



SCOTTISH
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**THE SCOTTISH ASSOCIATION FOR MARINE SCIENCE
CONSULTATION RESPONSE TO THE SCOTTISH GOVERNMENT ON:**

PLANNING SCOTLAND'S SEAS: DRAFT NATIONAL MARINE PLAN

13TH NOVEMBER 2013

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Q1. Does the NMP appropriately guide management of Scotland's marine resources?

The document represents a welcome attempt to draw together national objectives for the marine environment, with the recognition that to maximise the benefits for society from the marine area, there needs to be a cross-sectoral approach driven by sustainable development goals. Further work is needed, however, if it is to bring about improvement in the management of the Scottish marine environment to meet the needs of Scotland, as it currently underrepresents the bold ambition needed to move away from sector-specific planning approaches. The challenges involved in understanding socio-ecological systems to support integrated ecosystem-based management should be explicitly recognised to establish credibility, to reflect current best practice and engender the proactive attitudes needed to realise this approach. Scottish Government has an opportunity to fulfil its' duty by demonstrating an ambitious and positive approach to marine planning, which could be exemplary at a European and global level and the Scottish Association of Marine Science (SAMS) are pleased to contribute to this consultation and support this endeavour.

It is essential that the NMP provides greater clarity on the ambitions of the plan and the vision for the improved management of future activity in the seas. Rather than simply stating the HLMOs and sector-specific ambitions, confidence in the document can only be realistically attained by presenting the difficult statement that due to the potential impacts from sectors (whether arising from direct resource depletion or indirect environmental effects), 'trade-offs' between sectors will need to be managed through articulation of priorities in some areas. Co-locational opportunities between sectors could also be identified. Although addressed in the Marine Atlas, a summary

of the state of Scotland's marine environment in the NMP would be helpful to underline the importance of marine planning to manage activities in the marine environment and avoid further environmental deterioration. The status of the current 'baseline' is important in setting objectives for marine management, and reference to the damage already apparent in Scottish seas is essential. At the national level, it is informative to consider the state of Scotland's marine environment within a global context, such as presented in a study by Halpern *et al.*, (2008)¹ which evaluated areas around Scotland as of 'Very High Impact' in a global context (see Fig. 1).

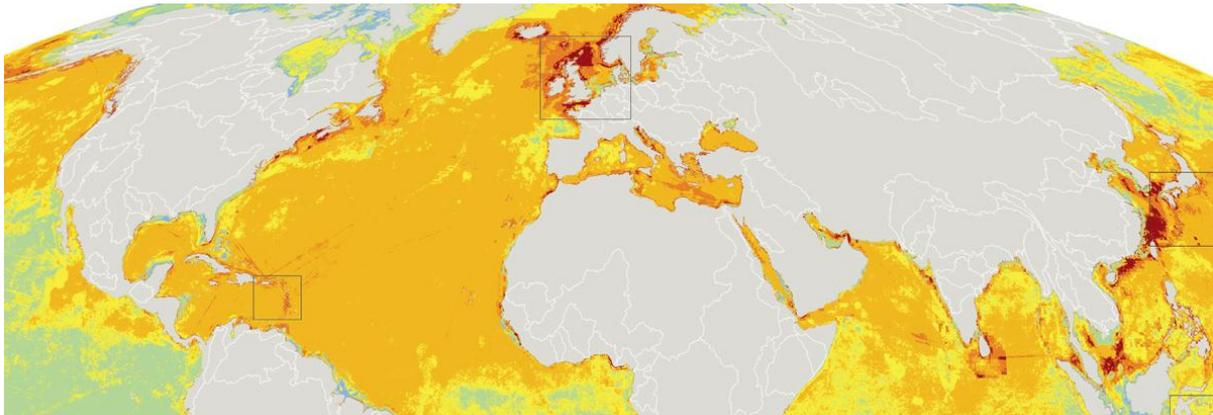


Figure 1. An extract from 'A Global Map of Human Impact on Marine Ecosystems' (Halpern, *et al.*, 2008).

This strong message on the condition of the environment is needed to clarify the need for planning, appropriately referring to the constraints as well as opportunities for sectors, to ensure the long term supply of the ecosystem services which underpin many aspects of Scottish society. This may better encourage stakeholders to develop attitudes amenable to sustainable development.

Other core themes which are woven throughout the NMP and would benefit from further work are:

Definition of sustainable development - This is articulated well on p.15; however this definition is not integrated throughout the document. Establishing the planning and policy mechanisms to meaningfully address 'sustainable development' is challenging, however, it is essential that more is done at the NMP level to ensure sustainable development principles are enshrined within management practices. Reference to overarching strategies (e.g. the EU Sustainable Development Strategy and associated reports²) would be appropriate.

Many objectives and policies relating to sustainable development are well-articulated in the NMP, however the achievement of these goals can only be realised if there is

¹ <http://www.nceas.ucsb.edu/globalmarine> A Global Map of Human Impact on Marine Ecosystems

² <http://ec.europa.eu/environment/eussd/>

clarification of how each policy will be addressed and how performance will be measured. It may be necessary to develop sustainable development indicators³, addressing the ultimate goals and interim targets. At a sector level, it would be helpful to provide examples of the holistic assessment needed to understand the net benefit for Scotland of particular activities, perhaps representing in a simple diagram the social / economic / environmental aspects, with examples of factors to be considered in assessing activities in a sustainable development context. This holistic representation would support stakeholders in understanding this conceptually challenging issue; Marine Scotland could draw on examples of effects spanning varying temporal and spatial scales, often the most difficult aspect of considering the true 'sustainability' of an activity. This should include reference to 'Life Cycle Analysis' (LCA) and methods of ensuring that small and large temporal and spatial scales are considered (such as considering the short term impacts of renewable energy development vs. benefits for climate change, or the import of wild fish from internationally utilised finite stocks to support aquaculture).

Re-consideration of the presentation of policies for each sector is suggested. Currently the 'key policy' symbols are unhelpful as they attempt to divide often well-articulated sustainable development objectives into distinct policy categories (related to economics, society, environment, etc.). This undermines the appreciation of sustainable development as a holistically beneficial concept, perpetuating the notion that there is direct *conflict* between all 3 pillars. Although short-term trade-offs between each may be apparent, the long-term persistence of sectors and the resilience of the socio-ecological system relies on each aspect being fully considered. We would recommend replacing the key policy categorisation with a more developed understanding of 'sustainability' in the context of Scotland's marine activities, identifying the long-term benefits for all interests and developing a 'performance measure' approach for assessing progress towards sector objectives. Performance should be more directly linked to the HLMOs and GES objectives – these are very well expressed objectives which present a more useful framework for measuring performance than the less specific 'GEN' objectives. Efforts to develop a performance assessment approach in relation to these goals would be beneficial (e.g. a matrix of sectors / impacts / HLMO and GES objectives). As it stands, the public and stakeholders have no means of benchmarking the performance of the above objectives over time. Currently the objectives fail the 'SMART' test for policy objectives (Specific, Measurable, Achievable, Realistic, Timebound). We would also like to see where the lessons of setting socio-economic objectives, as highlighted in the 2010 'Report on Marine, Social and Economic Objectives'⁴ has been applied, particularly in relation to the best practice framework and adapted HLMOs.

³ Compare with the 'Sustainability Evaluation and Measures' tools being developed by the Crown Estate through their MaRS tool used for sectoral planning, also used by Marine Scotland.

