms needs to be coordinated and focused to address important areas of uncertainty. This needs to be more explicitly addressed as either a recommendation or in the monitoring section, under effects. Effects monitoring could more explicitly seek to address the risk of unforeseen environmental outcomes.
		<i>Noted.</i>
c	NIEA	The proposed monitoring of implementing the plan is unclear (Section 6.2). The section about Effects Monitoring does not detail what is being monitored. In addition Section 3.5 includes information about SEA objectives and indicators but the source of information for these indicators is unclear. It would be worthwhile knowing if there is any monitoring envisaged which relates directly to the proposed mitigation measures.
		<i>Noted. The routes by which monitoring is currently undertaken are summarised in Section 6.2, site-specific monitoring requirements will be defined through the consenting process. Information on the indicators will come from a wide variety of sources, including government, industry and other.</i>

d	RSPB, ESFJC	Disagree with the ER findings that existing monitoring arrangements are sufficient to understand the evolution of baseline conditions in respect of biodiversity effects across the SEA area - most FEPA monitoring requirements are compliance monitoring and not necessarily helpful in advancing our knowledge of effects/impacts on birds. The inadequacies of monitoring arrangements should be addressed through incorporating detailed monitoring and reporting requirements into leases and licenses.
		<i>Noted.</i>
e	EDPR-SER	The setting up of Control Areas and early baseline data acquisition for impact studies should be undertaken at a national level and results be widely disseminated.
		<i>Noted.</i>
f	BWEA	Express concern over the conclusion in Section 6.2 'Effects Monitoring' that existing monitoring activity as part of the DECC SEA process is considered to be adequate. It is recommended that the programme of monitoring and analysis from Round 2 should be continued by Government to further inform future development.
		<i>Noted.</i>
g	WT	It is not clear what monitoring and controls will be essential to assessing the potential effects of storing hydrocarbon gases. Clarification of the safeguards in place would be welcomed.
		<i>The gas storage element of the draft plan/programme relates to depleted and other offshore oil and/or gas fields, and the controls and monitoring will be consistent with those currently applied to hydrocarbon activities.</i>

2.2.9 Other

a	Forewind	In Section 2.7 of the report, there is a discussion of experience and understanding of the effects of the wakes from wind turbines. However, the conclusion is that this may lead to greater separation. The SEA should also note that there is also the possibility that it may lead to reduced separation.
		<i>Noted.</i>
b	SWRDA & RSW	There are also significant potential synergies with wave and tidal energy, which would not be realised if offshore wind development is prematurely constrained. The wave and tidal sector has the potential to bring substantial benefits to our region and the UK in the longer term, but is currently in its infancy and is thus particularly sensitive to such risks and precedents.
		<i>Future plans for large scale wave and tidal energy development would also be subject to SEA, and a screening exercise has been announced (see http://www.decc.gov.uk/en/content/cms/news/pn052/pn052.aspx). Such technologies would be assessed on their own merits and some of the constraints to wind farm siting may not apply.</i>

3 FINAL RECOMMENDATIONS

The final recommendations of the Offshore Energy SEA are listed below under the five categories of: spatial considerations, managing environmental risk, improving the information base, best practice/mitigation and clarification of statutory process. Some of these recommendations have been revised where appropriate in light of consultation feedback, and appear in a different order to those in the Environmental Report. The majority of recommendations apply to all elements of the draft plan/programme, but numbers 1, 2, 4, 6, 8 and 18 relate to offshore wind farms, and numbers 7, 21, 22 and 23 apply just to the hydrocarbon industry.

