

Beyond Energy Action Strategies



D.3.5 – Report on best practice implementation of bankable energy actions

	Best practice title
1	Outer Hebrides Energy Supply Company
2	Commercialisation of Marine Energy in the Outer Hebrides
3	Low Carbon Properties in the Outer Hebrides



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Submission date: 14.12.2016



Co-funded by the Intelligent Energy Europe Programme of the European Union

CONTENTS

1	Outer Hebrides Energy Supply Company	3
1.1	Areas of Good Practice	3
1.2	General	3
1.3	Context	3
1.4	Project description	3
1.5	Results and outputs.....	4
1.6	Funding plan	4
2	Commercialisation of Marine Energy in the Outer Hebrides	5
2.1	Areas of Good Practice	5
2.2	General	5
2.3	Context	5
2.4	Project Description	5
2.5	Results and outputs.....	6
3	Low Carbon Properties	7
3.1	Areas of Good Practice	7
3.2	General	7
3.3	Context	7
3.4	Project description	7
3.5	Results and outputs.....	8
3.6	Funding plan	8

1 Outer Hebrides Energy Supply Company

1.1 Areas of Good Practice

Community Interest Company Business Model, Business Planning, Private Sector Partnership, Alleviation of Fuel Poverty.

1.2 General

The Outer Hebrides is a chain of islands off the west coast of Scotland, with a population of just over 26,000. The islands stretch from Lewis in the North, through Harris, North Uist, Benbecula and South Uist, to Barra in the South.

Involvement in the BEAST project supported Comhairle nan Eilean Siar, the local authority for the Outer Hebrides, to adopt an innovative approach to tackling high fuel costs by taking the first steps in establishing a local electricity supply company, Hebrides Energy.

The ultimate aim of Hebrides Energy is to generate and retail local electricity, making use of the natural wind resource to reduce electricity costs for islanders. During the timescale of the BEAST project, local partners came together to establish the company and sought to enter into partnership with a private sector partner to develop and market a new, competitive, electricity tariff for householders in the Outer Hebrides.

1.3 Context

Fuel Poverty is a critical issue for residents of the Outer Hebrides where, in addition to harsh climatic conditions, household incomes are relatively low, fuel costs are relatively high and a large proportion of the housing stock is energy inefficient

The justification for creating the local energy supply company is that energy consumption levels in the Outer Hebrides are higher than average and due to no access to mains gas, many households use electricity both for heat and light. Residents in the Outer Hebrides pay higher than average costs for the electricity they consume, despite being in an area of significant renewable energy resource.

1.4 Project description

The Outer Hebrides are home to the strongest and most consistent wind and wave regimes in Europe, making the area ideal for the generation of electricity from renewable energy, for local use and for export.

The motivation for creating an energy supply company was the opportunity to access a share of the generation from one of the commercial schemes proposed for the islands. However, these proposals are currently on hold awaiting confirmation of a radial connector between the islands and mainland Scotland. This is anticipated to be activated around 2021.

Feasibility work identified that a 'white label' partnership with an existing licensed supplier was the most appropriate market entry strategy for Hebrides Energy. Under this model, electricity is supplied to a customer under the "brand" of an unlicensed company. Entry to the UK energy market is challenging and white labelling is seen as a potential mechanism to reduce risk, as all operational requirements and compliance obligations would be the responsibility of the licensed supply partner.

In the longer term, the aim is for the Company to evolve into becoming a fully-licensed electricity supplier in its own right, and to achieve cost savings for consumers by directly investing in and retail locally generated renewable energy.

1.5 Results and outputs

Hebrides Energy Company is a Community Interest Company. The Company is a partnership between Comhairle nan Eilean Siar, Community Energy Scotland, Hebridean Housing Partnership, The Stornoway Trust and Tighean Innse Gall. The Comhairle is the majority shareholder and provides operational and administrative support to the company.

During the BEAST project we:

- Developed Business Plan and agreed to adopt the white label model as the market entry strategy for the company.
- Established a Community Interest Company, with shareholders from 5 local stakeholders
- Carried out a procurement exercise for white label partner, and put in place a Services Agreement with a private sector partner.
- Worked on the operational set up of the new tariff in partnership with our private sector partner, covering areas such as website development, customer contact points, branding, customer welcome pack, development of tariff.
- Trialed domestic switches to the Hebrides Energy Tariff from September 2016.

The Hebrides Energy electricity tariff was trialed from end of September 2016 and we aimed to launch to the public in November 2016. Unfortunately, towards the end of the trial period it became clear that there were operational issues with our licensed supply partner, and we decided to postpone the launch until January 2017. Ultimately, the private sector partner ceased trading in November 2016 and we were required to terminate the services agreement.