⁴ <http://www.scotland.gov.uk/Publications/2010/03/30180908/0>

Ecosystem-based approach (EBM) - Similarly for EBM, the need for it is amply demonstrated (e.g. p.15, HLMO 18), but the steps taken to ensure its' implementation through marine planning are not well defined. Taking the NMP further in identifying steps in how these principles will materialise at the NMP level is key to it becoming a realistic management practice. This should include the plan for monitoring and adapting approaches as new information is gained, through defined research activities. The varying socio-ecological considerations of EBM will often be more appropriately addressed at a regional level (e.g. the Clyde), however, actions need to be set out nationally to facilitate this process. Will there be an 'EBM Advisory Team' who will work with the RMP authorities to establish management approaches and co-ordinate national research in this area? It should be recognised nationally that certain issues are relevant at scales wider than RMP (e.g. where sector activities / impacts cross marine plan boundaries) and provision needs to be put in place for these.

Although in early stages of development, it is also relevant to refer to potential tools to support EBM, as the use of these would be essential in simulating potential scenarios and supporting policy and planning decision making. Reference to the development of ecosystem-based modelling considered relevant in Scotland should be referenced and discussed (e.g. Ecopath⁵, WGSAM⁶, FishSUMS⁷, etc.), to demonstrate that this aspect of understanding marine management should be fully integrated into marine planning. This would be addressed in more detail at a regional level but common standards and policy at the national level is essential.

Adaptive management process - Recognising the challenges and uncertainties of many aspects of marine management, adaptive management is fundamental in the implementation and development of marine planning approaches. This is referred to on p.19, but is presented rather too simply; it considers adaptive management to be necessary "*in the absence of such information* [regarding ecosystem definition, 'tipping points', etc.]," and that management would be adapted "*responding to information collected from environmental monitoring. This should enable plans to be modified in instances where unexpected and undesirable ecosystem effects are detected which impinge on plan objectives...*").

While this is true to some extent, it could be more realistically representative. It is already clear that there is a significant lack of evidence and uncertainty around many aspects of marine management. This includes impacts of specific sectors, the ecological implications of activities and management interventions (particularly considering ecosystem effects and the changing 'baseline' conditions due to climate change). An adaptive approach is therefore essential and more emphasis should be

⁵ <http://www.ecopath.org/>

⁶ <http://www.ices.dk/community/groups/Pages/WGSAM.aspx>

⁷ <http://www.strath.ac.uk/fisheries/products/fishsums/>

given to defining this process, including how it relates to other monitoring and review cycles (e.g. MSFD, SEA, etc.) and how it will be led at a national level. The KnowSeas project led by SAMS has produced a capacity building website www.msfd.eu to support adaptive management and interpretation of the MSFD which would be helpful in this regard.

Secondly, there is assumption in the statement on p.19 that plans will be adapted based on the identification of negative impacts. Again, while true, this doesn't adequately represent the proactive research and information gathering which should be set out as part of this process to build understanding about potential sector impacts / interactions (positive, negative or negligible), the developing articulation of ecosystem valuation, and other activities which are essential to support marine planning.

More is needed to define the process of adaptive management, indicating the timescales of monitoring and adaptation, and how information will be gathered, whether from nationally co-ordinated scientific research, the results of the requisite monitoring of the effectiveness of Plans through Strategic Environmental Assessment (SEA), the experiences of other marine planning processes internationally and across the UK, how 'plan effectiveness' will be determined, etc. The programme of monitoring and adapting could most efficiently be linked to the MSFD reporting cycle (every 6 years), maximising the use of resources in ensuring achievement of these key objectives, many of which will overlap.

If time horizons for achieving adaptive management goals are not formalised, there is a danger that management will veer around under stakeholder pressure. The process should be to plan clear steps (with measureable milestones) towards a well-defined long-term goal and should review progress at predefined intervals, gathering new information on the way. At the end of the interval, progress can be monitored and the new information used to test the effectiveness of the management process and the validity of the longer-term goal. By doing this in harmony with the MSFD and the WFD, economies can be made on data gathering and analysis.

Regarding the management of the adaptive management process, will there be a specific group of experts defined for assessing the performance of the national and regional marine plans? Could Marine Scotland begin to define, at the NMP level, the key 'performance indicators' articulated around national objectives? A distillation of the key objectives, articulated in terms specifically relevant to the HLMOs and GES objectives relevant to Scotland, would greatly help development of the iterative planning process.

More emphasis should be placed on 'Scenario Mapping' for assisting in defining adaptive management approaches as a useful tool for simulating changes and effects. This recognises that this policy document sets the framework of an evolving

process, but enables discussion around possible interdependencies of key parameters, whether sectoral, environmental, economic, political, etc., also facilitating stakeholder engagement.

Trans-national co-operation and consistency – To fully support the development of co-operation and to fulfil international requirements, it is appropriate to give more guidance than simply stating that “*Marine planning will interact with other planning and consenting regimes...*” (p.8) or that steps will be taken to “*encourage compatibility with other plans,*” (p.11). The RMPs and development of individual sectors will inevitably focus within their boundaries and if the policy on co-operation is weak within the NMP, there is a risk that this will not be sufficiently considered.

To achieve the overall purpose of marine planning at a national level (and wider), it is appropriate to take a broad view and provide stronger policy for proactively interacting with states with marine areas bordering Scotland. This would be beneficial in ensuring that data sharing is possible, best practice is shared, and that EU level objectives may be reached in a resource efficient manner. There is a risk that the opportunity to do this will be lost if the statements to this regard at a national policy level are too simplistic and insufficiently directive. The NMP could refer to EU level requirements and current developments regarding Maritime Spatial Planning such as the proposed legislation to create a common framework for maritime spatial planning and integrated coastal management⁸. MSFD targets must be set at a regional level in cooperation with other nations and would benefit from specific national policy on co-operation.

Overall, the NMP could be more ambitious in its’ presentational style, to better reflect the ambition, challenges and complexities of marine planning. The NMP achieves its aim of bringing together national policies, but these are generally vague and reflect little of the reality of the challenges in developing an effective marine planning system and the evolution needed from the current ways of thinking. The points raised above are complex but critical in presenting a document that acknowledges the true purpose and meaning of marine planning, and the tools needed to ensure that the benefits for all are achieved.

Q2. Does the NMP appropriately set out the requirement for integration between marine planning and land use planning systems?

The requirement is set out but there could be greater support in directing how this is to be ensured. A significant amount of progress was made both through Integrated Coastal Zone Management (ICZM) and River Basin Management Plans (RBMPs),

⁸ While each EU country will be free to plan its own maritime activities, local, regional and national planning in shared seas would be made more compatible through a set of **minimum common requirements**. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0133:FIN:EN:PDF>

which it is recommended that the marine plans ‘*have regard to*’, however this could be more helpful through identifying the similarities between these initiatives and marine planning objectives. Engagement strategies, consideration of multiple sectors and ecological characteristics and effects are among the many themes in which it would be cost-effective to take advantage of the progress made under these earlier initiatives. Perhaps a box presenting each initiative, their main characteristics and learning points would be helpful for providing direction to regional plan development and support stakeholder interaction.

To support marine planning, it is necessary to fully consider the coupled land-marine socio-ecological system, where marine impacts arising from terrestrial sources will need to be considered in conjunction with activities based at sea, to fully understand the pressures on the system and management measures needed. More direction based on ICZM approaches would be useful in this regard.

Q3. Does the NMP appropriately guide development of regional marine planning? What, if any, further guidance is required for regional marine planners in terms of implementation and how to interpret the NMP?

