

**DURNES DEVELOPMENT GROUP
LIMITED**

Small scale Community On-shore
Wind Energy project

**Position Paper
July 2008**

Community company limited by guarantee without share capital.
Registered Office Sangomore Headland Durness Sutherland IV27 4PZ
Registered in Scotland Number 222915
Recognised as a Scottish Charity Number SC 032179
Recognised as Community Body under the Land Reform (Scotland) Act 2003

The purpose of this outline is to summarise the aims, identify the work previously carried out, the current position and the future of the scheme. To progress we have to have a positive response from potential funders that applications for financial assistance would be appealing to granting funds. With the cost of line upgrade included in the project costs the project is not viable. With 75% of the line upgrade financed in Grant this project can proceed. What we are requesting assistance with is the resource to give the community the same opportunities as any developer. Where a developer can choose their geographical situation the community cannot.

We propose to ask

- **Climate Challenge Fund:** - The Scottish Government has ambitions to deliver an 80% reduction in Scottish carbon emissions by 2050. The Climate Challenge Fund, of £18.8m over three years (2008-11), is designed to enable communities to come forward with their own solutions to make a significant reduction in carbon emissions. The Climate Challenge Fund offers grants to a range of community organisations to help with the planning, learning, communication and most importantly action to reduce carbon emissions. The projects can involve a range of actions, from helping us to use less energy, or walk and cycle more, to local sustainable food. The projects should be delivered in the context of the wider environmental, social and economic dimensions, that give people new skills, improve health, help them to work together or provide better community facilities, but carbon reduction must be at the heart of every proposal.
- **Scottish Rural Development Fund**
- **Highlands and Islands Enterprise**

Introduction

Durness is the most north-westerly inhabited locality on mainland Britain, the corner of the Scottish Highlands and the turning point east from the south of the road network. Durness is a community with strong historical and cultural traditions. Tourism, fish farming, sheep farming and crofting are the mainstays of the economy. Small settlements dotted along the coastline give rise to Durness Village

Durness community council area of the Parish of Durness polling district S12H Durness lies 16 kilometres (10 miles) east of Cape Wrath on the north coast, and home to some 320 people of 150 households. Occupying the northwest corner of the county of Sutherland Durness parish covers nearly six hundred and six square kilometres.

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For its size Durness is an active community both in the voluntary sector with a coherent social and social enterprise network contributing with dynamic activities directly and measurable to the local economy and with a private sector with over 30 small individual business operating at various levels not including the accommodation providers of B&B and self catering establishments. There is a two, teacher primary school with a falling roll currently 24. Despite the disadvantages associated with the remoteness of its location, Durness is an economically vigorous and demographically well-balanced community but showing signs of an aging community unless retention of young people can be improved.

The fabric of the community is delicate and although there is a healthy determination a social economic future building on the present with further diversification must be established. This is one of very few opportunities for such an occasion and although the process to realize such a development are complex and tailored for large development communities working on the small scale such as Durness will be able to offer a social and economic secure future.

The socio-economic profile of Durness along with its degree of remoteness is contributing to the community becoming 'fragile', or in danger of decline and an erosion of its facilities and services. Fragile rural areas are taken as those which are socio-economically disadvantaged and/or have suffered economic decline over recent years and this is the case in Durness. Reductions in service provision can in themselves contribute to further population decline and North Sutherland is the most fragile area in the Highlands with remote, social and economic fragility.¹

The locality has the potential to increase into a main economic stronghold and we have begun to structure this in our community investment plan as the outcomes of a successful small scale wind generation project.

What our project is

The proposed development is for a community wind development to be installed on suitable land within the immediate Durness area. Electricity would be fed directly onto the National Grid and sold to provide an additional source of income for the community.

The objective of community wind development is to enhance and diversify the local economy to provide a sustainable income from renewable energy, while safeguarding the exceptional quality of the environment. With a long term income applications for one to three year grant funded schemes will not be necessary through enduring and durable projects with long term sustainability can be embarked on. Development becomes community controlled and the direction the community wishes to peruse becomes a real possibility.