The Board is now looking at other options for the company to enter into alternative arrangements with another partner to offer the community tariff. In parallel with this, we have continued to progress our long term aim which is to seek to link local renewable generation to consumption, enabling customers to purchase on-island renewable electricity at as near cost as possible. The Company is continuing to examine to invest in renewables and to develop into becoming fully licensed electricity Supply Company.

1.6 Funding plan

Through BEAST, work was done to bring stakeholders together and external advice was sought on the optimum structure to progress the project. As a result, a community interest company (CIC) was established as a partnership between Comhairle nan Eilean Siar, Community Energy Scotland, Hebridean Housing Partnership, The Stornoway Trust and Tighean Innse Gall.

Hebrides Energy was successful in securing external revenue finding over 2 years to support the cost of marketing and awareness raising activity, and providing direct support to consumers through the switching process.

2 Commercialisation of Marine Energy in the Outer Hebrides

2.1 Areas of Good Practice

Options Appraisal, Private and Public Sector Collaboration, Stakeholder Engagement.

2.2 General

The wave energy resource in the Outer Hebrides is one of the richest in Europe, with estimates suggesting that up to 20% of all of Europe's marine resource is located around or in proximity to the Hebrides.

The Outer Hebrides have had a number of proposed marine energy developments either planned or consented. At the initiation of the BEAST project these were new technologies at prototype and testing stage. The purpose of our work through BEAST was to aim identify ways we could support and accelerate the commercialization of these technologies off our shores.

2.3 Context

At the outset of BEAST, it was clear that progress in deployment in the marine energy sector in Scotland was becoming increasingly constrained by a number of factors, including poor Grid connectivity, uncertainty over future incentive regimes, and high capital costs for early stage developments. As the local authority for the Outer Hebrides, Comhairle nan Eilean Siar was keen to support proposals for the Outer Hebrides to reach fruition.

The world's largest fully-permitted wave energy site is situated off the west coast of Lewis. Sophisticated wave resource mapping had led to an unprecedented amount of data being available for the Lewis site, with significant input also carried out on the work required to secure the consents for the site. However, with Aquamarine's proposed Oyster device for the site, as with many other wave energy conversion devices, the scale and risk of the challenge in moving to full commercialization was proving to be larger than anticipated.

2.4 Project Description

Work was done through BEAST to identify the main stakeholders (private and public sector), and to liaise with them to carry out a SWOT analysis regarding the commercialisation of marine energy West of Hebrides. Following this, two options identification and appraisal workshops were held which sought to identify and evaluate potential options for the development of the sector in the islands, specifically focussing on the 40MW consented site.

Emerging from this was a concept to establish the Outer Hebrides as a test bed for innovative marine energy devices. This would capitalise on the existence of the world's largest fully-permitted wave energy site of the west coast of Lewis, utilising a proportion of it as a Technology Neutral Test Site.

A Technology Neutral site would have the benefits of reducing the risk for developers, by simplifying and shortening the consents and leasing process, providing an electrical connection, and providing baseline environmental information and on-going monitoring. The site would have all the environmental and grid connection consents in place and possibly an onshore maintenance base which would allow a shared facility for deployment.

The creation of a test zone would support, as technology develops, the deployment of fully commercial marine energy device arrays in the waters around the Outer Hebrides. The Test Site could enable developers to test in a different type of climate to what is currently available. The Hebridean wave environment is energetic and exposed. It would enable progress from testing, to scale up to array sizes in the order of 2–10MW, to significant sized arrays in the longer term.

2.5 Results and outputs

As a result of the Liaison options appraisal workshop a Business Case was developed which identified a more detailed Feasibility and Market Assessment study as the next logical step.

However, in parallel with this, the external environment has continued to affect progress. Both of the companies that were intending to deploy in the Outer Hebrides went into administration, and the focus of the Scottish government support mechanism altered significantly.

Going forward, the Comhairle nan Eilean Siar is continuing to promote marine energy opportunities West of Hebrides and to promote further investigation of the test zone. We are continuing to engage with marine energy researchers and developers, Wave Energy Scotland, to ensure that they are aware of the wave resource in the Outer Hebrides, and also the overall package on offer for developers as relates to port facilities, fabrication facilities, research base and transport connectivity.

The Outer Hebrides provide an opportunity for commercial demonstration and extreme conditions testing and generating, with potential global appeal, complementing what is already available elsewhere in Scotland and the UK. There is significant developer interest in the area and the work done on the LWP site is an asset for the area which there is scope to build on.

3 Low Carbon Properties

3.1 Areas of Good Practice

Public sector partnership, Alleviation of Fuel Poverty, Improvements to Energy Efficiency in Domestic Properties.

3.2 General

This action aimed to make the case for increased investment to support the roll out of External Wall Insulation (EWI) for 'hard to treat' domestic properties in the Outer Hebrides.

