

## Press Release

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For immediate release: Sunday 26 October, 2008

### **Scottish seaweed may help tackle climate change**

Scotland's seaweed could be the latest weapon in the fight against climate change, according to a new report to be published tomorrow (Monday 27 October) commissioned by The Crown Estate and conducted by researchers at The Scottish Association for Marine Science. The report details the potential of farming marine algae to be used to produce biomass to heat homes and fuel transport while avoiding the problems associated with biofuels, such as the use of valuable agricultural land.

Although Scotland has the capacity to generate much, or all, of its electrical energy needs from wind, hydropower, wave and tidal streams, less is known about its potential for generating alternative transport fuels.

The report suggests that marine biomass from seaweed could provide the answer, but states that more research is needed on how to maximise productivity and on the economic, environmental and social impacts of large-scale seaweed farming.

Professor Mike Cowling, Science and Research Manager at The Crown Estate, said, "Given Scotland's rugged western coastline and island groups, and relatively clean seas, it is sensible to examine the farming of seaweeds and sustainable harvesting of natural supplies as a source of energy, to heat our homes and fuel our vehicles. Heating and transport make up around three quarters of our energy use so it's vital that we find new ways of meeting that demand.

“Extracting energy from seaweed is a particularly efficient and reliable method of producing green energy, and the growing of seaweed could have positive impact on local marine biodiversity. Crucially, using seaweed as a source of biomass avoids the problems associated with agricultural crop biofuels such as pressure on supplies of arable land and fresh water.

“Although more research must be done to establish the practicalities, it seems that seaweed could play an important role in providing a secure and reliable supply of green energy, particularly for coastal and island communities.”

The benefits of marine biomass include:

- it can be anaerobically digested to produce methane which, in turn, can be used to generate electricity for heat or transport (potentially attracting a subsidy under the Renewables Obligation Certificate Scheme)
- it avoids the problem of switching agricultural land from food to fuel production
- unlike terrestrial biomass, it is not limited by freshwater supplies
- seaweed has high conversion efficiencies and rapid conversion rates
- the residues are suitable for use as nutrient supplements for agriculture
- seaweed farms may also increase local biodiversity, absorbing some of the excess nutrients in run off from agricultural land, which can cause problems such as algal blooms.

Larger pilot-scale farms are needed before Scotland can assess the full potential of marine biomass. However, SAMS researchers are pioneering seaweed cultivation in the UK. The Crown Estate is investigating how it might assist further work aimed at understanding productivity and the identification of the most energy-rich types of seaweed.

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The report will be available from the morning of Monday 27 October at [www.thecrownestate.co.uk](http://www.thecrownestate.co.uk)

## Notes to Editors

### 1. The Crown Estate

- The Crown Estate is valued at over £7 billion, including substantial blocks of urban property, over 120,000 hectares (300,000 acres) of agricultural land in England, Scotland and Wales, and around half the foreshore, together with the seabed out to the 12 mile territorial limit.
- The Crown Estate has two main objectives: to benefit the taxpayer by paying the revenue surplus earned from assets directly to the Treasury (in 2007/08 this amounted to £211.4 million); and to enhance the value of the estate and the income it generates.
- As owners, managers and guardians of one of the world's most important and diverse urban, rural and marine property portfolios, our work is underpinned by the three core values of commercialism, integrity and stewardship.

#### **The Crown Estate in Scotland:**

- Reported a turnover of around £13.9m in 2007/8
- Generated a revenue surplus of £10.3m in 2007/8, paid directly to the Treasury for the benefit of all UK taxpayers.
- Reported a capital value of £237m in 2007/8
- Direct and indirect investment in Scotland totalled £216.4m in 2007/8

2. The Crown Estate has a key role in Scotland's energy future. It owns almost all of the seabed out to 12 nautical miles, and has rights on energy development out to 200 nautical miles with responsibility for providing site options and leases for consented offshore wind, wave and tidal projects around Scotland and the rest of the UK.

The Crown Estate is working with both the Scottish Government and UK Government on projects that have the potential to deliver significant energy supply, such as the [Pentland Firth Tidal Energy Project](#), [Round 3 of offshore wind](#) (intended to deliver 25GW of energy for the UK) and Scottish offshore wind which could deliver further energy from [Scottish territorial waters](#) by 2012. The Crown Estate is also working to support the commercialisation of marine technologies in Scotland and investing in research on the essential improvements to access to the transmission network that will be needed to ensure renewable energy targets are met. This includes a report launched in January this year on the feasibility of an [east coast sub-sea interconnector](#)