Our aim is to install 2 x 440kW generators (880kW), committed to sustainable development by balancing care for the environment with the economic and social needs of the area.

¹ **The Definition of Fragile Rural Areas in Highland**

We can therefore consider the criteria against which the community wish to assess the potential renewable energy project in terms of the following community objectives, in relation to:

- Creation of jobs;
- Income;
- Attract visitors/tourists;
- More energy being produced locally for local consumption; and
- Develop reputation of Durness as a 'green' community in the same way Unst is promoting itself as 'Green Island'.

The advantages of such a project are that not only will it generate an income but it will also require the installation of suitably rated power cables to connect into the grid. This opens up the possibility of the community being able to export electricity to the grid from any other renewable energy projects they may wish to consider in the future.

- ▶ Our project is about sustainability, community security and playing a key role in developing to achieve thriving communities
- ▶ Growing our social economy with a shared vision to improve opportunities and quality of life. Being able to invest in delivery of local employment and funding shared priorities
- ▶ Innovation- bringing fresh thinking and new ideas for tackling old problems by encouraging creativeness
- ▶ Commitment – Durness Community strive to achieve quality services and work to maintain the individuality and unique aspects that make up the unparalleled locality. We are embarking on a course of action that supports with assistance to a viable community cause or interest for the long term benefit
- ▶ Independence - allowing communities to maintain a focus on and promote the interests of their residents and voluntary interdependent groups but interacting with each other maintaining a level of control in managing and directing their community activities.

Initial Feasibility Study

After a feasibility study with the overall objective to evaluate the feasibility of developing a renewable energy programme in Durness Prepared by Grangeston Economics in May 2004 a small scale wind generation scheme seemed worth further investigation and in 2007 an Environmental Overview document was prepared on behalf of the Durness Development Group by Renewable Devices Energy Solutions Ltd. To include:

- o A description of the project including a rationale for undertaking the development

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- o Alternatives to the proposed development (with respect to scale, location and operation) and reasons why these are not practical options
 - o A description of the environmental baseline to include both the present and future state of the environment if the project did not go ahead ('no action alternative')
 - o An identification of the expected adverse and beneficial environmental impacts and an assessment of the significance of each effect
 - o The Prediction of key impacts which will aim to quantify the magnitude of relevant concerns effects caused by the proposal and detailed discussion (where required) to quantify these impacts
 - o Mitigation measures to be included (where feasible) to avoid, reduce, remedy, compensate or enhance to minimise significant adverse impacts
- **Screening** An original request for a screening opinion was made to the Highland Council for a community wind development outlining the largest potential scale of development (three medium scale turbines with a capacity of 2.55 – 2.7 MW). The screening response concluded that in its proposed form – and with the information currently available – an EIA would be required.
 - **Scoping** We requested that the Planning Authority adopts a Scoping Opinion. A scoping opinion was requested with the presentation of the Environmental overview. This is an important stage for developers so that they know which impacts and issues should be considered at the earliest stage. A scoping opinion is sought from the decision making body and key stakeholders (including the public if possible) in which they outline the impacts they feel are most significant.

Current Situation

Access to the National Grid has been a major issue. Our concern is the state of the distribution network. There is limited existing capacity available on the Rhiconnich – Durness 11kV OHL network 21 km of the Rhiconnich to Durness line will have to be completely rebuilt from Pole 1 at the Rhiconnich substation to the Achins spur pole. This work will require the existing network to be replaced rather than being just upgraded but must increased in size to 100mm²cu.

There is a special irony in the scenario of communities who are very keen to develop their own small wind projects being prevented from doing so, whilst those elsewhere in the UK appear to be resisting wind farms at all costs. The fact that remote rural communities are also often in the windiest spots (or at least we are) and yet due to grid constraints you are unable to develop. Because of **market failure**, due to our geographical location we are at a disadvantage and development opportunities are not equal.

