

Allan Barwell

Kilry Hall Renewable Energy Project: Case Study

Introduction

The Kilry Hall Management Committee is responsible for the maintenance and development of this village hall, which was built in 1938, and extended in 1970. The hall still reflects the building practices of those dates, but had been improved in recent years by the installation of double glazing, some ceiling insulation, a new roof, access and toilets for the disabled, and a new kitchen. However, even with these improvements, the hall could not be described as energy efficient, being of a single skin concrete block construction. It has been heated effectively, but not efficiently, by electric convection heaters.

In early 2002 the committee, on its own initiative, did consider the possibility of installing some photovoltaic panels, but found that they were too expensive relative to their output, and did not pursue the matter further. Subsequently, as a result of this interest, the committee was invited to send representatives to the Angus Village Halls Renewable Energy Group, and agreed to do so.

The Group was seeking to encourage village halls to become involved in funded projects designed to test and demonstrate renewable energy technology. Ultimately, Kilry Hall was persuaded to set up the project which is described below, on the basis that, it would benefit both the local community, and the wider community.

For the sake of completeness both the renewable energy and energy efficiency aspects of the project are included in this case study.

Aims and Objectives

Our project seeks to achieve the following, in random order:

- To promote and demonstrate the use of renewable energy.
- To promote the use of energy efficiency measures.
- To reduce greenhouse gas emissions.
- To make the hall more comfortable.
- To make the hall more appealing to use.
- To conserve energy and reduce costs thereby.
- To protect the hall against frost damage.

Who was involved?

The project was managed by the hall committee, with the continuous help and support of SCHRI and the Angus Village Halls Renewable Energy Group which is administered by Angus Council Community Learning & Development Service. The total cost of the project amounted to £64,290.28. We have received funding support from the Energy Saving Trust (£29,197.40), Leader+ (£20,732.90), the Scottish Rural Partnership (£8,000), and Angus Council (£4,000). Kilry Hall contributed the balance of £2,359.98

The following businesses or individuals have been involved in the installation of the various components of the project: Element Engineering Ltd. (photovoltaic array), Mackie-Robertson Building Services (external insulation), David Pirie and Peter Channon (joiners - internal insulation) 3GEnergi Ltd. (pellet stoves) and Tayside Windows (doors).

The Approach

The Kilry Village Hall Management Committee was represented on the Angus Village Halls Renewable Energy Group from mid 2002 onwards. In the autumn of 2002 the group requested Hugh Piggott of Scoriag Wind Electric to undertake an assessment of a number of Angus village halls, including Kilry Village Hall, as to their suitability, or otherwise, for the installation of different renewable energy technologies. Hugh Piggott's report prompted a period of monitoring at Kilry, of wind speed (average around 4mps), temperature (at times, at or close to zero in mid-winter), humidity (usually 60% or above in winter), and electricity consumption (varying between 4,500-7,000 units depending on hall usage). This, in turn, eventually prompted a recommendation by the Group in March of 2004 that Kilry Hall would appear suitable for the installation of a wind turbine, photovoltaic panels, and substantial insulation. This recommendation was accepted by the hall's management committee. A detailed scheme involving these elements was drawn up, for which funding was requested and approved, subject to planning approval. Unfortunately, planning permission for the wind turbine was refused following objections by two neighbouring families, notwithstanding support for the turbine by the director of planning and the rest of the community, as revealed in a public consultation meeting held at the hall. The committee decided not to appeal against the decision in order to avoid the continuation of ill feeling and conflict which had been aroused by the wind turbine issue. The hall committee was therefore forced to reconsider the project and eventually decided to continue with the scheme, but with the installation of two pellet stoves in substitution for the wind turbine. Funding, and appropriate approvals from the local authority for the amended scheme having been obtained, work commenced in February 2006 and was completed in April 2006.

Results

Kilry Village Hall now has the following:

- Powerwall System 2 external insulation
- A combination of glass wool and TriIso 9 ceiling insulation
- Two new draught proof doors
- 3.5kw capacity photovoltaic panels on the roof
- 2 pellet stoves - one for the main hall and one for the annex.

Lessons learnt

1. We did not employ a project manager, due to experiencing unsatisfactory service from one in an earlier kitchen extension project, and as a result created time-consuming extra work in connection with planning and building warrant applications. Also, problems arose due to a misinterpretation of the extent of work covered by an estimate, and the overlooking of some peripheral expenses, which resulted in a requirement for additional funding of £3,359.98. Had the project included more extensive building work, a competent project manager would have been essential.
2. The project took nearly 4 years from initiation to completion. Delay was caused by:
 - problems with monitoring equipment
 - difficulty in obtaining estimates,
 - failing to get planning permission for a wind turbine
 - slow building warrant procedure.

With hindsight, it is probably not unusual for such problems, and others, to occur.

3. Applying to a multitude of different funding bodies can cause difficulties as they all have differing procedures, deadlines, and requirements, but ours all proved to be helpful and flexible. However, anxiety and uncertainty for applicant bodies could perhaps be overcome by having a single clearing house for such applications by community organizations
4. The expertise and support emanating from SCHRI, EST, and Angus Council was invaluable.