

Auchindrain wood boiler and energy appraisal

Introduction

The Auchindrain Trust is a charity which exists to preserve Auchindrain township. Operating as a museum which brings an historic farming village "back to life", Auchindrain includes a Visitor Centre and the Colt House (Trust offices).

With the exception of an electric convector heater for the reception, the visitor centre was originally unheated and was unusable in the winter months. The Trust were keen to install heating in the Visitor Centre to improve comfort levels for staff, visitors, and increase its usability by the local community. Similarly, the Colt House - which acts as a headquarters for the Trust - had no insulation or heating system. When heating was needed in the Colt House, portable electric fan and convector heaters were used.



Equipment: Biomass Vigas 25kW unit



With regard to the heating options for the Visitor Centre, the Auchindrain Trust approached their local Community Energy Scotland Development Officer. Initial discussions within the Trust were focused on the installation of electric heaters, however the running costs were identified as a concern, and there was some interest in the possible low carbon technologies. After some research and assistance from Community Energy Scotland the Trust decided to apply for CARES funding for the installation of a 25kW VIGAS unit. This is a specialised gasification wood burner which produces hot air, and can have a variable range, from 5kW-31kW. In

the building the heat is carried through ducting delivering the warm air to a series of locations within the building where it is required.

Cost and Grant Funding

Total Project cost	£20,527.30	The remaining funding was obtained through: LEADER £5,500
CARES grant	£15,027.30 (£8827.30 Vigas unit) (£6,200 Colt House E.E.)	
CARES grant Percentage	62% of Vigas 100% Colt House energy efficiency study	

Fuel Bill Savings

2009/2010 bills were in the realm of £4,000 for this property - and these costs did not provide a warm facility. It is estimated that the cost of fuel will be 50% less than it would have been with electric heating.

Emission Savings

It was calculated that the carbon footprint would be 90% lower than if electric heating had been installed.

Estimated kWh savings p.a.	131,400
Annual Co2 savings (kg)	56,502
Lifetime Co2 savings (kg)	1,412,550

Project Monitoring

Due to the nature of the technology, no monitoring equipment was installed.

Local Impact

Once the Visitor Centre was heated, it attracted increased usage from the local community as a local meeting space. Providing heating in the Visitor Centre has increased its chances of survival in this harsh climate – in both an economic and environmental sense. Now the Colt House is heated, it is also now suitable for use by the local community for meeting space. The overall project has created additional employment locally, and provided a venue for local residents to come for lunch socially, often at the end of a walk.



Lessons Learned 1. Ensure quotes for installation of VIGAS system are accurate and complete.

2. Research the supply chain well – and consider this as an important factor before purchasing a VIGAS system.

Bob Clark, Auchindrain Development Manager, said:

Through all of [the early difficulties] CES staff were wonderfully supportive and knowledgeable, and ultimately everything came good with their advice proving to have been right. The plant works well, is easy to use and maintain, and does keep the building warm. I would recommend anyone in comparable circumstances to get a Vigas, and we could probably give them some case-study-experience advice to make the procurement and installation process easier than it was for us.

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