Connection in order to connect 2 x 440kW generators (880kW), the estimated connection cost would be in the range of £1.215M - £1.445M

Project Given a level playing field and removing the costs for upgrading the line we project significant income to a community distribution company and an ability to repay loans and equity invested for the initial capital costs in initiating the project. Detailed finances are not yet possible. Imprecise generalities can be estimated

Next Step

If we can secure in principal agreements for assistance in line upgrading we can start the process leading towards a planning application. This would involve formal applications for funding and commissioning consultants to carry out the Environmental Impact assessment detailing all the requirements in the environmental over view and in the scoping opinion. We have the support of the Community Energy Company in advancing this next stage. All the studies to date indicate that the project would obtain planning and within 3 years of securing line upgrade finance we could have a small scale wind generating system in Durness

Time	Activity	Outcome	Action	Measure
May 2004	To evaluate the feasibility of developing a renewable energy programme in Durness Prepared by Grangeston Economics in	A Study of Several opportunities outlined with a review of the potential	Initiated community discussions and a support to proceed with developing renewable energy possibilities particularly wind	A Geothermal system installed in Durness Hall
July 2006	A Detailed Wind Energy Feasibility Study carried out by Renewable Devices Energy Solutions Ltd	The document initially describes the proposed development of a small scale community wind development (installed capacity of 0.5 – 660 kW) in Durness. It then examines the environmental concerns raised from stakeholder contact and where possible provides an initial desktop assessments of relevant issues.	The aim of the study is to provide an understanding of the potential for on-shore wind energy development and local capacity for both construction and maintenance of the technologies. The study identified the most suitable location	Instigated community discussions and views on A broad look at the potential for wind energy generation in Durness, encompassing the natural resource in the area, the capacity of the HV electricity grid and the local resources available for the construction and maintenance of the system A detailed assessment of the relevant aspects and possible limitations, including the geomorphology, access, planning issues, landscape values and environmental designations, including bird interests An account of the expected finances, marketing opportunities, ownership, community involvement and benefit
December 2006	Wind Technical Feasibility Study	This report provides a technical overview for developing several scales of wind development for Durness. Site overview, Electricity infrastructure, Turbine assessment, Wind resource assessment, Energy yield	A further in-depth study to determine the factors and figures for accurate financial models. This will require recordings made on site.	A comprehensive report on the amount of wind and % able to be harnessed over set periods.
November 2006- December	Commission consultant for	Funding from BIG for one year	Project was able to move	Outcomes agreed in advance

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2007	preparing the groundwork and arranging the scheme liaisons with experts and agencies and keep the community informed		forward with a dedicated person arranging and making the appropriate contacts and meetings. The information required coordinated and collated.	were reached.
February 2007	Environmental overview For Wind energy development	This document should be considered as an Environmental overview to provide further information on the proposed development and its likely environmental and social impacts. This document contains: An overview of relevant national and regional policy relating to this development A further description of the proposed development to include a description of the site, turbine options, development process and likely layout of development An initial desktop assessment of the typical concerns associated with wind developments and specific issues relating to this site.	This document promoted further discussion between the Durness and LPA to properly assess the extent of required environmental work to successfully take the project through the planning process. This work has discussed issues that are considered to be of primary concern by the Highland Council, as well as stating those areas which are thought to be less relevant to this proposed development.	Included was information collated to date from stakeholder groups and proposed methodology for issues requiring further assessment. This would require further and fuller examination in the EIA
March 2007	Financial Overview For Wind energy development	This report provides a financial overview of developing a wind energy scheme The report therefore addresses the following relevant areas: Planning development requirements and costs Capital and operational expenditure Value of generated renewable electricity Base case cost benefit analysis and sensitivity analysis The electricity generated would be exported and the revenue would provide a sustainable income to invest back into the	The project appears to be financially viable with general statistical models being used. separate aspects are clear from the account Project inc construction costs and Line upgrade.	A period of on-site wind monitoring should therefore be considered as a vital step to confirming the key variable of this report.