Spatial considerations

1. The draft plan/programme for an additional 25GW of offshore wind farm (OWF) generation capacity will require wind farm development on a massive scale (cf. the spatial footprint of existing and potential offshore hydrocarbon installations). Formal marine spatial planning proposals are under consideration in Parliament, which would give coastal regulators and communities further opportunities to have a say in the way the marine environment is managed, in addition to the existing routes for consultation as part of the development consent process. In advance of such a system being in place for the UK, the leasing and consenting of OWFs must ensure the minimisation of disruption, economic loss and safety risks to other users of the sea and the UK as a whole. In particular, developments should not:
 - a) result in a significant deterioration in biodiversity status and the quality of habitats and landscape
 - b) impinge on major commercial navigation routes, significantly increase collision risk or cause appreciably longer transit times
 - c) occupy recognised important fishing grounds in coastal or offshore areas (where this would prevent or significantly impede sustainable fisheries)
 - d) interfere with civilian aviation operation necessary to ensure aviation safety, efficiency and capacity, including radar systems, unless the impacts from offshore wind farms can be mitigated, deemed acceptable, are temporary or can be reversed
 - e) jeopardise national security for example through interference with radar systems or unacceptable impact on training areas unless the impacts from offshore wind farms can be appropriately mitigated or are deemed acceptable
 - f) result in significant detriment to tourism, recreation and quality of life
2. Reflecting the relative sensitivity of multiple receptors in coastal waters, it is recommended that the bulk of this new generation capacity should be sited away from the coast, generally outside 12 nautical miles (some 22km). This recommendation is not intended to exclude OWF from this area, since there may be scope for further offshore wind development within this area. It is proposed as mitigation for the potential environmental effects of development of the scale and technological uncertainty which may result from this draft plan/programme. The environmental sensitivity of coastal areas is not uniform, and in certain cases new offshore wind farm projects may be acceptable closer to the coast. Conversely, siting beyond 12nm may be justified for some areas/developments. Detailed site-specific information gathering and stakeholder consultation is required before the acceptability of specific major Round 3 or subsequent wind farm projects close to the coast can be assessed.
3. In areas of prospective interest to multiple energy technologies (including renewable energies, petroleum production, gas storage and in future storage of carbon dioxide)

DECC and TCE should seek to coordinate licensing and leasing decisions, taking account of the potential for some uses to coexist, so as to minimise potential conflicts of use.

4. Efforts are (or will be) underway to identify offshore Marine Conservation Zones/Marine Protected Areas e.g. under the Marine Strategy Framework Directive, OSPAR and the Marine and Coastal Access Bill (and the Marine Bills of Scotland and Northern Ireland). Where offshore wind developments are proposed and do not conflict with the conservation objectives of MCZs, preference should be given to locating wind farms in such areas to mitigate potential spatial conflict with other users.
5. Similarly, as part of the Natura 2000 initiative, further offshore SACs and extensions to SPAs are being identified. Such sites are not intended or treated as strict no-go areas for other activities. However, a number have been mooted in areas with significant potential for offshore wind farm development. Wind farm and other developers should be aware that SAC/SPA designation may, subject to the conclusions of any appropriate assessment, preclude development or necessitate suitable mitigation measures so as to avoid adverse effects on a designated site or species.
6. The potential for capacity extensions to existing wind farm leases requires careful site-specific evaluation since significant new information on sensitivities and uses of these areas is now available (see also recommendation 4 above). It is not anticipated that many Round 1 demonstrator sites would be considered for extension. As a general rule it is recommended that site extensions are to the seaward rather than the landward side.
7. For the area to the west of the Hebrides (covered in SEA 7) it is recommended that blocks west of 14 degrees west should continue to be withheld from oil and gas licensing for the present. This recommendation also applies to the deepest parts of the Southwest Approaches. This is in view of the paucity of information on many potentially vulnerable components of the marine environment, and other considerations. Once further information becomes available, the possible licensing in these areas can be revisited.

