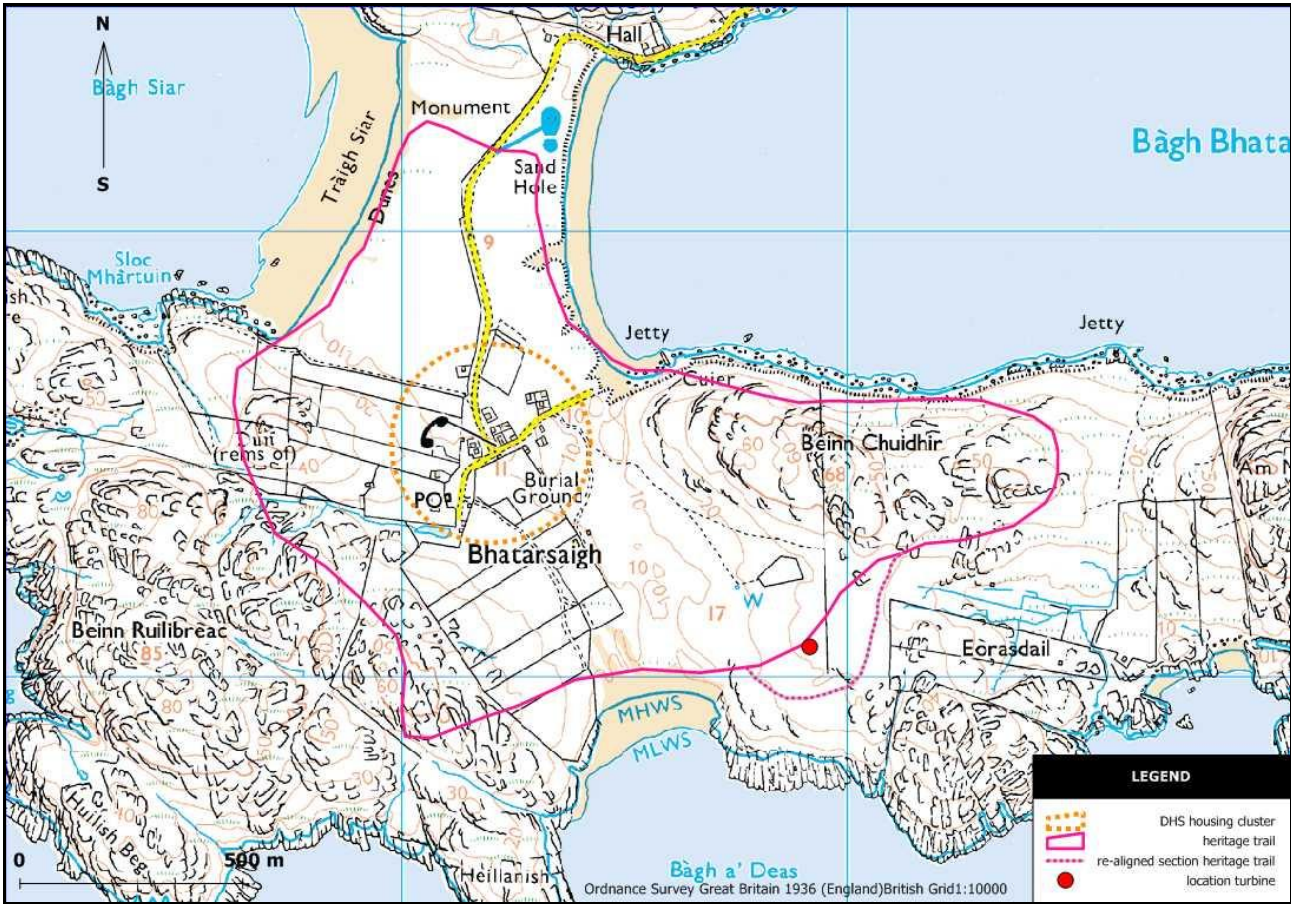


Proposed District Heating System for Watersay Village, Isle of Watersay

Developing wind based renewable energy as the primary energy source for household heating within Watersay Village.



Photo-montage of a turbine on the site as viewed from the west of the Village.



