

Skye and Lochalsh Action on Disability Air Source Heat Pump

Introduction



Skye and Lochalsh Action for Disability (SLAD) are a company limited by guarantee operating for charitable purposes in Kyleakin on the Isle of Skye. The organisation, who were set up in 1983, have been providing day care services to help people with disabilities in the area of South Skye and beyond since that time.

The organisation aims to encourage independent living for those with learning difficulties or other forms of disability, and to enable them to live full and inclusive lives within their own community. In addition to this SLAD also operates a cafe and bookshop/exchange. In the cafe training is also given whereby those attending and working in the kitchen environment receive SVQ training.

Equipment

14kW NIBE FIGHTER air source heat pump (ASHP), with a radiator-based wet heating distribution system.

In 2009 SLAD were spending around £1,100 per year on providing heating for their building, and their decision to install the ASHP was to mitigate against their running costs, which were expensive and represented a significant overhead for them. In addition to installing the ASHP, they also carried out various energy efficiency measures including improvements to glazing and topping-up the loft insulation. However, despite the renewable kit and insulation, it soon became evident that running costs of the new system actually turned out to be much more than was expected – this was a cause of serious concern for the group and to Community Energy Scotland. Investigations into the cause of this identified that the ASHP system was incomplete and that an external weather compensator had not been fitted. After fitting this piece of equipment the running costs reduced significantly and quickly, and over time continued to drop even further as the group gained confidence and understanding in how to operate their system more efficiently.

Recently the group has also completed an upgrade to the building which included further energy efficiency measures, and it is expected that cost will reduce even further.

Costs and Grant Funding

Total project cost (including heating design and water storage tanks)	£ 14,301.50	The remaining funding was obtained through: <ul style="list-style-type: none">• Edinbane Windfarm Fund• Highland Council• SLAD own funds
CARES Grant	£7,150.50	
CARES grant percentage	50%	

Fuel Bill Savings

Since the system has been installed the running costs increased initially, but following remedial measures, dropped even further. At the time of installation predicted savings compared to electric storage heating was 3,650kW. Monitored output has shown that the system is performing comparatively well with a co-efficient of performance (CoP) of 2.7.

Emissions savings

Annual CO2 savings (kg)	1,570
20yrs lifetime CO2 savings (kg)	31,400

Project Monitoring

The project is part of CES' project monitoring programme. This has been valuable in tracking performance operation data, and allows CES to compare with other similar systems. As alluded to earlier, the system's early operation was less efficient, however, due to the aforementioned measures, the CoP showed a gradual increase in performance to 2.7.



Impact on the community

The installation of this system has played a large part in reducing the energy cost overhead for SLAD. This in-turn has allowed them to re-invest the savings in the improvement of the important day-to-day activities of their user groups.

Lessons Learned:

- Ensure that you do your background research into installers
- Make sure that you fully understand what the finished project should look like
- Make sure all system parts are fitted

Ian MacLean of SLAD said:

"We would like to thank CES' Jamie Adam and Daniel Portsmouth for their help in assisting with the project and for help in diagnosing the early problems and getting these sorted"

For further information, contact:

Skye and Lochalsh Action on Disability contact:

Ian MacLean
Skye & Lochalsh Action on Disability
5 Achmore Rd
Kyleakin
Isle of Skye
IV41 8PS

T: 01599 534631
M: 07577559917
E: Ian.maclean@hotmail.co.uk

Community Energy Scotland contact:

Karen Paterson
Community Energy Scotland
St Mary's House
Gordon Square
Fort William

T: 01397 708251
E: karen.paterson@communityenergyscotland.org.uk