Fuel Poverty is a major issue throughout the Outer Hebrides. The primary causes of Fuel Poverty are poor energy efficiency, high fuel costs and low incomes, and the Outer Hebrides are severely impacted on all three dimensions.

3.3 Context

Fuel Poverty in the Outer Hebrides is exacerbated by traditional island construction methods which mean that many properties have solid wall or other features that make them hard to heat and hard to treat. The absence of mains gas supply outside of Stornoway requires households to use more costly forms of fuel such as electricity, oil and solid fuel leading to higher than average energy costs. Harsh climatic conditions are experienced in the islands, with many homes being located in areas subjected to extreme levels of exposure, especially for wind and rain.

23% of homes are of solid wall construction, and are extremely difficult to treat with energy efficiency measures, and a further 20% are of mixed construction, for example a solid wall home with cavity wall extension. Research suggests that 35% of island homes have no wall insulation and, of homes with solid wall construction, only 19% have been treated with insulation.

The 2011 Sustainable Energy Action Plan (SEAP) for the Outer Hebrides proposed the roll out of a pilot project to focus on private sector hard to treat homes by installing External Wall Insulation. Subsequently, Scottish Government and ECO funding supported limited deployment of external wall insulation in the Outer Hebrides. Benefits include direct savings identifiable as a result of lower heating bills and carbon savings. There was also positive feedback on improved comfort levels, and the overall impact on the quality of the treated property. However, local partners were finding that demand was outstripping the resources available and it was agreed that securing additional finance to increase the deployment of external wall insulation would be extremely beneficial to householders in the Outer Hebrides.

This action through BEAST aimed to identify the barriers and undertake a range of actions in order to accelerate the levels of EWI being delivered in the islands over the 15/16 and 16/17 financial years.

3.4 Project description

The technical solution is relatively straightforward. There are a range of industry approved external insulation products and installation can be carried out by local contractors. The main challenge to project implementation was financial. Historically, support for energy efficiency interventions in the Outer Hebrides have come from Government and the public sector since they are not commercially attractive investment propositions.

There is a relatively high cost to EWI (averaging at £16,500 per property) compared to other measures, and the requirement for a householder contribution (either through own finance or an interest free loan) makes the investment proposition more challenging.

The main focus of actions within the BEAST project was to build up the Business Case for increased investment in EWI in the Outer Hebrides. Mainstream government programmes and incentives have a restricted impact in the Outer Hebrides. Schemes are not always designed with the rural dimension in mind. Housing stock in the Outer Hebrides presents unique challenges in terms of type, size and location. Therefore, cost measures based on a 'per house' level cannot be compared on an equal basis with mainland pricing. A coherent and ambitious proposition for investment from all local partners was required in order to ensure that the area worst affected by fuel poverty was able to maximize the benefits from these funding schemes.

3.5 Results and outputs

Work was done to identify the general barriers and solutions to improving energy efficiency in island homes. SWOT analysis and a follow up jam session were carried out through the BEAST project.

We worked with partners to create a dedicated Outer Hebrides Fuel Poverty Strategy 2015-2025 which articulates the specific programmes and interventions required across the Outer Hebrides to address fuel poverty.

As a result we have developed a co-ordinated approach to dealing with Fuel Poverty in the Outer Hebrides, been able to develop the Business Case for additional investment, raised awareness at Scottish Government and UK levels and demand specific rural policy impacts.

This lobbying has included arguments to try and secure additional funding for island schemes or special arrangements to recognize the island context including, the simplification of funding processes, increase caps on government funding, and widening the scope of fundable measures/eligibility criteria.

The stakeholders have continued collaborative working and information sharing in order to progress and report on actions within the Outer Hebrides Fuel Poverty Strategy and Action Plan. In parallel with this, the Comhairle and TIG have continued to respond to opportunities for additional funding where these have arisen and to ensure the delivery of EWI measures as specified in HEEPS programme during 15/16 and 16/17

3.6 Funding plan

The main home energy efficiency programme in Scotland is the Scottish Government funded 'Home Energy Efficiency Programme: Area Based Schemes' (HEEPS:ABS). Each Local Authority is required to bid into HEEPS:ABS on an annual basis, outlining the required financial allocation, proposed delivery method, what will be delivered, justification for funding, and so on. Over the last 2 years the HEEPS:ABS scheme in the Outer Hebrides has been extended to provide an additional measure of EWI for 'hard to treat' properties during 15/16 and 16/17.

A Business Case was put in place through BEAST justifying additional investment in EWI. This remains the basis on which additional resources and special measures for investing in island properties are being sought. EWI installation leads to average householder savings of over £400 per annum on their energy bills. It also leads to an annual carbon saving of around 3 tonnes per household, improving the carbon score and the SAP rating of the property.