

How communities are working together to save energy



A welcome word from our CEO



Communities across Ireland are coming together to carry out energy upgrade projects. These pioneering communities are taking climate action into their own hands while greatly improving the comfort of buildings and saving money.

Through the support of SEAI, villages and towns are working together to upgrade homes and are helping alleviate the effects of energy poverty. Communities are also improving the energy efficiency of shared community buildings, and businesses are becoming more competitive through reduced energy costs.

In 2017, using funds secured by Minister Denis Naughten from the Government of Ireland, SEAI provided grant support of €22 million to community energy projects. This helped support the upgrade of 1,965 homes and 491 community buildings and businesses right across Ireland. Grant amounts are typically up to 50% of the cost of works.

We have seen a diverse selection of organisations working together, such as GAA clubs and other sports facilities, local authorities, retail outlets, factories, community centres, charities, hotels and schools. You can read about some of the communities that received grant support in 2017 in this booklet.

Those who have engaged with SEAI's community supports have gained confidence and experience and many are now setting more ambitious goals to secure further energy savings, more comfortable homes and buildings, and in many instances local jobs. SEAI provides a range of additional community supports including free mentoring, technical supports and funding.

There are opportunities for all of us to take action on climate change and, importantly, no one organisation, policy or individual can address the problem in isolation – it needs urgent action across our society. Given the technologies that are now available to us, and the scale of change required, the next phase of our energy transition can only happen with citizens and communities taking the lead.

I hope you can take inspiration from these energy projects and they help you in defining your own community's sustainable energy future, and making it a reality.

Jim Gannon
CEO, SEAI



Aileen McCarthy's Tipperary home



Aileen McCarthy lives with her husband John in a 1976-built three bedroom bungalow in Cullen village, County Tipperary. Five years ago she was diagnosed with chronic obstructive pulmonary disease (COPD) and she had to give up her job with the HSE as a result.

Prior to the retrofit works, her home was heated by an open fire with a back boiler. In wintertime she had to burn mainly coal in order to keep the radiators warm. *"Last winter I was spending €60 a week for coal alone. That's a lot per week,"* says Aileen. *"Now, when you come in from the wind and the rain, to have the comfort, it's wonderful."* The benefits for Aileen have gone beyond saving money on her energy bills. Aileen's GP says he's noticed a difference in her.

"He's very happy with me," she says, *"although he doesn't see me often now!"* At her first lung specialist checkup following the home renovations, there was no further deterioration in her lung capacity and this has been hugely positive for her.

The upgrades cost €50,370 and the estimated fuel savings are €3,200 per year.

Renovation works for both homes included:

External wall and attic insulation, new window and doors, demand control ventilation, removal of existing open fire and airtightness measures, air to water heat pump and low temperature radiators, energy monitoring and low energy lighting.

This was part of a larger project that brought together a range of community buildings; the local GAA club and tennis club; local authority projects; business and educational facilities; in addition to the upgrade of 20 private family homes.

The lead applicant for this project was Tipperary Energy Agency.

- ✓ Healthier home and healthier family
- ✓ Warmer, dryer home
- ✓ Lower energy bills
- ✓ Pre BER G Post BER B2



Previously derelict homes in Cavan



Two derelict homes in Cavan were completely renovated into comfortable A-rated homes.

The Killinkere house was built in the 1800s on the outskirts of Virginia, Co. Cavan. It was derelict since 1985.

The one-storey Drumcrow house in Ballinagh was unoccupied for more than 20 years and was in need of major repair.

Both houses were unlivable and had been G-ratings. A key priority for the developers was making sure the house was really well insulated and airtight. They installed floor, wall and attic insulation, as well as triple glazed windows. The roofs had to be completely rebuilt. They installed demand control ventilation to ensure good indoor air quality and save energy.

The homes are heated using an air to water heat pump and underfloor heating. Solar PV panels generate free onsite electricity for the homes.

After the works, the Drumcrow cottage is an A1 rating and the Killinkere house is an A2 rating. The Drumcrow cottage produces more electricity than it consumes. These previously derelict buildings have been given a new lease of life and future generations can enjoy them for the next 200 years. They are now warm, sustainable and cost effective homes to live in.

Each house cost €150,000 to renovate.

This project was part of larger project which brought several homes, businesses and community buildings in Cavan up to an A-rating.

The lead applicant for this project was KORE.

- ✓ Warm and comfortable homes
- ✓ Innovative, future proofed homes
- ✓ Lower energy bills
- ✓ Pre BER G Post BER A1/A2

Roscommon Fire Station



Roscommon Fire Service carried out an energy audit on their building. They found that heating controls and lighting were two areas where they could make significant energy savings.

The lighting, both inside and outside the building, used inefficient fluorescent and tungsten light fittings. They installed 194 high performance LED light fittings with sensor controls. As a result, they expect savings of approximately 70% on electricity use. The lights have improved the outside visibility, and made the stairwells brighter. The building has a more pleasurable environment and there is less maintenance.

