

# Policy Summary

## MARINE RENEWABLE ENERGY AND THE NATURAL HERITAGE

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The potential for harvesting wind, wave and tidal energy from around Scotland's coasts is huge. These sources could provide for Scotland's electricity needs several times over. However, in engineering terms, marine renewable energy developments – wave farms, tidal stream generators, offshore wind farms – are as yet in their infancy. A sound understanding of environmental issues will be needed if this potential is to be realised sustainably.

**SNH's vision is that marine renewable energy developments should contribute a substantial proportion of Scotland's renewable electricity. If sensitively designed and sited, they appear to have the potential for lesser effects on the natural heritage than comparable land-based generation. Wave and tidal stream appear, provisionally, to offer the most abundant generation prospects in return for least impact on the natural heritage.**

### Background

SNH has long supported the development of renewable energy as an integral part of a programme designed to combat climate change. Our Policy Statement 01/02 on Renewable Energy sets out that support and stresses the need to identify those renewable technologies which can most easily be accommodated with least adverse impact on Scotland's natural heritage. If present aspirations for renewable electricity were to be met solely through hydro-electric schemes and onshore wind farms, the impacts on Scotland's landscapes and wildlife would be widespread and could be profound. We have accordingly advocated that the Scottish Executive's target of 50% renewable electricity by 2020 should be met using a mix of renewable energy types, including marine.

SNH's statement 'Marine Renewable Energy and the Natural Heritage: an Overview and Policy Statement' reviews current understanding of the environmental impacts associated with marine renewables. It summarises the natural heritage issues which appear most likely to be of importance in guiding the development of each technology.

### SNH's position

Our key conclusion is that, if sensitively designed and sited, marine renewables have the potential to have lesser effects on the natural heritage than comparable land-based generation. Other conclusions are:

## Siting

- areas designated specifically to protect the marine natural heritage, or habitats important to protected marine species, should be avoided;
- effects on hydrology and shoreline sedimentation should always be carefully modelled;
- the wild, isolated and undisturbed qualities which characterise some parts of Scotland's coastline should be protected;
- because of the environmental consequences of shipping collision, minimising navigational risks should be seen as an environmental as well as a safety objective;
- a coordinated approach to underwater cabling is needed, with a minimum of cabling and landfalls, in optimum locations;
- better information is needed on areas used for marine recreation.

## Design and operation

- out-of-sea maintenance or the use of ultra-smooth paints should be preferred to the use of anti-fouling paints;
- attention should be paid to the outcome of current research on the effect of underwater noise on fish and cetaceans, particularly from piling operations;
- it will be important to monitor and obtain feedback on the environmental impacts of first and second generation developments, so as to guide the further development of the industry;
- further research is needed to address a range of outstanding environmental uncertainties.

## Specific technologies:

- wave and tidal stream devices, particularly if moored rather than bottom-founded, offer the potential for energy generation with least impact on the marine natural heritage;
- the impact of offshore wind farms on bird populations and on seascapes can be minimised by careful siting and distance from shore;
- tidal barrage schemes are likely to have major impacts on estuarine habitats and the bird populations they support. SNH is likely to oppose tidal barrage development unless a component of a structure required for other purposes.

In order to facilitate the development of marine renewables, SNH commends use where relevant of the findings of the Strategic Environmental Assessment for Wave and Tidal Energy commissioned by the Scottish Executive, covering northern and western Scottish territorial waters and including wave and tidal technologies. The incentives available to developers, whether by grants or through the Renewable Obligation (Scotland), should be sufficient to enable marine renewables to make a substantial contribution to Scotland's renewable mix, if engineering challenges can be satisfactorily overcome.

**References:**

Scottish Natural Heritage Policy Statement 04/01 (2004) : Marine Renewable Energy and the Natural Heritage: an Overview and Policy Statement

available on SNH Website at <http://www.snh.org.uk/pdfs/polstat/mrp.pdf>

Strategic Environmental Assessment for Wave and Tidal Energy (Scottish Executive 2007)

available on Scottish Government Website at

<http://www.scotland.gov.uk/Topics/Business-Industry/Energy/19185/WaveTidalSEA>

**Contact:**

George Lees

SNH National Strategy

01738 458621

[george.lees@snh.gov.uk](mailto:george.lees@snh.gov.uk)

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