Managing environmental risk

8. The offshore wind industry is relatively young, with appreciable technological development expected in for example, turbine size, rotation speed, spacing and potentially rotational axis. A firm base of information is required to inform risk assessments and adaptive management, and consequently in respect of ecological receptors a precautionary approach to OWF siting is recommended. This precautionary approach dictates that unless suitable evidence indicates otherwise, avoidance (for the present) of areas known to be of key importance to waterbird and marine mammal populations, including breeding colonies, foraging areas and other areas essential to the survival of populations.
9. For areas (zones and blocks) which contain good examples of habitats/species on the Habitats Directive Annexes, developers should be made aware that a precautionary approach will be taken and some areas with relevant interests may either not be leased/licensed until adequate information is available, or be subject to strict controls on potential activities in the field. Similarly, developers should note that the relevant competent authority will conduct Appropriate Assessments/screenings to consider the potential of proposed leasing/licensing and subsequent activities to affect site integrity.
10. The effects of noise on marine mammals particularly from piling and seismic survey remain an issue of debate. A range of mitigation measures are available and their

adoption is normally required through consenting. However, there is a need for cross-industry coordination of what noisy activities are planned, where and when, to facilitate the assessment of cumulative effects and implementation of temporal/spatial mitigation actions. The approach would require a mechanism to facilitate the exchange of information, for example through a web-based forum hosted by DECC, JNCC or the future MMO.

11. It is recommended that in certain key areas of marine mammal sensitivity, operational criteria are established to limit the cumulative pulse noise “dose” (resulting from seismic survey and offshore pile-driving) to which these areas are subjected. This could be implemented within the existing regulatory framework for activity consenting, but will require a mechanism to facilitate information exchange, as proposed in recommendation 10, with suitable links to all parts of the UK and to adjacent states.

Improving the information base

12. Although there has recently been significant survey effort in coastal waters, the general lack of modern data on waterbirds in offshore areas is noted. Developers need to be aware that access to adequate data on waterbird distribution and abundance is a prerequisite to effective environmental management of activities, for example, in timing of operations and oil spill contingency planning.
13. The Offshore Vulnerability Index (OVI) to surface pollutants developed by the JNCC should be reviewed in the light of results from recent aerial and boat based bird survey data, and updated if necessary. Consideration should also be given to whether the development of UK-specific individual waterbird species sensitivity indices and mapping of a Wind Farm Sensitivity Index (WSI) in UK waters would be useful in support of site selection and consenting.
14. The existing initiatives to develop waterbird Population Viability Analysis for sensitive species should be progressed, including, if necessary, research to improve the accuracy of inputs to the models.
15. The information collected by offshore renewables and oil industry site surveys and studies is valuable in increasing the understanding of UK waters. The initiatives such as the UKDEAL, COWRIE and UKBenthos databases to ensure that such information is archived for potential future use should be continued and actively promoted during the consenting processes. Similarly, there should be encouragement for the analysis of this information to a credible standard and its wider dissemination.
16. There remain a number of subject areas for which the information base is limited and will need to be enhanced to support future marine spatial planning as well as project-specific consenting. These information gaps include aspects of the natural world and human uses, with regional context and long-term trend data notably lacking. These gaps include:
 - Seabed topography and texture. For some areas there is excellent data for example from multibeam mapping undertaken variously including by the MCA, BGS and the SEA programme, but the UK lacks a coordinated programme to marshal such data, to identify priority gaps and to find ways to fill them
 - Recent information on the distribution of fish eggs and larvae, and variability in space and time
 - Detail of bird migration patterns, and variability in space and time including flight heights in different weather conditions

- An understanding of the marine areas routinely used by breeding birds for foraging, in particular those adjacent to SPAs
- Ecology of most marine mammal species and in particular important areas for breeding, foraging and resting
- Finer scale distribution of fishing effort, gears and catches for smaller vessels (<15m)
- Precision on the offshore distribution of navigation (AIS data coverage typically only extends 50km from shore)
- Effects on fishing activity in and immediately adjacent to constructed wind farms
- The ecological significance of field responses of fish to electromagnetic fields associated with cables