A Building Management System (BMS) was installed to reduce energy use for heating the building and water. Following a short learning period, the new system is easy to use. It allows them to control temperature in various parts of the building making the building more comfortable. It can also be controlled remotely. As a staff member explained:

“One person likes a low heat, while others in the upstairs rooms like it warmer. Everyone now is happy with the system and everyone can make adjustments to suit themselves”.

They installed solar PV panels to supply some of the electricity that they need in the fire station. They have made estimated electrical savings of 20,170 kWh per annum and thermal savings of 5,920 kWh per annum. The work cost €48,900. The annual amount of carbon dioxide saved is equivalent to the amount of carbon dioxide emitted by two homes every year.

Roscommon Fire Station was part of a larger project, which included energy upgrades to six community buildings and 22 private homes.

The lead applicant for this project was NCE Insulation.

- ✓ **More comfortable building**
- ✓ **Brighter, better work environment**
- ✓ **Cost savings**



Siamse Tíre theatre in Kerry



Based in Tralee, Siamsa Tíre is one of the busiest theatres and arts centres in the country. It is home to the National Folk Theatre, and also trains young people in the traditional arts, produces new work and tours internationally throughout the rest of the year.

The centre was built in 1991 and was not energy efficient. The Board and staff team decided to install cavity wall and attic insulation to prevent heat escaping and regulate the temperature of the building. They installed an air to heat pump to heat the building.

Solar PV supplies electricity to the building and they carried out a full LED lighting upgrade, with the exception of the stage lighting. Energy use decreased by 11% between 2016 and 2017 with related emissions reducing by 26%. The energy savings are estimated to be 141,660 kWh per annum.

The works cost €205,300 and were also funded by Department of Culture, Heritage & the Gaeltacht.

The main motivation for the organisation in carrying out the upgrades was to reduce their carbon footprint. The CEO, Board and staff team at Siamsa Tíre are very conscious of minimising energy use and fossil fuels. The organisation is establishing themselves as a leader on environmental sustainability within the arts sector. Annual carbon dioxide savings are equivalent to removing over 10 cars from the road. Patrons to the building have said that they are proud of their efforts to reduce energy use.

The lead applicant for this project was NCE Insulation.

- ✓ **Reduced energy use**
- ✓ **Better environmental performance**
- ✓ **Improved green credentials**

Na Fianna GAA club in Dublin



Na Fianna GAA club is based in Glasnevin in Dublin and has 3,000 members. It is a core part of the local community and has over 100 adult and youth teams across a number of Gaelic sports.

The club replaced the old internal and external lighting with new energy efficient units. When they did the calculations they were pleasantly surprised to see the payback time.

There were significant cost savings both in immediate reduction of consumption and in ongoing maintenance due to the significantly longer lifetime of the new bulbs. An added benefit was that the upgrade provided them with the option to choose soft tone fittings for the function and bar areas adding to the ambiance of the clubhouse.

They also replaced the 12-year old beer cooler system with a new energy efficient unit. The new cooling unit generates significant savings in electricity consumption

through improved operating efficiency and insulation as well as operating in a much more dynamic manner to the old unit.

The cost of the works was €20,470. The club's electricity bills are estimated to reduce by over €7,200 annually, freeing up funds for other activities.

The club's electrical savings are estimated to be 32,900 kWh per annum. The carbon dioxide savings from the project are the equivalent of taking five cars of the road every year.

The lead applicant for this project was Future Fit.

- ✓ **Better, more ambient lighting in the clubhouse**
- ✓ **€7,200 annual savings**
- ✓ **Improved beer cooling**
- ✓ **Reduced waste**



Casla boxing club in Galway



Casla boxing club is in Connemara and is open to youth and adult members. The club's mission is to support its members to excel in the sport and is an important social outlet in the community.

The club carried out a renovation costing €17,780. They replaced 53 lights inside with high performance LED lights. They also replaced three storage heaters.

The electricity for space and water heating in the club is now supplied through solar PV panels, which create more electricity than they consume.

There was a large room at the back of the building that was never used during the winter months. Now, this area in the building is used for training and classes, improving the use of the facility within the community. The building is also available for longer hours at no additional cost to the club.

The club is saving €1,500 a year in their electricity bills. The club's estimated electrical savings are 10,500 kWh per annum. Carbon dioxide savings are the equivalent of removing the emissions from one home every year.

The club has been promoting the energy savings to its members. They have display screens in the reception area which provide real time information for the whole community on the energy generated, carbon savings and cost savings.

The lead applicant for this project was Údarás Na Gaeltachta.

- ✓ **Improved training environment**
- ✓ **More comfortable building**
- ✓ **Better use of the building**

Crowley Farm in Cork



Michael & Marguerite Crowley own a third generation family-run farm, north of Skibbereen, in the heart of West Cork. They have a 45 hectare milking block with 165 cows milked off this and a further 29 hectares which is used to grow silage and rear replacements.

