

Kilchoan Community Centre

Introduction

The Kilchoan Community Centre is located in Kilchoan on the Ardnamurchan Peninsula. It is an isolated village community with around 150 people in the immediate locality. The organisation is a non-profit distributing company limited by guarantee. The community centre is the main hub for community activity in the village and these activities include: a community hall, fitness gym, tourist information centre, local café and local GP surgery. In common with many community facilities, KCC were experiencing difficulty with the energy running costs for the centre. With a high demand on their centre and with frequent usage, energy consumption was difficult to manage and afford within the constraints of their overall budgets. The centre also provides some employment locally, with one full time employee and several part time employees. It is a key local asset.

Equipment: 2 5kW Evance R9000 turbines

The existing heating system in the centre was electric storage heaters; this, coupled with the local wind regime and topography, made it ideal for a Wind 2 Heat scheme. It was thought that this would be best suited to provide additional heat and electrical input for the centre. This type of system operates when the wind blows and the electricity generated from the turbines is used to heat-up storage heaters within the building and creates a positive heat gain rather than a negative heat loss which is the usual effect from wind exposure. When all the heaters are warm enough any spare electricity feeds lighting circuits first and any excess spills on to the local grid network and the group receives an income from electricity sales and Feed in Tariff payments.

Cost and Grant Funding

CARES	£50,508.46	70%
Highland LEADER	£18,038.74	25%
KCC own funds	£3607.75	5%
Total	£72,154.95	100%

Fuel Bill Savings

In an average year the KCC required around 30 – 40,000kWh per year costing around £3200. Generation from the new turbines in the first year was c. 14,000 kWh resulting in energy savings of around £1200. However, savings are also augmented by payments from the Feed in Tariff at 28p per unit bringing an equivalent payment of £3920. It should be noted that in the first year generation and income from the project were hampered by early operational faults and subsequent down time. Generation and income will increase in years to follow.

Emission Savings

Actual kWh renewable input	14,000
Estimated future kWh renewable input	18,000
Annual CO ₂ savings (kg)	8,170
20yr lifetime CO ₂ savings (kg)	163,400





Project Monitoring

The project is remotely monitored and energy production is also displayed within the centre. However, there have been difficulties with turbine down-time due to inverter problems, lightning strikes and brake difficulties over the first year of generation. This has had a negative impact on generation capability, resulting in a low capacity factor of c. 16%. Overall the turbines have produced c. 14,000kWh in their first year of operation, which although lower than anticipated shall increase over the next year providing the turbines and related equipment can generate without mechanical or weather related faults or interruptions.

Local Impact

Thus far it is a little early on to say what financial impact the project shall have on the community centre. The FiT payments have been slow in materialising so KCC are not able to say for certain what a full years income will look like. One thing KCC can say is that their electricity bills (for imported power consumed) is substantially lower and is making a real difference in operating costs,

KCC lost out on their annual payment from visit Scotland for delivering tourist information; however, KCC feel that this is something that the area needs to maintain and deliver and the intention is to use income and savings from the wind project to finance this from the community centre.

Lessons Learned

- **“Make sure that you have access to sufficient funds to allow project invoices to be paid, as claiming grant funding can take time and cause short term cash flow problems.**
- **Ensure that you get up to speed with the FiT application process quickly and make sure you don't lose out - make sure that you are claiming for all electricity generated as soon as you can.**
- **When applying for the FiT, we found it much easier to apply to our own power supplier than trying to deal with other companies”.**

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