The answer to Q.1 is applicable here. As the wider tool for ensuring achievement of national targets and objectives, the NMP should be more directive in supporting the development of RMPs that are effective and appropriate, including highlighting all aspects which are either relevant at larger spatial scales than regional plan areas, or require consistency to support national management objectives (e.g. some ecosystem characteristics). Regional plans will focus on specific characteristics relevant at a local scale, but to be effective this needs to be set against strong articulation of objectives at a national level to ensure convergence in methods and approaches where necessary. The NMP could perhaps include a list of “guiding national principles” to ensure an appropriate level of consistency, including, among others, in the following aspects:

Approaches to impact assessment and monitoring - to enable understanding of cumulative impacts at a ‘wider-than-regional’ scale area. Many conservation protection objectives are reported on a national, and EU level. For example, an overarching conservation objective for the management of protected marine mammal species is to achieve ‘favourable conservation status’ (FCS), which is assessed at a population level⁹, and development of sectors requires understanding

⁹ FCS, relative to species, is defined in Article 1 (i) of the Habitat’s Directive as follows:

“Conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2. The conservation status will be taken as ‘favourable’ when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats;

of impacts on these species across their range to enable planning and project consenting. Similarly, it is necessary to consider effects on bird populations which may range across large areas for foraging or migration, for example. Significant hurdles to the development of individual sectors, particularly renewable energy, are presented by the difficulties in understanding and measuring effects on these mobile species which may range over numerous RMP areas. Understanding the cumulative effects of numerous developments and planning appropriately is difficult and consistency is needed in the approach to managing these so that regulatory approaches and the measures taken by industry to meet their demands can be effective and justified. For the stakeholders which operate internationally, consistency in regulatory approaches is desirable in understanding risks and constraints for project development (e.g. through consenting processes).

Data management and information sharing – Significant resources are expended on the gathering of data and information, much of which represents an inefficient use of time and money. Better provision for the sharing of data and information across plan areas and national / international jurisdictions is required to reduce the costs involved in the development of marine activities. The development of planning tools such as MaRS¹⁰ are influential in pulling together significant amounts of data on which to base planning decisions, and further work to establish national data sets of relevance to planning and regulatory activities is necessary. This is relevant to address at a national level and consideration of mechanisms such as ‘Marine Planning Exchange’¹¹ could be useful.

Emerging development of open source spatial data infrastructure should also be discussed; Marine Scotland should be commended for their embracing of this technology with their online version of the Marine Atlas, and could develop a network of distributed spatial data infrastructure which can perform data ‘harvesting’ (e.g. see Cinnirella *et al.*, 2012)¹² to support marine management.

Legal framework - Additionally, the legal framework of marine planning, and the interaction between the NMP ‘authority’ and the Local Coastal Partnerships is not articulated. It would be helpful for the NMP to identify areas where there would be a requirement for national management and control, to ensure achievement of national objectives, and how these would interact with LCPs e.g. relating to the development of regulation under the Marine Strategy Framework Directive, reporting on the status of environmental features at a national level, etc. Clarity around the on-going role of Marine Scotland in supporting the development of RMPs, e.g. in an authoritative and

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- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
 - There is and will probably continue to be, a sufficiently large habitat to maintain its population on a long-term basis.”

¹⁰ <http://www.marssmapping.co.uk/Login.aspx?ReturnUrl=%2fdefault.aspx>

¹¹ <http://planningexchangefoundation.org.uk/reports/MPX%20Final%20Report%20AMS2.4.12.pdf>

¹² <http://ijsdir.jrc.ec.europa.eu/index.php/ijsdir/article/viewFile/273/312>

advisory capacity (and trans-national representation?) would be helpful. In short, clear guidance on the approach and structure to RMPs should be expressed in the national plan document.

Q4. The Marine Regional Boundaries Consultation proposed that in addition to regional marine planning, further integrated management of key marine areas would be achieved by designating the Pentland Firth; the Minches and the mouth of the Clyde as Strategic Sea Areas. Should the NMP set out specific marine planning policies for Strategic Sea Areas?

If Strategic Sea Areas are to be designated, it is appropriate for the NMP to set out specific marine planning policies to ensure coherence and effectiveness at a national level, otherwise it risks becoming a redundant process. The NMP needs to emphasise the overarching process which will govern the SSAs and the RMPs, and how these will interact. This should include data storage, sharing and management, along with consistency in approaches to monitoring and decision making.

Where it can be identified that there is a policy issue of strategic concern, it is relevant for this to be set out at a national level. For example, where there may be a cumulative risk to seabirds which range across a cluster of marine energy projects in an area (e.g. the Moray Firth) then a policy at a higher level setting the context for finer scale management would be helpful in establishing consistency and rationalising effort / cost in consenting and monitoring.

However, there could be a perception that the need for Strategic Sea Areas suggests that management enabled through RMP may be insufficient to achieve wider objectives and consideration should therefore also be given as to whether RMP should be adjusted to fit the appropriate scale (the SSAs), rather than adding a further level of management.

Q5. Are the objectives and policies in the NMP appropriate to ensure they further the achievement of sustainable development, including protection and, where appropriate, enhancement of the health of the sea?

Please also see answer to Q.1 on the use of the term 'sustainable development' in the NMP and the presentation of policy objectives. The development of management approaches which adequately address this principle is a global challenge and not wholly specific to the management challenges faced in Scotland. However, recognising that Scotland has great ambitions for managing the marine environment and strong links between society and the sea, there is an opportunity to take a forward-looking approach and openly attempt to tackle this complex issue, including key emphasis on integration of social and ecological issues which are critical for achieving sustainable development.

There should be clear acknowledgement of the relevant definition of sustainable development to be utilised in the marine planning document. It is well-articulated on page 18 and 19, however ‘*sustainable economic growth*’ is also emphasised (foreword). These terms do not necessarily mean the same thing and would be misinterpreted by different parties depending on their drivers. It is stated that “*An emphasis on plan-led, sustainable development will give greater certainty and confidence to firms and investors involved in marine activities as to how proposals will be considered by planning and consenting authorities;*” (p.24), however this will not provide certainty unless there is clarity about what sustainable development means; i.e. sustainable economic *growth* is positive for investment, but there needs to be an assurance that there will be growth only of sectors that can demonstrate that their activities fulfil sustainable development requirements, using a measure that considers long term and short term gains. An investment-favourable situation also requires clarity and transparency around the framework for managing and monitoring progress towards this objective, including how this relates to other environmental objectives (e.g. MSFD and EU Habitat’s Directive).

In general, there is a good articulation of policy objectives (e.g. those for MSFD and HLMOs) however there could be more input on how these should be considered / integrated within a marine planning context. Solely mentioning them and that RMP’s must “*have regard to*” or “*must be able to accommodate the measures [of MSFD]*” isn’t sufficiently directive in proactively ensuring that national and consistent mechanisms are established to facilitate the achievement of these objectives in a cost-effective way. Explicit recognition of the overlapping objectives of MSFD and marine planning (and SEA, etc.) should provide for the development of national actions to ensure that, for example, monitoring activities are planned in a co-ordinated manner, ensuring that resources spent on data collection are rationalised and used efficiently.

Similarly to the comment regarding the policies GEN 2 and 3 (Q.8, below), the use of separate ‘key policy’ symbols for economy, social, marine ecosystem and climate change requires reflection on whether this is suitably representative of what is trying to be achieved through sustainable development principles. Sustainable development should present the collective mechanism which ensures the best action for all of these policy elements, with inherent consideration of economic / environmental / social aspects. Listing them as separate policy objectives raises questions regarding the coherence of these aims. In most cases, the policy objectives are in fact presented in sustainable development terms and may be better considered as such, rather than dissected into separate drivers; as an example, the objective, “*Ensure fish stocks are harvested sustainably leading to exploitation of Scotland’s commercial fish stocks at maximum sustainable yield and with increased long term stability,*” is arguably more coherent with sustainable development aims than the categorisation of “economic” and “marine ecosystem” symbols suggests.

