

Uig Community Shop Wind Turbines Project

Introduction

Uig Community Shop provides a lifeline service to the community of Uig on the west side of the Isle of Lewis. Uig Development Trust (UDT) was established in 2003 to buy the existing shop and has since increased its turnover by 56%. Because of this success the community have expanded the shop and the services which they can offer to the wider community. UDT successfully applied to Growing Community Assets for a 117 m² extension to provide additional retail space, more storage, a cafe and a laundrette. Along with the extension the group were focused on ensuring they could make the shop as energy efficient and sustainable as possible. With this in mind they focused on a number of measures such as insulation and the installation of two Evance 5kW turbines, which would meet some of the shop's high electrical demands, caused by the number of electrical goods in the building, including chillers, washing machines and dryers.



Equipment

Two 5 kW Evance wind turbines

As plans and development stages of the extension project progressed, the group made a point of ensuring that renewables and energy efficiency were incorporated as part of the design work. Initially a heat recovery study was commissioned to assess the potential of using the heat from the chillers and freezers. However, it was deemed unsuitable for the needs of the shop, and the group began looking into other options. The wind turbines were chosen based on the site location and electrical demands of the shop. The following selection process for the wind turbines installation was carried out:

- A review of the demands of the shop was made and a brief compiled.
- Tenders were sought to supply a complete installation through CES's framework approach.
- Three different installers were asked to provide quotes for design and installation.
- The chosen installer designed the system so that the electricity from the turbines was used in the shop when there was demand, and that only when there was no demand from the shop would the overspill electricity then be directed onto the grid.
- Due to the remoteness of the shop the local electricity network had to be upgraded to three phase. This significantly increased the project cost, but ensured that the turbines could connect, as well enabling higher duty equipment to be installed in the shop, such as the laundrette equipment.

Cost and Grant Funding

Total project cost (including three phase upgrades)	£ 88,280	The remaining funding was obtained through: Comhairle nan Eilean Siar (local authority) Big Lottery
CARES grant	£ 44,140	
CARES grant percentage	50%	

Fuel Bill Savings

The shop has been carefully monitoring the energy production of the turbines since they were installed in June 2011. The two turbines totalled 43,177kWhs in eighteen months, which has made a significant impact on the shop's electricity use and also benefited their income through Feed in Tariff income. The shop is hoping to average around £8,000 annually in Feed in Tariff payments alone, which will make a massive difference to the shop's income and sustainability.

Emission Savings

Estimated kWh savings p.a.	28,784
Annual CO ₂ savings (kg)	12,377
Lifetime CO ₂ savings (kg)	247,548

Project Monitoring

Uig Shop hope to have a Logic Energy Monitoring system installed which will measure wind speed, wind direction and production. This information is to be made available to the wider community through a web address which will hopefully educate all in the wider community as to the benefits of renewable energy. Other community projects locally are having similar systems installed which will also enable groups to compare their projects.

Local Impact

The shop is a crucial service for the community of Uig and many rely on it for their groceries, fuel, post office and as a social meeting point. Not only does the shop provide goods for its customers it also provides a social hub for those who use it. The turbines are helping to ensure the continuation of this vital service, as well as helping to ensure running costs and are being covered.



Elaine Newton from Uig Community Co-operative Ltd said:

“At the beginning of June 2010 our much awaited 2 x 5kw Evance turbines were installed by SWP and have generated 43,177kWh in the first 18 months. Our increased running costs from new chillers and freezers in the shop have meant a substantial increase in our electricity bill, therefore the income and savings the shop will receive both from use of the electricity they are generating and FITs is a critical part of the sustainability of our project. The turbines themselves are aesthetically very pleasing and there have been no adverse comments towards them from visitors or the community - in fact the opposite - there has been plenty of interest and positive feedback.”

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