		community.		
March 2007	Scoping	Meetings with planning gave the outline agreement for the scoping opinion to be requested.		
May 2007	Screening opinion	An original request for an opinion was made to the Highland Council for a community wind development outlining the largest potential scale of development (three medium scale turbines)	Response concluded that in its proposed form – and with the information currently available – an EIA would be required to clarify some features.	Find funding for line upgrade, prepare project budgets and commission an EIA
Proposed December 2008 October 2009 This is the stage we have reached and securing funding for this phase award is critical in proceeding	Apply for Line upgrade funding	Make applications to identified funders for up to 75% of the line upgrade costs	This is critical to the viability for the project. Without assistance to bring the equality of possibilities to this area we are held in a detrimental set of circumstances.	There is a special irony in the scenario of communities who are very keen to develop their own small wind projects being prevented from doing so, whilst those elsewhere in the UK appear to be resisting wind farms at all costs. Because of market failure, we due our geographical location are at a disadvantage and development opportunities are not equal.
Proposed September 2008 October 2009 Principal agreement for the Community Energy Company to fund the study	Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a process used in the examination of the consequences of proposed development. Its goal is to ensure that a holistic and systematic appraisal of the environmental consequences of a development is provided to allow for an informed planning decision. The EIA should identify, describe and assess the direct and indirect effects of a project on the following factors: Human beings, fauna and flora Soil, water, air, climate and the	This process is not linear but is a cyclical activity with feedback and interaction between the various stages. This feedback allows the final decision to take into account all aspects of relevance An EIA will have a strong social dimension that is examined alongside the more obvious environmental effects.	An EIA is “an important procedure for ensuring that the likely effects of new development on the environment are fully understood and taken into account before the development is allowed to go ahead” The overriding purpose of EIA is to act as a repeatable and quantifiable instrument through which the goals of sustainable development are incorporated into the decision making process. The EIA process - The

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		landscape Material assets and cultural heritage The interaction between the above factors		completion of an EIA requires a number of differing steps to be undertaken
September 2008 – June 2009	Detailed budgets, financial projections, formal structure arranged, Grant applications created,	A clear monetary budget can be proposed for aspects of the scheme	Involvement of community and all representative groups.	A detailed investment plan would be produced
October 2009 Submitted by the agreed community body	planning application	On completion of the EIA and covering all the studies required we would lodge with the local authority a detailed planning application	On reaching this stage and continually liaison with the Local authority and all agencies with recommending and requests we would be confident of obtaining planning permission	Community kept informed and involved by several methods during this phase. Reports to CC DDG, newsletters and web
October 2009 – March 2010	Have secured and in place upgrade and project funding	Compile funding packages for the 2 major project sections	Details with legal and financial implications for the capital cost of construction and purchase would be arranged.	The community would discover the best structure to administrate the ongoing scheme and the manage the financial aspects
Start summer 2010	Tender process and project construction & line upgrade	Have contractors on site starting to build infrastructure and preparatory work leading to turbines installation SSEB start to upgrade the section of power lines.		
2011	Project producing energy	Turbines on line and connected to the National Grid		
2012	Community Investment Plan initiated			

Not acknowledged or reference in the Position Paper is the constant support and resources we have obtained and continue to depend on from the Community Energy Company. The Community Energy Company's help in sourcing and supporting a one year consultant for the project to bring the scheme this far has been a main factor. Their advice and liaison with direction has been given without question. Their financial support for all the studies to date is highly appreciated and we are dependant on their continued support to carry this project forward.

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Attached are financial spreadsheets for the options showing grant aid support and no grant aid support, using the same cost figures calculations with 75% of the connection estimate as grant and put that in the grant figure and reduce the loan figure respectively and use that as "with" grant spreadsheet for comparison. They are approximate indications at this stage based on industry standards.

References and documents this report is compiled from

- Environmental overview For Wind energy development, Completed By Renewable Devices Energy Solutions Ltd
- Wind Technical Feasibility Study Completed By Renewable Devices Energy Solutions Ltd
- A Detailed Wind Energy Feasibility Study Proposal and Quotation by Renewable Devices Energy Solutions Ltd
- Financial Overview For Wind energy development, Completed By Renewable Devices Energy Solutions Ltd
- Proposed electricity connection to a wind generating station at Durness in Sutherland. Scottish and Southern Energy plc
- Scoping Opinion Area Planning and Building Standards Manager Planning and Development Service Highland Council
- Community Newsletters

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