Key	
Economic	
Social	
Marine Ecosystem	
Climate Change	

For the policy ‘key’ (shown above) it would perhaps be better to keep the same titles of the sections of HLMO’s which they address. The HLMOs are an agreed UK approach and were previously adapted to the UK context – it would make more sense to use them as the means of categorising the different sector objectives. Assigning symbols is a good visual tool but oversimplifies and possibly undermines the purpose of objectives which aim at SD; the economic, environmental and social goals/objectives are not necessarily divergent.

Q6. Chapter 3 sets out strategic objectives for the National Marine Plan and Chapters 6–16 set out sector specific marine objectives.

Is this the best approach to setting economic, social and marine ecosystem objectives and objectives relating to the mitigation of and, adaptation to climate change?

Although UK-level objectives have been presented, there has been little effort in developing national (Scottish) level objectives¹³ (other than those related to specific sectors) and the NMP could be more ambitious in this regard. National objectives would consider the specific condition of Scotland’s seas, based on the work undertaken to inform the Marine Atlas, etc., and recognising the specific challenges that exist, including better articulation of the aim of marine planning and how this will be measured. Presently, it seems that objectives are sector-driven, and considered retrospectively to establish their links to wider policies, rather than defined in accordance with them. It would also seem appropriate to discuss the implications for national objectives if Scotland becomes independent.

A driver for national planning includes critical environmental issues which are non-sector specific, and where in some cases there may be limits set (such as possible environmental thresholds) below which there are allowable levels of impact (such as seal mortality managed through a Potential Biological Removal (PBR)¹⁴ approach, impacts of noise on marine mammals, or carrying capacity for aquaculture at loch scale). Where a number of activities act cumulatively (e.g. noise), it is appropriate for multiple industries to be managed such that the threshold is not breached. Marine planning is needed here to support the Government in the difficult task of

¹³ See the 2010 Social and economic objectives report:
<http://www.scotland.gov.uk/Publications/2010/03/30180908/0>

¹⁴ <http://www.scotland.gov.uk/Topics/marine/seamanagement/marineact/Seals>

apportioning the total allowable impact across the sectors (such as offshore wind farms and seismic operations), which, in this sense at least, are therefore competing for 'impact space'. While it may not be appropriate to present a position on sector priorities in certain geographic areas at the NMP stage, it would facilitate the process if these realistic management scenarios beneath limits were mentioned, rather than solely the possible interactions between sectors. Otherwise there is a risk that some stakeholders will focus only on the sector-specific objectives and not recognise the fundamental aims and possible implications of marine planning.

Ecosystem services are mentioned in a general way but this essential concept is not fully explained; this approach needs specific consideration, with reference to key projects which are developing the information needed to support this approach, such as Knowledge-based Sustainable Management for Europe's Seas (KnowSeas¹⁵). Current thinking on the methodologies for defining ecosystem services in the marine environment has been summarised in a recent report commissioned by the JNCC¹⁶, which may be helpful in supporting implementation of the approach at a Scottish level.

Although mentioned strategically, continued reference to adaptive management of the sectors in response to information and experience is necessary to demonstrate how over time it is likely that sector-specific objectives will increasingly be adapted to fit the more holistic management approaches.

See also comment regarding the policy key in response to Q.5.

Q7. Do you have any other comments on Chapters 1–3?

Strategic Environmental Assessment - Some SEA reports are referred to in the document, but the Sustainability Appraisal and SEA process itself is not mentioned. Recognising that a key driver of marine planning is to more holistically manage the competing objectives of sectors at a national level and achieve 'sustainable development', it would be appropriate to clearly state how tools of national and international relevance (which may directly support marine planning, such as SEA) will fit in the marine planning management framework.

There should be increasing emphasis on strategic assessment, as for some impacts of concern, there may be regional thresholds (currently established like seals, or to be developed, like noise levels / bird mortality from SPA populations) which set a limit to the activities that can be consented (e.g. renewables) due to potential risk to certain receptors. Truly strategic approaches are needed and should be facilitated through marine planning, whereby maximum economic benefit for minimum

¹⁵ <http://www.knowseas.com/>

¹⁶ <http://jncc.defra.gov.uk/page-6579#download>

environmental risk (whatever the sector)) can be achieved. SEA is also an important mechanism for data exchange and implementation of post-adoption action plans (including funded research) to reduce uncertainty around the impacts of particular activities.

Precautionary Approach - The mention of uncertainty and the need for precaution is welcomed (p. 27). Again, more could be done to convey how this may need to be managed in practice. 'Preventative measures' (p.27) should refer to mitigation, and it should be noted that in practice, a mechanism for risk-based approach to handling uncertainty and proportionate use of precautionary measures has yet to be articulated to stakeholders and an expression of the need for this to be developed would be realistic and helpful to improve confidence. This could also refer to the extensive and co-ordinated monitoring, research and data collection effort with established feedback mechanisms to reduce uncertainty and unnecessary precaution. It is also relevant to refer to the precautionary principle as a specific policy tool which applies nationally, but is applied by regulators during decision making rather than in the assessment of effects (this is often misunderstood by the stakeholder community).

Co-ordination of scientific research effort – In general, it may be appropriate to explicitly recognise the role of science in the development of marine planning approaches and the actions needed to ensure development of appropriate and applicable science which is informative for policy-making and planning (explored recently in a report by Ian Boyd¹⁷).

At a sector level, there are challenges in establishing the appropriate levels of development that are 'sustainable' primarily as the scientific evidence regarding particular environmental and social impacts are lacking. This will mean that planning sectoral development is difficult as considerable uncertainty will mean that either a) development is driven upward ('presumed growth') with inadequate consideration of environmental risks (which may manifest as costly consenting processes, consent refusals/delays/restrictions and resulting in a less than favourable investment climate or, b) an unnecessarily precautionary approach is taken and development opportunities are missed due to a greater perception of risk (of an impact) than may actually be the case. Continuing focussed, targeted research is needed to improve the knowledge base to enable planning policies to be set in a manner that is more in line with sustainable development objectives and representative of the likely success of the sector at a consenting level. ('Adaptive management' at the scale of an activity provides a mechanism to address this risk by allowing a certain amount of development with incompletely understood risks in order to gather information that will allow a more science-informed approach to wider development of the activity, however this is not yet widely implemented; see Q.24).

¹⁷ <http://elifesciences.org/content/2/e01061>

It is therefore critical that the NMP has a policy of supporting / leading / co-ordinating essential research effort; there are a number of commendable research efforts being developed to address gaps in knowledge (for example regarding offshore renewable energy) but these could benefit from being better co-ordinated. Groups have been established (such as the Offshore Renewable Energy Licensing Group; ORELG¹⁸ and the Offshore Renewable Research Steering Group; ORRSG¹⁹) with valid and essential objectives, however their effectiveness has been limited by a lack of co-ordination, which national policy direction would support. Some specific research actions are mentioned (such as relating to salmonid migration route and impacts of electromagnetic fields on fish (p.69) are very important, but is not balanced by the effort being directed in other areas. Marine planning could very helpfully support the co-ordination of research and how this will be done should be explained within the NMP.

