



2015 Project Snapshot

LEAD APPLICANT

Carlow County Council

PROJECT CO-ORDINATOR

Paddy Phelan, Carlow Kilkenny Energy Agency

PROJECT

Deep retrofit of 174 homes, 16 community premises, 12 local authority buildings, 3 sports and leisure facilities, and 9 private sector facilities in counties Carlow, Kilkenny and Wexford.

FINAL PROJECT COST

€4,132,687

BEC GRANT

€1,474,000

ENERGY SAVINGS

5,536,538 kWh

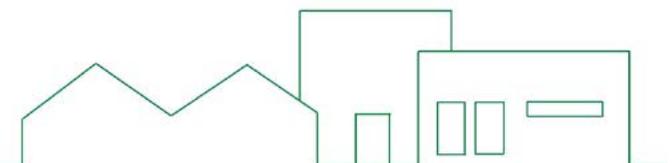
Background

This project was initiated by the [Carlow Kilkenny Energy Agency](#) (CKEA) an independent, local [energy agency](#) specialising in energy management, energy efficiency and renewable energy. With the significant backing of Carlow County Council Housing Section, who have supported CKEA in innovative BEC projects since 2012, they were able to build on this previous experience in managing large-scale SEAI BEC funded projects to set about laying the foundations for a novel partnership in 2013. CKEA and Carlow Housing Section formed the 'Carlow Kilkenny Wexford BEC 2015 Partnership' together with the Kilkenny Leader Partnership and Wexford County Council community development officers, and published a call for expressions of interest from community, voluntary, SME and industry sectors to come together as a group to deliver savings throughout the region. Various outreach activities and 12 'open evening' events were arranged from November 2014 to February 2015 to rally support and promote awareness of the benefits of the programme. This effort led to around 75 serious expressions of interest from cross-sectoral non domestic partners. Site visits were conducted amongst interested parties and many completed an energy assessment report or audit in spring 2015 to verify their viability for inclusion. Ultimately 44 beneficiaries participated in the project while others who had initially expressed interest dropped off due to issues of timing, limited funds available for intensive upgrades, lack of commitment, or failure to complete the required beneficiary documentation. Those included were considered to have a strong direct impact on communities and so their benefits would be widely

felt. Many had also participated in previous BEC projects and were hoping to further their pathway to energy efficiency. As overall Project Coordinator, CKEA tendered for the domestic and non-domestic credits separately rather than selling all of their energy credits to one [energy supplier](#). This ensured more competitive energy credit rates based on the type of credit arising from different projects.

The scope of this project was regional, which was a change from CKEA's previous county-based applications. This shift in emphasis came in response to SEAI's advice to increase the scale of projects in order to create social, economic and environmental impact beyond local, geographically-defined communities. Prior to submitting the BEC application, a significant task for CKEA was to carry out a detailed energy audit on each of the 214 facilities identified for inclusion. Participants were charged a fee for these audits to help reduce the risk to CKEA in case the application was unsuccessful and to secure their commitment. It was important to ensure these were high quality reports which provided an accurate picture of each buildings' energy profile, upgrade needs and saving potential.

(Photo: New Oak Estate Co. Carlow, with poorly insulated housing stock built in 1940s.)



Project Overview

The most significant element of the overall project was the deep retrofitting of 174 houses within social housing stock across the New Oak estate in Carlow and in other estates operated by the Respond, Tinteán and Brothers of Charity Housing Associations. These homes were identified due to their very poor energy performance, with BER's of between E2 to G on average and also because many of the householders suffered from fuel poverty. Deep retrofits with about 11 separate measures were completed in each of the houses typically involving wall insulation (external, internal or cavity), roof insulation, draught proofing, lighting upgrades, window replacement and high efficiency boiler upgrades with heating controls. Seventy-seven homes were also fitted with highly efficient air to water heat pumps allowing them to heat their homes using electricity only. Given that 27% of national electricity was supplied by wind in 2015, a quarter of the heat for these homes now comes from renewable resources. These deep retrofits have improved house BERs to an average of B3, making them more comfortable to live in with lower running costs and significant health benefits in reducing winter illness amongst fuel poor residents.

Within the community sector, 16 premises were upgraded including charity shops, community centres, youth clubs, church halls and childcare centres. For example, the Ballon Rathoe Childcare facility in County Carlow received new high efficiency condensing oil boilers, solar panels for hot water, motion sensor LED lighting and cavity wall insulation. The total cost of this work was €27,000 (ex VAT)

with an estimated payback period of 13 years. Twelve public sector facilities were also upgraded including civic offices, fire stations and a public lighting project. Energy efficiency improvements were made in three sports and leisure facilities while nine private sector businesses were involved, ranging from farms to industrial premises and small craft businesses. One of the most innovative and extensive cases in the private sector is that of O'Shea's farm outlined below.

