



## 2015 Project Snapshot

LEAD APPLICANT

**Energy Wise Construction**

PROJECT CO-ORDINATOR

**Energy Wise Construction**

PROJECT

**Retrofit of 34 homes and 10 non-residential buildings including schools, community centres, church buildings and local businesses located in Cavan town and the surrounding area.**

FINAL PROJECT COST

**€1,267,310**

BEC GRANT

**€802,208**

ENERGY SAVINGS

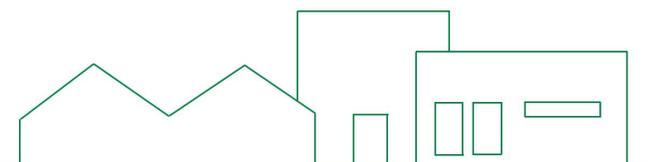
**1,431,618 kWh**

## Background

Energy Wise, led by Bernard Farrell, had previously engaged in a community energy initiative in the Aran Islands in 2012 and inspired by the uptake there, he decided to focus on establishing a sustainable energy initiative in his hometown, Cavan. At the same time, separate individuals and groups in the Cavan area were becoming interested in pursuing an energy efficiency project, yet within the town there was no obvious focal point for community energy. In 2015, Energy Wise Construction began engaging in community outreach work to raise awareness of the potential of a BEC project. This included sending out one-page leaflets to individuals, community groups and organisations to explain the benefits of doing an energy efficiency project and how the BEC grant works. The strategy they adopted was to find and meet with key community stakeholders who could become local champions for the project. Assisted by Bernard, these champions would then arrange an information meeting to gauge local interest, or make direct contact with people who they felt might be interested in participating in the project. In order to identify beneficiaries, they first targeted fuel-poor houses as well as community facilities eligible for a 50% grant, with the idea that other building owners would then follow. Energy Wise also conducted small 'village hall' type meetings to spread awareness in smaller, neighbouring communities such as Castletara. The outreach work was both rewarding and challenging – a lot of time was required to both explain the benefits and build trust between parties. Initially, people that got involved were individuals with an interest in energy. As other supporters

emerged – from individuals to the Chamber of Commerce and the existing business network BNI Breffni Chapter – the project has become a nucleus for all those interested in working on community energy in Cavan.

To initiate the BEC application process, Energy Wise conducted a study on each of the properties that had expressed interest in participating (the cost of which they covered themselves), to ensure that it would be possible to deliver the work to SEAI standards. The inspection sheet they used was closely modelled on SEAI performance requirements. Where it was possible to meet these requirements and there was enough capacity, then further discussions were conducted with the client to explain what retrofit options were available and help them to decide how they wanted to proceed. Once these details were agreed, this information was included into the BEC application. As this was the first year of BEC works in the town, the demand matched their capacity to deliver, as some people were initially interested but were not yet ready to commit to investing in works. A large amount of work went into putting the project together but there was a strong community will to move the project forward.



## Project Overview

Working with six partners including the Royal School Cavan, the Cavan Centre, Tullacmongan Resource Centre, Castletara Hall, Killeshandra Church and the Milltown Church, Parochial House and National School along with two private businesses and 34 homes, the Energy Wise project included a variety of energy efficiency and renewable energy measures implemented across a range of building types. They were also able to draw on technical support and advice from the [Centre for Renewable Energy and Sustainable Technologies](#) (CREST), an EU Interreg programme, through the Cavan Innovation and Technology Centre. Typical retrofit works to the non-residential buildings included replacing existing oil boilers with heat pumps or high efficiency condensing boilers, installation of solar PV and solar thermal panels and LED lighting upgrades.

A comprehensive package of residential works was also carried out including installation of heat pumps, roof and external wall insulation, window and door replacements, solar PV, solar thermal panels and solid fuel stoves. Energy Wise were careful to tender all of the works to a trusted list of contractors that they work with regularly to ensure that the quality standards that are required for SEAI inspections would be maintained. Two separate contractors were appointed to do the residential and non-residential work.

## Innovation

### Financing Model and Long-Term Approach

Energy Wise Construction have developed an innovative financing model to enable home owners and community groups to carry out deeper retrofits than they might otherwise be able to afford. Through an extended credit model, they made €100,000 of funding available for residential upgrades, to be paid by the homeowner partly through energy savings, over a five year period. A further €75,000 was made available to community groups also to be partly paid from their energy savings over a ten year period. This has allowed the communities to be more ambitious in the retrofit measures they have adopted and achieve economies of scale. As a result of the comprehensive package of measures installed, the average home has had a BER uplift from a G to a B3.