Presentation of environmental impacts - The listing of environmental impacts is inconsistent across the sectors, with differing levels of detail. If these are to be presented in the sector chapters then this should be done comprehensively so that full understanding is presented. Rather than presenting full detail in the sector chapters, it may be best to select 3 “key environmental challenges” which highlight those risks which require consideration at a planning level, particularly where they link closely to MSFD / GES objectives (e.g. piling noise from offshore wind farm construction) and refer to a matrix in an appendix / section of the Marine Atlas of full environmental impacts.

Rationalisation of regulatory processes - There is a missed opportunity here in highlighting where there are environmental protection measures which require the development of management frameworks to continue to regulate the impacts of industry activities, but in a manner that facilitates rather than restricts development. A number of legislative requirements, such as protection of marine mammal populations throughout their range (e.g. European Protected Species listed on Annex II of the Habitats Directive), protection of migratory birds and fish species, management of impacts of noise under MSFD, etc., all of which have a spatial element to them that is not easily accounted for in the current implementation of conservation legislation. This leads to ‘roadblocks’ in the consenting of marine projects (particularly where large uncertainty persists). At the level of national planning, which sits between the European / global requirements and the regional marine plans, there could be specification of legislative requirements, which apply to all industries, and are managed at a large scale, e.g. the Potential Biological Removal (PBR) approach to managing seal mortality at the ‘Seal Management Unit’

¹⁸ <http://www.marinemanagement.org.uk/licensing/groups/orelg.htm>

¹⁹ <http://www.defra.gov.uk/mscc/groups/offshore-renewables-research-steering-group/>

scale²⁰. This can be explored further but would provide additional support in developing a spatial understanding of achieving 'sustainable development' in the context of environmental protection legislation.

Q8. Are the general policies in Chapter 4 appropriate to ensure an approach of sustainable development and use of the marine area?

The general objectives are a major part of the NMP but they should be sufficiently directive to ensure consistency and coherence across planning activities. As identified above, we suggest reconsidering the need for 'general' objectives that are different from HLMOs and GES objectives and developing national (Scottish) objectives which articulate those aspects which need direction at a wider-than-regional plan level. Some are good but many are vague and ambiguous, and much more could be done to improve this section; some examples of possible refinements are given below.

Referring to, "*GEN 2: Sustainable developments and marine activities which provide economic benefit to Scottish communities are encouraged when consistent with the objectives and policies of the Plan,*" and "*GEN 3: Sustainable developments and marine activities which provide social benefits are encouraged when consistent with the objectives and policies of the Plan,*" (p.24 and 25) these objectives are unnecessary and undermine the use of the term 'sustainable development.' Inherent within the principle is that social and economic considerations will be made, and that planning should be based on a balanced and holistic assessment of impacts. It detracts from building a definitive approach to sustainable development to draw distinction between 'sustainable developments' and activities which provide economic or social benefits.

GEN 15 (p.35; Air Quality) – although an important management principle, holistic management requires that developing policies are fully integrated with the management of atmospheric impacts, whether local air quality, or wider atmospheric effects. A sentence here could refer to the need for Life Cycle Analysis (mentioned elsewhere) to demonstrate that air emissions (of the activity and of those in producing material elements, transport, etc.) and consequent atmospheric effects should be considered in an integrated way with Air Quality. Currently atmospheric emissions (e.g. GHGs, etc.) are not effectively managed across any sector, presenting huge challenges in addressing the Climate Change (Scotland) Act 2009, and development of this objective to recognise local and global effects would present a forward looking and believable ambition. Rather than simply referring to the Act (GEN 19), emphasis on full assessment of atmospheric impacts from individual sectors is appropriate.

²⁰ <http://www.scotland.gov.uk/Publications/2011/03/16182005/54>

GEN 16 (p.35) refers to impacts of noise and mitigation measures; this is too specific and too clearly aimed at a specific industry (renewable energy). Further, bubble curtains have not yet been demonstrated as a cost-effective mitigation technique and emphasis on other management is required. At this level of 'general policy objectives,' the policy could be that noisy activities will be managed under relevant legislation, including EPS licensing which allows deliberate disturbance only under licence (with stringent tests to be fulfilled, i.e. where there are issues of overriding public interest, and the FCS of species will not be compromised). It would be relevant to discuss how this policy relates to achieving GES under descriptor 11 of the MSFD. Noise is an important aspect for which regional, cross-sectoral management is warranted and this general policy could be more helpful in this regard.

There is disproportionate emphasis on the adaptation, rather than mitigation of, climate change effects throughout the NMP; GEN 19 addresses both of these which is confusing. Adaptation to the environmental changes already predicted is important but appropriate regard should be given to the mitigation of further climate change effects, due to the much greater risks to society (and over the longer term reducing the need to adapt). It seems misplaced to emphasise national policy on oil and gas infrastructure being built to withstand climate change effects, with unequal emphasis on the contribution to climate change of that sector, or of the transition to a low carbon economy, including the development of CCS to partially mitigate emissions from fossil fuel production.

Are there alternative policies that you think should be included?

Additional general policies could include a) the need for a proactive approach to trans-boundary co-operation including international; b) provision for rationalised approaches to monitoring (e.g. advancing the useful Scottish Government's Marine Monitoring Network Review²¹); c) the drive for better co-ordination of scientific research effort so that resources are well focussed on the needs of Marine Scotland. GEN 10 could be expanded to include adaptive management which will be essential in dealing with uncertainty around impacts of development in a manner that doesn't preclude development.

Are the policies on integration with other planning systems appropriate?

See above comments on trans-national co-operation and land-based planning systems.

A draft circular on the integration with terrestrial planning has also been published – would further guidance be useful?

²¹ <http://www.scotland.gov.uk/Topics/marine/science/MSInteractive/Themes/networkreview>

No comment.

Q9. Is the marine planning policy for landscape and seascape an appropriate approach?

There is emphasis on the restrictions on development within National Scenic Areas, it would be appropriate to emphasise that the visual impacts of developments will be a very careful consideration inside and outside NSAs.

Additionally, there needs to be recognition of the contribution of communities to the 'living' seascape / landscape through their activities, and the consequent impacts of changing industrial use of the oceans (e.g. from fish farm to wave energy project, rather than from developing activity in an area where there was previously none).

Q10. Are there alternative general policies that you think should be included in Chapter 4?

Policies relating to ecosystem-based approaches to management – the NMP should present the most up to date information and thinking so that subsequent planning activities can move forward more rapidly. Although perhaps not relevant to set this out in detail in the NMP, the mechanisms and process (relevant groups, authorities, research activities, etc.,) needs to be provided for by strong policies at this level.

Q11. Do you have any comments on Chapter 5? Are there other sectors which you think should be covered by the National Marine Plan?

The 'Key Issues' are mostly well presented, however, as mentioned earlier, the high level concern regarding the impacts of climate change *on* marine activities seems disproportionate considering there is limited mention of the impacts of marine activities *on* climate change. Coherent policy measures need to clarify how these are both being addressed, within a sustainable development context.

"Interactions with other sectors" is a critical part of the NMP in identifying potential conflicts, and could be made more consistent and thorough across sectors; there is much more emphasis on this in Ch.7 (Fisheries) as compared to Ch. 9 (Oil and Gas), for example.

We query whether decommissioning is relevant to be considered as a separate sector. This is going to be a significant industry for the UK, with its' particular set of regulations (OSPAR) and as it is consented under a different regime to oil and gas, there is an argument that this could be considered as a separate sector, particularly as there may be transfer of assets and opportunities to other sectors e.g. CCS. There are also particular opportunities for Scotland which would be supported by

strong objectives for this sector, which would range across the oil and gas industry but perhaps also renewable energy infrastructure.