Innovation A Community-led Approach

An innovative dimension of this project was its truly community-led approach. CKEA managed a large awareness drive which ultimately led to a diverse range of partners being recruited. They successfully leveraged many of their existing contacts to obtain repeat participation from previous BEC private, public and community sector participants to enable them to further their energy efficiency ambitions. Meanwhile Carlow County Council Housing Department assisted in identifying social housing participants and suitable community partners. The diversity of beneficiaries means that individual projects serve as local exemplars to promote community energy action through other BEC initiatives. The facilities also target a range of audiences meaning that all sectors of the community experience the benefits and awareness is spread widely. Indeed, project coordinators noted many instances where people who

had seen the benefits of energy upgrades within local community centres went on to enquire about residential upgrades for their own homes, cultivating further interest in BEC funded projects. Private companies located in the vicinity of community and residential upgrades often engage in their own projects, generating energy credits to give back to the local community.

All public and private sector partners within the Carlow Kilkenny Wexford BEC 2015 Partnership donated their entire energy credit sales to co-fund the community and voluntary aspect of the project. This contribution equated to almost 15% of their capital costs. CKEA feel that the project has promoted community spirit and related community groupings have now formed to look at other climate-related issues beyond energy including water, food and sustainable living.



before insulation



after insulation

Spotlight on... Iverk Produce & O'Shea Farms Solar Array

For five generations, the O'Shea family have farmed the banks of the River Suir, Co. Kilkenny. Their site in Piltown consists of 1,500 acres growing a mixture of dairy, cereals, carrots and potatoes. On-site 200 Iverk Produce employees pack and supply high quality fresh fruit and vegetables to supermarkets, wholesalers and businesses across Ireland. Arising from a longstanding commitment to sustainability, the initial interest from O'Shea's was to upgrade the lighting in their facilities to LED. Subsequently with the assistance of CKEA, they were attracted by the potential of pursuing renewable energy through this BEC project. In October 2015, over 1,000 individual solar panels were installed by Solar Electric Ireland on the roofs of their cold storage sheds. This was Ireland's largest private investment in photovoltaic solar energy, costing €270,000 - 18% of which was funded by the BEC grant. Solar installations of above 50m² require local authority planning permission and this was successfully sought from Kilkenny County Council for the 1,850m² solar array. In addition, CKEA prepared, submitted and coordinated a grid connection application for ESB as the generation capacity exceeded ESB's 11kWh threshold. The panels will generate 210,000 kWh of electricity per year (enough to power up to 40 homes) supplying Iverk Produce's entire refrigeration electricity demand and contributing 11% of their total electricity consumption. This helps provide them with greater energy price certainty and is making a valuable impact on the farm's

overall carbon footprint. It is also important to the O'Shea family as it contributes to their overall corporate social responsibility.



Where to Next?

Following on from the 2015 project, many of the beneficiaries have become involved in 2016 BEC projects coordinated by CKEA. For example, BEC 2015 is being replicated in 2016 across Carlow, Kilkenny and Wexford with many of the same beneficiaries making significant advancements in energy efficiency in collaboration with the [Covenant of Mayors](#) programme. The model is also being replicated in Galway under Galway Community Energy BEC 2016. Most recently, CKEA are working on an innovative project called Transporting Communities to Better Energy.

Insider's Tips... Below are some tips and advice from the Carlow-Kilkenny-Wexford 2015 project leaders for preparing and carrying out a BEC project:

1. Complete comprehensive audits to accompany your BEC funding application:

Each premise was audited in detail by CKEA, as energy specialists, to get an accurate picture of their energy profile, suitable upgrade works and saving potential. To improve the accuracy of these audits, CKEA charged participants at varying rates depending on sector. It is worthwhile investing in accuracy at pre-application stage and to be conservative rather than over-ambitious in estimating energy savings. This is because initial estimates should match the actual results following upgrade works in order to receive the full grant aid promised.

2. Expect to invest time in liaising with SEAI during inspection phase:

Inspections can go on for three months following completion of a project so it is important to allocate time to manage this process in advance. It is important to be aware that depending on the project size, between 10% and 14% of the grant aid for non-domestic projects will be retained by SEAI for 12 months until M&V reports have verified the savings.

3. Document everything and record it!

In order to receive payment for work completed, beneficiaries must document and record: bank statements; invoices; receipts; revenue payment and tax clearance certificates. They should also have each of these recorded on a centralised excel sheet.

4. Allow time for on-site management and source quality contractors:

It is important to maintain quality control standards on-site. Rather than leave this up to individual beneficiaries, consider appointing one person responsible for reviewing tenders and for site-management across facilities.

5. Consider using same organisation as Lead Applicant and Project-Co-ordinator for your BEC grant application:

Greater continuity and more successful coordination and management can be experienced if these roles are undertaken by the same organisation. BEC administration is onerous and requires significant expertise to complete - such as that provided by an energy agency or energy specialist.

