

**Response to:
Scottish Marine Renewables Strategic Environmental Assessment
by: Economic Development Service
Orkney Islands Council**

The Council's Economic Development Service welcomes the production of the SEA as a significant step towards the emergence of a Strategy to Support Marine Energy, and also wishes to express thanks to the Scottish Executive and to Faber Maunsell and Metoc for presenting the report in Orkney on 9th May.

The renewable energy industry, and in particular in the areas of academic and research and development activity in the marine energy sector, presently makes a significant contribution to Orkney's economy and the Council welcomes the Executive's continuing commitment to the sector. The Council has invested in the development of that expertise and is committed to the further sustainable growth of the sector in the coming years.

The expansive geographical area of the study, various information gaps, and the innovative nature of the technologies covered, are no doubt responsible for the production of the volumes of paper that comprise the SEA and consequently make it difficult to respond in a local context. Accordingly, in submitting this response, it is possible that there is relevant information contained within the report which might have been overlooked.

Comment:

As the study highlights, the greatest potential for the generation of energy from marine resources lies within the Pentland Firth and around the Northern and Western Isles, distant from the centres of demand and from the electricity transmission network. Where distribution systems are present, these are already operating at, or near, full capacity. Although in Orkney, EMEC holds a grid agreement that permits the limited grid-connected testing of wave and tidal devices, there is little scope currently, even following the recent creation of a Registered Power Zone, for array testing, or demonstration, or the commercial development of marine generation.

If it is assumed that EMEC will play a pivotal role in the development of marine renewables, then perhaps, in informing the development of the Strategy to Support Marine Energy, the SEA could have considered the potential effects of the development of that facility and the necessary infrastructure.

The report acknowledges the limitations of a study which looks 10-15 years into the future: the technology is in its infancy and its locations and effects are as yet unknown. However, whilst it is acknowledged that the report was never intended to be site specific, given the expertise currently available in Orkney and the infrastructure already present, it might be thought that the EMEC sites in Orkney represent an ideal opportunity to establish baseline data and to measure the future impacts of technologies and designs as well as device arrays.

If the target of 1300 megawatts of marine renewables is to be installed by 2020, there will necessarily be ever-increasing research and development activity in the short term, as well as environmental monitoring, and this will surely be more effectively

and efficiently delivered where devices and expertise concentrated in one area. The synergies created by a clustering effect would accelerate both the development of the technology and the understanding of its effects.

Although there is no formal strategy or plan on which to perform the SEA, it might be argued that extending the Grid network to accommodate marine renewables specifically is not consistent with political ambition. In order to achieve the Scottish Executive's 2020 renewable energy target of 40%, a significant proportion of that renewable energy will probably need to be derived from wind power. Grid regulation does not currently permit capacity to be reserved for marine renewables alone and it may not be viable in any event to develop infrastructure on that basis. Equally, the unfavourable network user charges imposed upon developers in island areas will act as a substantial deterrent to commercial development. This is recognised by Ofgem and it is noted that Ofgem has recently initiated a process which is intended ultimately to lead to a regulatory framework being established that allows new distribution systems in the Scottish islands to be constructed (assuming that demand for capacity is maintained) before being passed up onto the wider transmission system. Therefore, the potential effects of establishing a cable network for the carriage of marine generated electricity should not be considered in isolation.

The Executive recently announced funding of £13M to support the deployment of nine marine renewable devices. However, the presently constrained Grid represents a barrier to the developing marine energy sector and also to future commercial wind turbine development in and around the amply resourced Northern and Western Isles, without which contribution, the 2020 target will not be realised. New connections to the islands are therefore of strategic importance to Scotland.

For marine energy to develop quickly there must be an unambiguous political signal of intent for the development of an appropriate grid, a process which will demand extensive environmental examination.

The installation of devices, and the transmission of electricity from exposed offshore locations such as Sule Skerry, Rona and St Kilda, creates the potential for a different range of environmental effects from those associated with the development of shoreline and near-shore locations. The engineering technology that will be required to exploit the considerable wave resource in such remote areas is however probably some years away yet and it could perhaps have been assumed that, in the absence of political intervention, these areas will make no contribution towards the 2020 target. This increases the immediate pressure for the development of the sector within the more accessible and manageable resource areas.

Highlands and Islands Enterprise along with the Scottish Executive, Orkney Islands Council, Shetland Islands Council and Comhairle Nan Eilean Siar recently commissioned a report by consultants TNEI into the technical and economic feasibility of connecting the islands by way of sub sea cables to the mainland in order to facilitate the development of the massive renewable energy resource in each area. Given that it could take up to ten years to establish an appropriate Grid network across Scotland, and on the basis that some areas possess much greater potential than others, the environmental debate over marine versus terrestrial cables (where both are

options) and the environmental impacts of onward grid transmission from these areas could have been inspired by this report.

Consultation:

Although input to the SEA was requested from a wide spectrum of agencies, the practice of avoiding site and/or device-specific assessment has resulted in the omission of valuable input from local groups, for example in Orkney, from fishing groups, the local dive-boat association, and Orkney Ferries.

It would perhaps have been helpful to the marine renewables industry to have had local input considered where that relates to existing sites and sites considered most likely or most suitable for development. Local experience might also have identified which sites might be the most sensitive to development and which are the likely receptors at each site.

The Subject of the SEA:

Quote, “The primary question which has been addressed in this SEA is: can wave and tidal stream energy contribute towards helping the Scottish Executive achieve its target for producing 40% of its electricity from renewable sources by 2020 without significant effects on the environment, and if so, how can this best be achieved?”

Although it is accepted that the range of technologies and the scale of the area surveyed are enormous, there would appear to be significant demand issues and potential environmental impacts, particularly on Commercial Fisheries, Shipping and Navigation, Seascape, Recreation and Tourism, and the Marine Environment, from the suggested substantial contribution of the Pentland Firth towards the 2020 target. Given its potential to play a major role, it might have been useful to all stakeholders if the environmental acceptability of the various known technologies, the most likely marine and onshore sites, and the cumulative effects of development in this area had been investigated at this early stage.

Whilst it is hoped that the resource can be appropriately and fully exploited, should there be any significant reduction in projected generation in the Pentland Firth, and should other development constraints delay the industry’s ability to develop the Outer Isles potential, then the need to replace that lost potential will impact greatly upon the other subject areas in the study, and upon the 1300MW target. It is noted however that, subject to various other influences, the total generating capacity within the study area has been assessed at between 1,000MW and 2,600MW, thereby permitting fairly substantial under-development of natural resources.

Conclusion

Whilst the SEA has addressed many of the potential impacts of producing the targeted 1300MW of electricity from marine sources, it is felt that the study has not succeeded in informing the project-level decision-making process for all stakeholders, in particular, developers and Local Authorities. We have witnessed the difficulties experienced by both developers and planners in the wind renewables sector and this report should have focussed on ensuring that the consents process will be much less onerous and lengthy in respect of marine renewable development.

In respect of facilitating focused investment into the sector, this is unlikely to come from the commercial stakeholders unless there is a substantial political and financial commitment from the public sector that directs investment towards identified technologies in identified areas set against identified development constraints.