Best practice/mitigation

17. To minimise habitat change and to ensure areas developed as a result of the current draft plan/programme are left fit for previous or other uses after decommissioning, the volumes of rock used in cable armouring, foundation scour protection and pipeline protection must be minimised and there should be active promotion of alternative protection methods through the consenting process.
18. Siting and consenting processes for offshore wind farms must remain flexible to allow for technological innovation, including in mitigation measures.
19. To assist developers and the achievement of conservation objectives, DECC and others in Government should encourage the adoption of consistent guidance across the UK on the implementation Habitats Directive requirements, for example disturbance of European Protected Species (Annex IV species).
20. In areas of cold water coral reefs and other vulnerable habitats and species, physically damaging activities such as rig anchoring and discharges of drilling wastes (from hydrocarbon or renewable energy related activities) should, prior to decisions on activity consenting, be subject to detailed assessment so that appropriate mitigation can be identified and agreed for example no anchoring and zero discharge. See also recommendation 9.
21. The Department has a central role in UK energy and climate change response policies; in recognition of the national and international focus on climate change and curbing fossil fuel emissions, DECC should seek and give consideration at both the oil and gas licensing and project consenting stages to CO₂ emission reduction proposals e.g. capture and storage (rather than venting) of CO₂ from gas treatment offshore.
22. Potential applicants for licences in the 26th and subsequent oil and gas licensing rounds should be reminded that the expectation for facilities design will be for zero discharge of oil in produced water.

Clarification of statutory process

23. Offshore gas storage projects need an EIA under the requirements of the EIA Directive. However, it is unclear at present under which UK regulations EIA for such projects would be undertaken, and early resolution is desirable in light of the drivers for increased UK gas storage capacity.

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APPENDIX 1 REVISED KEY AREAS OF MARINE MAMMAL SENSITIVITY

The following list provides key areas of marine mammal sensitivity, based on those presented in Section 5.3.6 of the ER (p.97) and revised following feedback received during consultation. It is emphasised that this list of areas and species should not be viewed as an exhaustive description of marine mammal occurrence in UK waters; these animals are widespread in UK waters and their distribution and abundance shows considerable spatial and temporal variability. However, an extensive distillation of current information (see Appendix 3a.7 of the ER) suggests these areas to be the most important and spatially distinct in terms of their ecological importance to the species concerned.

In view of the probable increase in pulse noise generation associated with the proposed combination of oil and gas licensing and offshore wind leasing, and concerns over cumulative effects (as yet not clearly understood), it is recommended that within the key areas of marine mammal sensitivity identified below, operational criteria are established to limit the cumulative pulse noise “dose” (resulting from seismic survey and offshore pile-driving) to which these areas are subjected. Further information on the application of such criteria is provided in ER Section 5.3.6 (p.97) and recommendation 10 in Section 3 of this post consultation report.

- Fair Isle – Sumburgh Head (harbour porpoise, white-beaked dolphin, grey seal, harbour seal)
- North and east of Orkney (grey and harbour seals)
- The Moray Firth (bottlenose dolphin, harbour porpoise, minke whale) and coastal waters south to the North of England (bottlenose dolphin); including Smith Bank (grey and harbour seals), inner Firths (harbour seal), St Andrews Bay and outer Forth (grey seals)
- Areas adjacent to the Farne Islands and Donna Nook (grey seal)
- The Wash, outer Wash and off the Humber (harbour seal)
- Offshore areas of the southern North Sea (harbour porpoise)
- Western English Channel (common dolphin, minke whale)
- Coastal areas around Cornwall (bottlenose dolphin)
- Celtic Sea (common dolphin, minke whale)
- Coastal areas from Cardigan Bay to Liverpool Bay, including the Lley Peninsula (bottlenose dolphin, harbour porpoise, Risso’s dolphin, grey seal)
- Coastal areas around Pembrokeshire (harbour porpoise, Risso’s dolphin, common dolphin, minke whale, grey seal)
- Carmarthen Bay (harbour porpoise, grey seal)
- Hebridean Sea – Kintyre to Skye (harbour porpoise, bottlenose dolphin, grey seal, harbour seal)
- Continental shelf edge – Barra Fan to Miller Slide (various cetaceans, hooded seal)
- Stanton Banks (grey seal)
- North Minch and Cape Wrath to North Rona (harbour porpoise, white-beaked dolphin, Risso’s dolphin, minke whale, grey seal)
- Hebridean shelf – notably around Monachs and Flannans (grey seal)
- Deep waters to the west of the UK (various cetaceans including migrating humpback and blue whales)