As Drinagh Co-op suppliers, their milk ultimately ends up at the Carbery Group's facility in Ballineen. Through their participation in the Carbery Greener Dairy Farms™ program, they were advised on the potential to make energy savings. The work cost €2,600.

Having assessed their existing lighting, they decided to proceed with the upgrade of 39 internal and external lights to LED fittings.

Previously, starter motors and light bulbs used to frequently burn out. With the new LEDs this has all become a thing of the past, reducing maintenance costs and down time. They also have brighter, instant light, in all areas.

Overall, the installation in the milking parlour, sheds, office and yard took less than a day to complete and there was no disruption to farming as it was done during the summer time when the cattle were outside.

Initial estimates indicate that the farm's overall electricity use will be reduced by 7% which is a considerable saving for the Crowleys.

The lead applicant for this project was REIL.

- ✓ **Brighter, instant lights**
- ✓ **Energy and cost savings**
- ✓ **Reduced maintenance costs**



Carbery Food Ingredients in Cork



Carbery Food Ingredients are located in Ballineen, West Cork, and owned by four locally-based dairy co-operatives. It is a leading manufacturer of specialty dairy food products. Employing 210 people, their products are sold in over 53 international markets.

They carried out six energy saving projects, including wall insulation, LED lighting, heat recovery for the cheese line which is used to pre-heat milk, insulation of existing lines and equipment upgrades. The upgrades cost €378,200.

They completed the works over five months. As the plant is operational, they needed to time the works so that they had minimal impact on the plant.

The project was an opportunity to install better equipment. Old machinery was replaced with more efficient process equipment and machines, reducing waste volumes by 80%.

The light quality levels have been enhanced greatly through the project, ensuring greater

visibility and significantly improving the health and safety of employees. Carbery expect electrical savings of 352,000 kWh and thermal savings of 2.37 GWh per year from the upgrades. This will save €93,300 per year and make them more competitive. The community aspect of the scheme has allowed some of their farmer suppliers to make some energy savings of their own.

Carbery have a long term plan to decarbonise the Ballineen facility and the upgrades will help them achieve that goal. Carbon dioxide savings are expected to be 651 tonnes, which is the equivalent to taking 213 cars off the road.

The lead applicant for this project was REIL.

- ✓ **Cost savings and improved competitiveness**
- ✓ **Reduced waste**
- ✓ **Improved lighting quality**
- ✓ **More efficient processes and equipment**



The Bracken Court Hotel in Dublin



The Bracken Court is a four-star hotel owned and run by Luke Moriarty and his family. It is a 66 room hotel in the centre of Balbriggan, north Co Dublin. It offers a warm and friendly service.

The Moriarty family was looking to reduce costs and improve energy efficiency in the bar and restaurant. They installed a high efficiency refrigeration system. The cost of the upgrades was €43,000.

The new system replaced the separate systems that had been in place for cooling beer, for the cold rooms and for the bottle coolers. Simply put, it's the refrigeration equivalent of using a bus instead of multiple cars from an energy saving perspective.

Customers are delighted at the better beer quality as result of the upgrades. There is also less beer waste which helps the Moriarty family's green credentials.

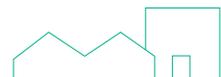
The new system also captures waste heat from one location and recovers it to pre-heat hot water for glasses or dishwashers.

The hotel's estimated electrical savings are 39,300 kWh per annum. Energy bills for the hotel are lower. The combined total savings are estimated to add up to over €3,500 every year.

"The savings are helping us to continually upgrade our facilities and thereby enhance our customers' overall experience."

The lead applicant for this project was Future Fit.

- ✓ **€3,500 annual savings**
- ✓ **Improved operational efficiencies**
- ✓ **Better beer quality**
- ✓ **Happier customers**



SuperValu in Glanmire, Cork



Liam Ryan is the store owner of SuperValu Glanmire. He is committed to creating a greener and more vibrant local community.

Liam completed an energy upgrade to his store. This involved upgrading the refrigeration equipment, replacing over 1,250 light fittings, and installing a more efficient heating system. The works cost €330,800. As a result of the work, annual savings of €66,336 have been achieved, as well as CO₂ emission savings equivalent to removing 88 cars off the roads. The shop is now brighter and more comfortable for customers and for staff.

As part of the project, Ryan's SuperValu also supported four local community partners and charities. These charities are some of Cork's most active, working to provide voluntary, community-based support in the heart of Cork. This support enabled these charities to fund upgrades to their heating systems, lighting and wall insulation.

In addition to improved levels of comfort, the charities are now benefiting from savings of €5,200 a year on their energy bills which allows them to use more of their funds directly in the community.

Ryan's SuperValu store in Glanmire was one of 11 Musgrave stores to carry out upgrade works under the Musgrave 2020 Energy Reduction Plan.

The lead applicant for this project was Senergy.

- ✓ **Better environmental performance**
- ✓ **Brighter and more comfortable shop**
- ✓ **Improved facilities for four charities**
- ✓ **€5,200 annual savings for charities**





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