Q12. Do you have any comments on Sea Fisheries, Chapter 6?

Stock assessment is of critical importance in establishing appropriate management for sustainability in the fisheries sector, however this is not consistently applied across the Scottish marine area. In particular, the ICES assessments don't adequately represent the shellfish species fished on the West coast of Scotland, which are of significant value, economically and socially. In addition, only a few of the groundfish species on the West coast of Scotland is assessed, with no assessments of the flatfish in the area.

Reference to displacement effects (p.48) confuses socio-economic effects with ecological consequences (i.e. benefits to nursery grounds and protection of environmental features are environmental changes).

We note the relevant emphasis on eliminating discards, however although "*an inefficient and wasteful use of the resource*," (p.48) should be noted, the return of organic material to the ecosystem may be preferable to its removal from the system. From a holistic and ecological perspective then, clearly the undisturbed occurrence of living individuals is preferable, however secondary to this, the disposal of dead material for scavenging and nutrient release is of more value than complete removal from the system. Overall, the primary emphasis should be on the development and use of fishing gear that is more selective and less damaging to sensitive habitats rather than landing and processing everything that comes out of the sea from the use of inefficient gear. Current policy statements do not make this distinction adequately.

The hyperlink in the footnote to Map 7 (p.50) doesn't provide information on SSI 2004 No.27 or SSI 2007 No.240 (only addressing the EC regulations).

As discussed in Q.1, ecosystem approaches to management are needed, and are most advanced in supporting the fishing industry (due to the clear and direct link between society demands and biological populations). It would be relevant for the NMP to refer to progressing ecosystem-based studies, particularly where these are being progressed at spatial scales wider than the RMP areas (e.g. the Working Group of Multispecies Assessment Methods²²).

"There will be a shift to taking strategic management decisions for fisheries on a more regionalised (sea-basin) basis" (p.55); this is a critical aspect that should be presented in much more detail in the NMP, including the process of the development

²² <http://www.ices.dk/community/groups/Pages/WGSAM.aspx>

of these approaches, how stakeholders will be involved, etc. The NMP should provide much clearer direction for regional policies which will operate at spatial scales which do not align with RMPs, managing this at the RMP level will be less efficient / effective. Clear guidance in the NMP over the integration of fisheries with RMP instruments will be critical.

“Evidence-based approach to fisheries management which is underpinned by sound science...” (p.43) is welcome but should be considered a national policy applicable to all sectors, followed by links to the actions being taken to address areas where scientific ‘evidence’ is lacking.

Q13. Are there alternative planning policies that you think should be included in this chapter?

Fisheries 4 (p.54) should include reference to developing the understanding of commercial shellfish stocks to ensure that the NMP is equally applicable to the West of Scotland.

Fisheries 5 refers to “*developers*” which is the wrong word (usually applied to renewable energy who are proposing the development of new projects rather than established ‘users.’

Clyde 2020 is referenced (Fisheries 8) and it would be useful to see more on this with links to more information.

Ecosystem based management should be specifically mentioned as a planning policy, with reference to the ecosystem based management approaches which are being developed.

Q14. Does Chapter 7 appropriately set out the relationship between terrestrial and marine planning for Aquaculture? Are there any planning changes which might be included to optimise the future sustainable development of aquaculture?

Chapter 7 does not clearly define the relationship between terrestrial and marine planning for aquaculture. The inclusion of a clear descriptor of the relationship would be highly beneficial to this document. Such a descriptor is available within the draft planning circular ‘Planning Scotland’s Seas’, and a précis of paragraphs 66-77 of this document would add clarity to this section. The proposal contained in the planning circular to create a mechanism to remove marine fish farming from the terrestrial planning system (paragraph 69) is not mentioned in NMP. The implications of such a power both for the industry and the planning authority needs to be further developed within the NMP, and details of how that power would be used in the context of the NMP need to be detailed. The NMP also needs to better deal with issues where

terrestrial planning decisions will directly impact on existing or new aquaculture developments. An example of this is in the designation of shellfish growing waters. Although planning policy 5 states that 'Shellfish waters will be protected in a proportionate manner by designation', it is unclear what this means in terms of terrestrial developments which are likely to impact the water quality of these designated areas.

Q15. Do you have any comments on Aquaculture, Chapter 7?

In the living within environmental limits section, it is stated that there is an attempt to reduce the environmental impacts of aquaculture through '*ensuring shellfish farms are located so that they do not negatively affect the carrying capacity of the environment*' (p.60). It is difficult to understand what is meant here; does the statement pertain to the carrying capacity which influences shellfish production (an important consideration), or does it refer to fin-fish production? Regarding the latter, it is more likely that there is a positive impact on the fin-fish carrying capacity, rather than negative.

It is relevant to raise predator control at the national level as an increasing challenge in developing the aquaculture industry. The NMP could mention that the seal management framework is being put under increased pressure due to other risks (e.g. collision with marine renewables or the 'corkscrew seal' risk from vessel use across numerous sectors), and the allocation of 'allowable risk' across sectors in management unit areas will be a key policy of marine planning. This will also need to consider the spatial management of seal populations will cross marine plan boundaries and require co-operation. NB the use of acoustic deterrents is also a cross-sectoral issue, and could be raised as such to promote the understanding of cumulative effects across sectors, particularly where an environmental threshold may exist.

Statements such as, "*There may be some environmental impacts from both shellfish and finfish aquaculture developments,*" (p.60) aren't sufficiently strong to recognise that there *will* be impacts that need to be managed appropriately, including proactive, co-ordinated research to improve the evidence base. This is essential to support the growth of this sector, particularly in the area of acoustic deterrent use.

The listing of impacts here is inconsistent with other sectors; if this is to be fairly presented for all sectors then much more work is needed to describe these in a balanced and proportionate manner. For example, benthic impacts are mentioned but not visual. It is relevant perhaps to raise examples of impacts, particularly those of national / cross-sectoral concern, rather than *ad hoc* mention of impacts with an unclear message to the significance in a planning context.

This sector shouldn't be considered in isolation from the aquaculture and wild salmon fisheries sectors, considering the reliance on wild fish for aquaculture and competition between the sectors. Competition between sectors should be recognised and stated to avoid misleading stakeholders.

In addition, where there are critical issues which could restrict sector development, this should be considered in 'sustainable' sector planning even if on a larger temporal and spatial scale than Scotland. We refer here to the reliance on stocks of Peruvian anchovies, fluctuations in which will impact the aquaculture sector and should be recognised. This is an example where full 'Life Cycle Assessment' is required for each sector, including international exports and imports to understand 'performance' in a sustainable development context.

Multi trophic aquaculture is recognised as a growth sector in the NMP but only in relation to seaweed cultivation (p.64). Other emergent and experimental forms should be recognised including sea urchin and scallop production.

Q16. Are there alternative planning policies that you think should be included in this chapter?

It would be highly appropriate for system carrying capacity (at the scale of a water body or loch system) to be considered as a key parameter for the development of plans for the expansion of aquaculture in Scotland. Such an approach would provide for policies and objectives within the NMP such as the diversification of the industry, and the development of Integrated Multi-Trophic Aquaculture (IMTA) and seaweed production, which could then coherently support sustainability of the industry.

Q17. Do you have any comments on Wild Salmon and Migratory Fish, Chapter 8?

It should be explicitly stated that there is a conflict between this sector and Aquaculture and that for both sectors to grow according to sector objectives and ambitions, there will need to be trade-offs and priorities set in some areas.