Map of South Watersay, showing Watersay Village and the proposed turbine site.

1. Background

The project aims to match distributed energy generation to demand at a local level for household space heating requirement for a cluster of 20 households. The local grid is transmission constrained and single-phase. The project which will be managed as a social enterprise with the objective of alleviating fuel poverty while demonstrating how renewable energy can be applied to small scale district heating projects.

Vatersay is the southern most inhabited island in the Outer Hebrides. As such it is remote and is at the furthest extent of the national grid for electricity. The island has a high level of fuel poverty, which it is estimated affects more than 50% of the population.

A group of post graduate students studying Sustainable Energy Systems and Management (SESAM) at the University of Flensburg in Germany, undertook an outline feasibility for this project in Spring 2009 and concluded that the project would be feasible utilising wind generated energy, subject to grant assistance and the availability of appropriate control, management and monitoring systems for the distribution of energy to households.

Proposed Site:

A site for the turbine has been proposed at grid reference NL6720598886, which is at the south end of Vatersay. We have received a planning screening option, based on up to two, 40m turbines and will not have to undertake a full EIA for the proposed development.

2. Study Parameters

Aim:

To develop a District Heating System which will cater for a small number of properties located in close proximity to each other, located at Vatersay Village, on the Isle of Vatersay in the Western Isles.

Scope:

The study will examine the technical requirements for the generation and distribution of energy and financial feasibility of using a grid-connected wind turbine to provide grid-supported renewable power for household heating. The study will make recommendations on each of the areas outlined in the Objectives and will highlight additional potential issues where these arise.

Objectives:

1. Project overview: scale of development required to meet the needs of the existing households, with allowances for up to 25% future growth in housing stock.
2. Technical overview: the technology, specifically the distribution, control and monitoring systems required to enable the project to meet its objectives for both the householder and the district heating management company. This should include both physical and software aspects of the project.
3. An overview of existing (and anticipated where this will fit with the scope of the project) turbines which will be suitable for this project in terms of output and suitability to the prevailing weather conditions. Issues relating to construction on the proposed site, transport, commissioning, etc.
4. Grid issues: specifically the physical interface with the grid, including import and export of energy. An assessment of the balance between import and export for the recommended turbine(s) and the implications of this for the projects viability.

5. Housing Issues: implications for householders; recommendations on metering; planning considerations.
6. Financial Feasibility: an assessment of the total project cost for the project; including contingencies; a breakdown of the TPC for specified elements of the project (to be agreed). Projected operating costs; payback; income (including allowances for ROCs and FIT); expenditure etc. issues which will affect long term viability of the project (to be discussed in detail at the briefing stage of the project.)

Expected Outputs:

1. Draft Final Report in word format to be submitted to Gerard MacDonald and Euan Scott for comments, containing:
 - a. text with introduction, findings, main conclusions and recommendations;
 - b. Detail on agreements required between community group and householders;
 - c. maps, plans and illustrations where appropriate;
 - d. appendices with methodology used, persons consulted and documentation used;
 - e. List and discuss any other information issues considered relevant to the development of a community owned district heating scheme.
2. Final report: two hard copies of the (amended, if required)

The Final Report is to be submitted to Gerard MacDonald. In addition, an electronic copy of the final report is to be provided in pdf format.

3. Methodology

- a. At start of the study: meeting with Gerard MacDonald and Euan Scott and relevant persons invited by Coimhearsnachd Bharraidh agus Bhatarsaidh Ltd, to discuss study brief and proposed ways of working, timeframe, logistics, etc.
- b. Consult with CBAB and other relevant organisations/persons (see below)
- c. Consultation of relevant documentation (see below)
- d. Field visits (if required).

The consultancy will be managed by Gerard MacDonald. The nominated contact person is Gerard MacDonald.

Relevant organisations/persons:

1. Comhairle nan Eilean Siar - planning
2. Community Energy Scotland – project support
3. Scottish and Southern Energy
4. SGRPID – Land owners
5. Vatersay Community Association – Community representation
6. Vatersay Crofting Township – Land users

Relevant documentation:

1. SESAM report
2. CnES Screening Opinion
3. Barra Community Turbine Feasibility Study - 2006

4. Budget & Timescale

Time scale:

- Tenders to be submitted by 12th March 2010.
- Decision on acceptance of the tender will be made by 19th March 2010.
- The selected consultant will be expected to provide a draft report by 30th April
- 2010 Final report by 14th May 2010.