Another unique dimension of this project is that it has been developed with a long term mind-set. Together with the community, Energy Wise Construction have created a 10-year roadmap for the town, with the ultimate goal of a developing a self-sufficient community with zero energy costs.



## Spotlight on... residential upgrades in Cavan

In all homes in the Energy Wise Cavan project, the overall package of retrofit measures was carefully selected to achieve the most appropriate cost effective energy efficient solution for each home. This was determined by carrying out a systematic survey of the existing structure, insulation levels, air tightness, space and water heating systems and controls, combined with a detailed survey of the occupant's lifestyle to establish how energy is used and lost, in advance of preparing the BEC application. In all cases a consultation with the occupants was undertaken to agree the final selected measures. For all homes but particularly for fuel poor homes, air tightness was examined to eliminate wasteful leakage and draughts.

Where homes were built with un-insulated solid masonry walls, external insulation was installed and combined with new A-rated sealed double glazed windows to replace poor fitting single glazed windows. In other cases just the sealed glazing units were changed if the existing frames were in reasonable condition. Following assessment and where the

occupant's lifestyle was suitable, existing oil fired boilers were replaced with new heat pumps. Alternatively, new high efficiency condensing oil boilers were installed. Where particular existing conditions meant that it was not possible to adequately upgrade the insulation, a combination of air tightness measures and PV panels were installed to offset the energy losses.

### Sample Building:

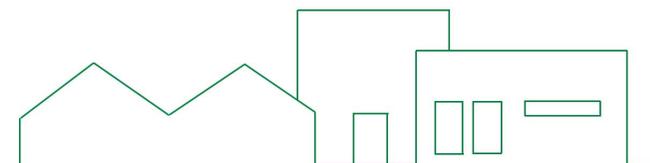
- 130m<sup>2</sup> existing dwelling, solid masonry walls, no roof insulation, old oil boiler, no controls, PVC double glazed windows and doors.
- Upgraded dwelling, external insulation, roof insulation, mechanical flush and magnetic filter, air heat pump and controls
- Existing Bungalow                      BER = G [667 kW/h/yr]
- Modelled improvement                BER = B3 [143 kW/h/yr]

## Where to Next?

Energy Wise Construction will continue to work to implement the ten year roadmap for the project, the goal being to bring the community to energy self-sufficiency and independence from fossil fuels. The long term objective is to establish an Energy Cooperative to develop a community-owned energy generation project. In the words of Bernard Farrell, by bringing cross-fertilisation between their projects in different areas they can ***"pick up the good bits from one community and bring them to the next while avoiding repeating the same mistakes."*** He explains his thinking: ***"there's no point in just doing up the fabric of a house, the key benefit is a bigger prize altogether. A community should be a community for the future, not just for a few years. We want to be part of the generation of power in the community and for the community"***. Energy Wise construction hopes to keep working with the town for as long as it takes for this to be possible and to bring Cavan into SEAI's SEC network.

***"A community should be a community for the future, not just for a few years"***.

- Bernard Farrell, Energy Wise



**Insider's Tips...** Below are some tips and advice from the Energy Wise Cavan project leaders for preparing and carrying out a BEC project:

**1. Don't start off too big:**

If it's your first time doing a BEC project don't underestimate the project management that will be required. Start off with a small number of buildings, for example five or six houses, a local shop and community hall as the first project is always a learning process.

**2. Approach people in smaller groups:**

This generally works better than large meetings when starting off. Explain the grant process and the benefits in short one-pager flyers that can be handed out or delivered in letterboxes. You will need a local champion that people will listen to and who can arrange meetings within the communities.

**3. Bring in someone with experience of similar initiatives to help you:**

There is a considerable level of technical detail that is required as part of the BEC application process which can be a challenge for most community volunteers starting off.

**4. Consider partnering with a company who are able to front the funding:**

Having access to advance funding for partners that needed it was key to the success of Energy Wise Cavan, as individuals did not have to front the costs themselves while waiting for the grant payment from SEAI. This helped to not delay the project and kept people on board.

**5. Structure the application with a sole beneficiary and other participants named as partners:**

The benefit of having a sole beneficiary is that only one set of TTC and financial declarations are required. However, currently if the main beneficiary can reclaim VAT costs, the sub-projects cannot claim VAT inclusive grants. Subject to approval of scope change by SEAI, if one partner has to drop out it is possible to find a replacement partner, regardless of whether the beneficiary changes.