"Atlantic salmon is one of Scotland's most iconic species and is a high value natural Asset," (p.67) implies value other than economic which is appropriate, but is not consistently applied throughout NMP; what about 'iconic' value of seascapes in relation to marine developments? It would also be relevant to mention the conservation importance of salmon (considering the challenges presented to the renewable energy sector from the lack of knowledge in this area).

Q18. Are there alternative planning policies that you think should be included in this chapter?

Amendments in light of response to Q.17.

Q19. Do you have any comments on Oil and Gas, Chapter 9?

For credibility, the objectives should include the difficult recognition of the contribution of this sector to climate change, through energy intensive extraction and processing, and ultimate product use. Reference to evidence demonstrating the links between fossil fuel exploitation and use and climate change may not justify the policy to “*maximise the recovery of oil and gas reserves in the North Sea,*” (p.72), particularly considering the increasing inefficiency of this process. These are very challenging issues but there are opportunities here for a forthright and ambitious Government to take a longer term view than immediate economic gain, ensuring the buy-in of stakeholders and a move to a more realistic regime.

Similarly, “Living within environmental limits,” and key environmental risks, doesn’t mention atmospherics, which is remiss as this is an area where there are currently significant failings of regulatory processes thus far (EU Emissions Tradings System). It is remiss of an astute Government, at this stage in understanding of the seriousness of the threats of global warming to the global and local communities, to neglect to address this fundamental issue. There needs to be realism around the objectives and value of management of impacts at a small / local scale, relative to the wider impacts of the sector. Improved mechanisms of LCA are needed so that sectors can be more realistically and fairly balanced and the costs borne appropriately.

Regarding decommissioning, the statement that “*Reuse or removal of decommissioned assets from the sea bed will be fully supported where practicable and adhering to relevant regulatory process,*” (p.75) is a good policy. This could be extended to recognise that currently, under OSPAR guidelines, complete removal is presumed, unless it can be demonstrated that leaving in situ is justified. Research is needed to improve the evidence regarding holistic impacts of removal versus leaving in place, so that informed cost benefit analysis can be undertaken. Of note, this legislation (which can be considered likely to lead to costly removal with no clear environmental benefit) is being reviewed by DECC in 2018.

Q20. Are there alternative planning policies that you think should be included in this chapter?

Alterations as indicated above.

Q21. Do you have any comments on Carbon Capture and Storage, Chapter 10?

The policy objectives for this sector are welcome, particularly in their strategic nature. CCS is a viable contributing activity for mitigating the emissions from on-

going fossil fuel production, and a great opportunity for Scotland, however we would support better holistic representation of the policy for this sector. This means articulating CCS policy alongside other policy initiatives being developed to improve efficiency and reduction in reliance on hydrocarbons, and provision for consideration of full LCA at a project level (including installation of pipelines and CO² transfer). Overall, emphasis that CCS is a mitigation activity

“Environmental impact will depend on the extent to which it is possible to use existing pipelines, installations and wells;” (p.82) could it be made clear that this refers to impacts other than direct impacts to species and habitats, i.e. referring also to atmospheric emissions of project construction and operation (to be assessed through LCA prior to project development).

Q22. Are there alternative planning policies that you think should be included in this chapter?

No comment.

Q23. Should the NMP incorporate spatial information for Sectoral Marine Plans?

Yes, as this is arguably where ‘marine planning’ has so far been undertaken (e.g. for renewable energy), representing activities and an interpretation of environmental constraints at a national level within tools to support planning (e.g. MaRS) and should be built upon. But it also needs to be clarified how data management and decision making at the sectoral level will interact with marine planning (see response to Q.24).

Q24. Do you have any comments on Offshore Renewable Energy, Chapter 11?

The policies in this chapter are generally vague and there is limited tangible benefit of this chapter in explaining the relevance of marine planning to the sector. Some points are presented below, but a general focus on improvement of this chapter would be welcomed.

Interaction between sectoral planning and marine planning process - Sectoral marine planning for renewable energy is discussed however it is a distinct process which has been developed separately from marine planning and the interaction between both processes is unclear. It is contradictory to say that *“...planning for offshore renewable energy is progressed in the NMP and Sectoral Marine Plans,”* (p.90) and then; *“Within the NMP, these [sectoral plan] developments are considered as ‘planned developments at the licensing stage,’”* and *“There is a presumption in favour of adopted Plan Options identified through the Sectoral Marine Plan Process,”* (p.91). The Sectoral Planning process has developed substantially in the last few

years, using the Crown Estate's MaRS tool, and is in many ways representative of 'marine planning' (particularly data management and analysing scenarios of constraints and interactions). How this will be influenced by and interact with formal marine planning processes needs to be explained in the NMP, including how both processes will relate; how stakeholders are engaged; whether the same data (including interpretation of environmental) will be used sectorally and regionally; how duplication of resources and effort will be minimised; how much regional control / influence there would be on planning for renewable energy (which could be more detailed and informed at a local level); whether the tools used for marine planning would be the same (i.e. MaRS and the manner in which information is 'weighted' in decision making); whether monitoring of 'marine plan effectiveness' and 'sectoral plan effectiveness' (and the yet to be addressed SEA-related monitoring of plans' environmental effects) will be aligned; how stakeholders will be engaged through both processes, etc.

Critically there is an assumption that Sectoral Planning for Renewable Energy is a comprehensive exercise, however it should be acknowledged that this is in development and the realities of the progression of projects through licensing processes reflects challenges in representing risk and constraints at a strategic level, that is useful for facilitating the consenting of projects. This is improving but should be referred to as such, with appropriate recognition of the limitations of strategic approach, and the necessary feedback needed to refine and improve, and not assume that the process is effective. A review of the effectiveness of Sectoral Planning (and corollary SEA processes) for renewable energy in Scotland to support marine planning would be welcomed.

Interactions with other users - There is very limited acknowledgement of the interactions with other users in this chapter, whether potential for positive or negative; fishing is not mentioned. Co-location opportunities should be mentioned and explored.

Recognition of consenting difficulties – To improve credibility, it would be appropriate to include, in the text and policy development, the challenges faced by the sector which mean that the ambitious plans for renewable energy are as yet not borne out in reality. A key element is the length of time and the cost of achieving consent, and the difficulties experienced (at a UK level) in reconciling development with nature conservation legislation. It is relevant to refer to where this has been raised and the steps being taken to address this: how has success been measured against the work of the Short Life Task Force on Streamlining Energy Development Licensing and Consents²³ and are there follow up actions, recognising that many of the difficulties are still apparent? How is the on-going work addressing the actions of

²³ A report on streamlining energy development licensing and consents, produced by a short life task force established and chaired by the Minister for Energy, Enterprise and Tourism. February 2012.

the Defra Review of the Implementation of the Habitats Directive affect Scotland, particularly in terms of the establishment of groups to evaluate the sufficiency of evidence provided by developers?

Adaptive Management – In addition to considering improvements to the mechanisms by which developments are consented according to conservation legislation, it should be explicitly recognised that a key challenge in achieving consent and developing projects at the scale proposed, is uncertainty regarding environmental impacts. Three paths of action are required here; one addressing the uncertainties directly through specific research tasks (which are progressing), a second determining how uncertainty is to be dealt with in consenting processes and thirdly, expediting adaptive management approaches. These actions need to progress concurrently and as a matter of urgency if sector development (particularly wave and tidal energy) is not to be held up by consenting difficulties. The ‘Survey, Deploy and Monitor Policy’ (mentioned in the NMP) needs to be adapted, and provide for the immediate deployment of small wave and tidal arrays (10MW, for example) in areas where it can be established that the risk of harm is acceptable (due to the small scale of projects). This would help to align expectations between the regulators and the industry on phased development approaches, with a more predictable and cost-effective project development programme which would facilitate confidence across the industry.