Budget:

Max. £7,000 inclusive of VAT and project expenses.

5. Consultant experience

The consultant should have a good general understanding of renewable energy, an awareness of the Community issues involved, and particular expertise in on-shore wind energy developments and in control and distribution of energy within the grid and on a household scale. Knowledge of the Western Isles and previous work experience in the Highlands & Islands of Scotland would be an advantage.

6. Proposal documents

The proposal should provide details of relevant company experience, the competency of the consultant to undertake the tasks, and also outline the curricula vitae of the personnel to be involved in the study.

You are asked to submit your response to this brief to Gerard MacDonald by 17:00;12th March 2010 and it should include the following:

- demonstrate how all elements of the tender will be met
- methodologies to be employed in the study
- the cost of conducting the study, indicating fees and expenses (ex-VAT), against the person-days input from each team member
- a study timetable.
- value for money.

Tenders can be submitted in writing or electronically to the address provided at the foot of this document.

7. General variations to contract

It is possible that other unforeseen additional work will arise during the course of this consultancy. As any of this may give rise to a requirement for a variation in agreed works or a contract extension, the successful consultancy would be expected to quantify its charges for any potential additional work. This will also be subject to formal approval by Coimhearsnachd Bharraidh agus Bhatarsaidh prior to any further work being undertaken.

8. Additional notes

- Tenders should be valid for 90 days.
- A day rate for additional work should be included in tenders.
- It should be noted there is no obligation for CBAB to choose the cheapest tender or indeed any tender submitted.

9. Legal Terms and Conditions

(a) The Tenderer hereby warrants that:

- (i) the Tenderer (and any person employed or engaged by the Tenderer in connection with the Contract in the course of such employment or engagement) shall only use Confidential Information for the purposes of the Contract;
- (ii) the Tenderer (and any person employed or engaged by the Tenderer in connection with the Contract in the course of such employment or engagement) shall not disclose any Confidential Information to any third party without the prior written consent of the CBAB;
- (iii) the Tenderer shall take all necessary precautions to ensure that all Confidential Information is treated as confidential and not disclosed (save as aforesaid) or used other than for the purposes of the Contract by the Tenderer's employees, servants, agents or sub-contractors; and
- (iv) without prejudice to the generality of the foregoing neither the Tenderer nor any person employed by the Contractor shall use Confidential Information for the solicitation of business from CBAB.

(b) Nothing in this Clause 8 shall prevent the Tenderer from using techniques, ideas and know-how gained during the performance of the Contract in the furtherance of its normal business, to the extent that this does not relate to a disclosure of Confidential Information or any infringement of any Intellectual Property Rights.

(c) Ownership of Documents and Copyright. The copyright in all drawings, reports, calculations and other documents provided by the Tenderer in connection with the contract shall vest in the CBAB.

ii) Arbitration

Any difference arising between the Parties as to the interpretation of the Contract or as to the rights and duties of the Parties herewith shall, failing agreement, be referred to the arbitration of a person chosen by the Parties or if they fail to agree as to the choice of such person to arbitration by the Sheriff Principal of the Sheriffdom of Grampian, Highland and Islands or a person chosen by him. The terms of the Arbitration (Scotland) Act 1894 and any statutory amendment thereto shall apply to such Arbitration.

iii) Law

CBAB and the Tenderer agree that the Contract shall be construed in accordance with the Laws of Scotland and hereby submit themselves to the exclusive jurisdiction of the Scottish Courts.

10. Appendices: (both separate pdf files which will be sent out on request from contact below)

- (i) extract of the SESAM report.
- (ii) Comhairle nan Eilean Siar, screening opinion.

Contact:

Gerard MacDonald
Coimhearsnachd Bharraidh agus Bhatarsaidh Ltd
C/O VABV
Castlebay
Isle of Barra
HS9 5XD

Tel: 01871 810184

Email: Gerard@barra-vatersay.org.uk