

CASE STUDY – CAPITAL PROJECTS

Gatehouse Development Initiative Wind Project

Introduction

Following the last outbreak of foot and mouth disease in Dumfries & Galloway, the area around Gatehouse having an unhealthy dependence on agriculture, fishing, forestry and tourism, the Gatehouse Development Initiative was set up with a remit to co-ordinate with relevant agencies to develop initiatives to improve the social and economic prospects of the local area. One of the difficulties which it encounters in trying to obtain funding for these initiatives is the need for match funding to provide 'leverage'. The group was therefore looking for a some way of produce an income stream which could provide 'seed' funding to facilitate other local projects.



Following discussions with the local SCHRI Development Officer, grant applications were made to the SCHRI and Leader+ grant funds for £105,410 to cover the cost of a wind turbine, the sale of electricity from which could provide such an income. A grant of £55,120 was approved by the SCHRI and balance by Leader+.

Aims & Objectives

The aim of the project was to purchase a wind turbine and install it, on land subject to a long term lease, close to a site on which all the electricity generated could be used directly. The user would, under a long term agreement, make a regular payment to the GDI corresponding to the amount of electricity generated, to take account of the value of the electricity and of the Renewables Obligation Certificates and other related payments .

Who was involved?

Gatehouse Development Initiative	Owner of the wind turbine and recipient of the income
Cream o' Galloway	Lessor of the turbine site and user of the electricity generated
J Finlay & Son	Project manager and main contractor for the installation
Atlantic Orient Company	Supplier of AOC 15/50 wind turbine and tower
R Schiller, Rural Business Consultant	Adviser on alternative funding
SCHRI	Provision of advice and funding
Leader+	Funder

An agreement was reached with the Cream o' Galloway ice cream and organic farm produce company, a short distance from Gatehouse of Fleet and one of the main visitor attractions in the area, receiving around 70,000 visitors annually, of which 1,500 are school children. With the assistance of the SCHRI Development Officer, a survey of the market for small-scale wind turbines identified the 50kW-rated Atlantic Orient Company's 15/50 turbine as offering the best value in respect of potential output and installed cost. Local firm J Finlay & Son, which is closely associated with Cream o' Galloway, undertook to manage the project on behalf of the GDI.

The approach

The group considered a small turbine to be in keeping with the environmentally sensitive ethos of the Cream o' Galloway Centre. At the time of planning the project there were no other fully developed turbines available in the UK in this size range, which suited the base load demand of the ice cream factory, avoiding significant 'spillage' of power onto the local grid which would reduce the profitability for the GDI. J Finlay & Son made an environmental impact assessment of the AOC 15/50 at the obvious site upwind of the factory and visitor centre and planning permission was obtained without any objections, the site not being overlooked by any neighbours within several miles.

Quotes were requested from several contractors. J Finlay & Son, who had an interest in the project at the factory, were able to undercut these quotes substantially and were also prepared to supply in kind assistance with various aspects of the preparation and coordination work. The project manager then, with the assistance of the SCHRI Development officer and Rural Business Consultant, Robert Schiller, successfully applied for grants to cover the full cost of the installation.

Results

Calculations based on the expected average windspeed at the site, not far from the shore of the Solway Firth, suggest an annual yield of at least 65,250kWh per year (15% of theoretical maximum output of 50kWh x 8700 hours per year = 435,000). This corresponds to carbon dioxide savings of 28.06 tonnes per annum, and an income for the GDI in the region of £7,500 less the costs of rent, insurance and maintenance of the turbine, and repayment of a small interest-free loan made by J Finlay and Son to cover additional costs.

The final cost of the installation was £114,000, including the value of in kind assistance from J Finlay & Son, equivalent to £2,280 per installed kilowatt.

The gestation of the project was very long, the first discussions having taken place in October 2003, with every element taking longer than anticipated – the planning and the grant approval and the delivery lead time and installation all affected by delays both human and meteorological. Part of the delay was caused by the decision, prompted by the SCHRI Development Officer, to switch from two smaller turbines, for which planning permission was originally obtained, to one larger one which provided much more power for about the same capital outlay.

The actual output of the turbine and its running costs will be monitored carefully and the information made available via the contacts listed below.

Pictures



Lessons Learned

The main lessons have been learned by J Finlay & Son – in how to install a large ‘small-scale’ wind turbine. The GDI expected the services provided by the turbine supplier to be far more comprehensive than was actually offered. The project turned out to be far more complex and time consuming than they expected and it would have been either much slower or much more expensive without the skills and involvement of the project manager based close to the site.

Other groups undertaking such a project should be advised to try to involve a consultant or manager who has experience of all the many aspects - planning, funding, specifying, engineering, and the logistics involved in the installation – which must all be coordinated to ensure a smooth ride and minimise time lost.

SCHRI Development Officer

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Contact details for the community group may be obtained via the SCHRI Development Officer.

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At the time of publication and to the best of our knowledge, the information contained in this case study was correct, however the Energy Saving Trust does not warrant or guarantee any of the information contained herein. Energy saving figures and related information has been provided by the community group.