Grid - Grid is a critical issue facing the industry, particularly wave and tidal projects, and this should be given sufficient prominence in the NMP to raise credibility of the document. As recognised by Scottish Government, this requires strategic action but the statement: “*The Scottish Government will work with developers to ensure an integrated developer grid connection strategy is incorporated into the sectoral marine planning process to maximise efficient connections which take account of environmental and economic factors,*” (p.87) requires further detail of specific actions to be useful.

Further, the statement that HVDC links will be developed as “*generation demand for connections coming forward,*” may be of little use to most wave and tidal energy developers who are unable to underwrite these grid connections as they develop their projects and rely completely on development of a cluster of electricity generation projects (including offshore wind) to provide the demand for transmission infrastructure. Proactive strategic grid development is required to support the development of the sector.

Strategic initiatives like the North Sea Countries Offshore Grid Initiative (NSCOGI) are useful and more detail on these and their activities, and Scotland’s engagement with them is required in the NMP, otherwise they are likely to be missed at the regional level.

Strategic management opportunities – the NMP could be useful in highlighting key aspects which will benefit from being addressed at spatial scales which may differ from regional plan areas, etc. Where appropriate this should reference Strategic Sea Areas. For example, environmental impacts which may require strategic management, e.g. impacts of noise from piling of windfarms, which will need to be considered on a scale relevant to the MSFD GES Noise descriptor, and risk of seal mortality through potential collision with tidal turbines which is considered through the PBR approach applied at Seal Management Unit level. In cases such as this, where there is potential for a threshold to limit development (of this and other sectors) in a region, strategic management of planning, consenting and monitoring will be the most effective way of ensuring maximum activity in the area for minimal environmental risk. This is something which marine planning should provide for, and should be identified at the NMP level.

Other points:

- “*To promote the sustainable development of offshore wind, wave and tidal renewable energy in the most suitable locations,*” (p.85) – This policy is vague and not helpful; it could be improved by stating that decisions on siting renewable energy development should be taken strategically, according to information on possible constraints (other activities, environmental constraints, etc.). A separate policy encouraging co-location of renewable energy projects and other activities (e.g. aquaculture) would be helpful (this may be most appropriate at the general level, to highlight the opportunities through co-location, rather than distinct sectoral ambitions that result in conflict.
- “*To achieve sustainable economic growth through the development of offshore renewable energy,*” (p.85) – What does this mean; how does offshore renewable energy contribute to sustainable economic growth? How are the potential positive benefits for climate change from renewable energy projects, as well as the economic benefits, considered to contribute to “sustainable economic growth”? There is an opportunity to present a more coherent policy goal setting the renewable energy sector in a clearer context of sustainable economic development, at a local and national scale.
- Guidance documents are mentioned in an *ad hoc* way; there are many more available and it should be considered whether the NMP should be a ‘sign-posting’ document to all relevant guidance material, or ensure the reader understands that the list is not comprehensive.
- Renewables 9 – “*Developers bringing forward proposals for new development must actively engage at an early stage..;*” it would be very helpful to outline

the engagement process for renewables, progressing through the sectoral planning exercises, project development and marine planning, helping with resourcing stakeholder engagement and ensuring appropriate input at the right time.

- Renewables 10 refers to Scenario Mapping – this is welcomed but we question whether this should be a general policy applicable to all sectors (along with more detail on how this will be undertaken).

Q25. Are there alternative planning policies that you think should be included in this chapter?

There needs to be a stronger policy relating to grid, recognising that this is a critical factor holding up the wave and tidal industry at present, and which needs strategic planning.

The Survey, Deploy and Monitor policy is mentioned as a “*guidance document*” to be followed (p.93); this should be presented as a policy in its’ own right, but it should also be recognised that in practice this policy has not been implemented, and improvements could be made to provide for adaptive management approaches essential for progression of the industry (see response to Q.24).

Other amendments in light of above comments.

Q26. Do you have any comments on Recreation and Tourism, Chapter 12?

This is an important growth area for Scotland and the lack of spatial data for these sectors should be recognised.

Impacts on recreational sea anglers could be better provided for; the survival of target species according to the interactions between the sectors is, as yet, not addressed.

Issues regarding access to the coast and marine areas for recreation and tourism would be relevant as a management issue which also affects the success of this sector.

Where there are general spatial restrictions that are already being implemented, these could be mentioned at the NMP level, e.g. the restrictions on anchoring near serpulid reefs affecting boating activities.

Q27. Are there alternative planning policies that you think should be included in this chapter?

No comment.

Q28. Should the NMP specifically designate national significant ports/harbours as described in Chapter 13: Marine Planning Policy Transport 2?

Yes, this would be helpful to scenario planning on a regional scale as it will have knock-on effects regarding the planning of shipping lanes and landside facilities. There may be a decision to establish ports of refuge and the necessary IMO regulations should be considered.

Q29. Do you have any comments on Transport, Chapter 13?

It would be appropriate to refer to the European policy on restoring short sea shipping routes and a policy with planning at a national level would support the development of integrated transport development.

Q30. Are there alternative planning policies that you think should be included in this chapter?

No comment.

Q31. Do you have any comments on Telecommunications, Chapter 14?

We raise whether this chapter should be broadened to include the development of electricity infrastructure associated with renewable energy installations (such as that presented under Chapter 11). These strategic initiatives would be independent of renewable energy sector plans and would therefore benefit from clear planning and policy objectives at a national level. As yet, there are no discernible impacts of particular concern arising from telecommunications cables and greater benefit of this chapter could be obtained by addressing strategic electricity network development, due to a potentially greater level of impact and interaction with other sectors.

Q32. Are there alternative planning policies that you think should be included in this chapter?

Policies relating to the development of electricity networks that are of essential benefit to the development of the energy sector, but require strong policy support to address the differences in regulatory approaches across nations and alleviate uncertainty for the industry. Policies to consider include the Supergrid and the National Policy Statement for Electricity Networks Infrastructure (EN-5) which “may be a relevant consideration in planning decisions in Scotland.”

Q33. Do you have any comments on Defence, Chapter 15?

A key environmental concern which is of national significance is the impact of anthropogenic noise on marine mammals and it would be appropriate for this to be emphasised within the chapter on Defence, considering the contribution of the sector to this impact. The requirements of the MSFD and in particular the development of GES for noise as descriptor 11, should support a strategic management framework which should identify the levels of noise on a regional basis (possibly appropriate to consider at the scale of regional marine plans), and where areas of high risk to marine species is identified, the respective contribution of different sectors will need to be established. To enable this, and to support effective management, information sharing will be critical, across sectors, regions and nations, and it would be relevant to emphasise this in the NMP.

Q34. Are there alternative planning policies that you think should be include in this chapter?

No comment.

Q35. Do you have any comments on Aggregates, Chapter 16?

No comment.

Q36. Are there alternative planning policies that you think should be included in this chapter?

No comment.

Q37. Please tell us about any potential economic or regulatory impacts, either positive or negative, that you think any or all of the proposals in this consultation may have.

This should be a central theme of the NMP and explained within it.

Q38. Do you believe that the creation of a Scottish National Marine Plan discriminates disproportionately between persons defined by age, disability, sexual orientation, gender, race and religion and belief?

No.

Q39. If you answered yes to question 38 in what way do you believe that the creation of a Scottish National Marine Plan is discriminatory?

No comment.