

Energy efficiency in Eddisbury

How energy efficiency benefits residents and businesses in the Eddisbury constituency



"Winter's fog on Cheshire's countryside" (CC BY-NC 2.0) by Terry Kearney



**Association for the
Conservation of
Energy**

Key Points

Many people worry about their home energy bills, and for some people keeping their home warm is simply not affordable. For businesses, buildings with poor energy performance can be expensive to run, affecting their competitiveness. The only long term solution is to stop wasting fuel and leaking warmth from our homes and businesses by improving insulation and ensuring all buildings have modern, well controlled heating and cooling systems, and efficient lighting and appliances.

It can be expensive to heat and power local homes, particularly for those living in rural areas without a gas connection.

- 25,000 of the 36,000 households in Eddisbury are connected to mains gas and typically pay around £1,400 a year for gas and electricity. The remaining 11,000 homes in the area have to use alternative fuels, typically spending £2,400 a year on heat and power¹.
- 3,500 homes in Eddisbury have been given the very worst energy ratings of F or G, which is more than twice the national average². These homes waste hundreds of pounds worth of fuel every year.

Businesses in Cheshire have also felt the impact of high energy costs.

- Many businesses in Cheshire operate out of old and poorly insulated buildings, with 32% having the very worst energy ratings of E, F and G³. Buildings with poor energy performance can be expensive to run. This affects business competitiveness, and makes it difficult to maintain a comfortable working environment for employees.

Significant upgrades to the efficiency of buildings in the area been made in recent years.

- National domestic energy efficiency schemes have helped to insulate 8,700 lofts and 7,000 cavity walls in the area since 2005⁴. At the same time more than 7,600 efficient boilers have been installed.
- Progress has been made improving the efficiency of Cheshire's public buildings: 28% of those assessed achieved A, B or C ratings in 2015, up from just 17% in 2008. The percentage receiving the worst ratings of F & G has fallen from 25% to 9% over the same time period.
- 1,430 solar photo-voltaic systems and 580 low carbon heating systems have been installed, enabling homes and businesses to generate their own low carbon heat⁵.

There are still huge opportunities to improve the efficiency of buildings in Eddisbury.

- 22% of homes (around 8,000) could benefit from cavity wall insulation, 19% (around 7,000 homes) could improve the level of insulation in their lofts and 52% (around 19,000 homes) could upgrade to more efficient heating systems⁶.
- 64% of commercial and industrial buildings in Cheshire that have an energy rating are rated D or worse, meaning that the businesses occupying them could reduce their energy costs significantly.

These improvements generate a wide range of benefits for the area.

- Eddisbury residents spend around £63 million on energy bills every year⁷. Across Cheshire businesses spend approximately £495 million annually on energy. Cutting fuel bills means less money leaving the local economy and more spent in local shops and businesses.
- Most energy efficiency improvements are delivered by local businesses and tradespeople. An ambitious UK energy efficiency programme would create 9,800 jobs in the North West⁸ in the domestic retrofit market alone.
- Cold homes have been shown to be damaging to both physical and mental health. For every £1 invested in renovating cold homes the NHS saves 42 pence in reduced hospital admissions and GP visits, meaning more money for frontline services⁹.

Despite this potential, national policy commitments would see little progress made.

- Current national policy commitment would see just 275 homes helped each year to 2020¹⁰. Those in need of more significant works, common in rural areas, would miss out.
- Business can find it hard to access finance for energy efficiency investments, and there is no national action to change this.

Upgrading the energy efficiency of Eddisbury's homes and businesses would present a huge opportunity to cut bills, improve residents' health and well-being and boost the local economy. To make this happen and unlock the benefits to the Constituency, action is needed both locally and nationally.

The story so far

The cost of gas and electricity is 40% higher than it was ten years ago and compared to 20 years ago, prices are up by 2/3rds¹¹. To combat these historically high prices, a local army of unsung heroes have been fighting to keep bills in check and make sure everyone can afford to keep their homes warm and healthy and their businesses productive and profitable.

Homes

There are around 36,000 households in the constituency with 74% owning their homes, 13% renting privately and 13% living in social housing. More than 30% of homes are not connected to mains gas, making their energy costs higher.

Over the last 10 years in Eddisbury the insulation of homes has been improved, inefficient heating systems have been improved or replaced and renewable energy technologies installed. We estimate that since 2005 more than 23,000 significant works have been undertaken to improve the energy performance of homes in Eddisbury.

Table 1: Estimated number of common efficiency improvements made to homes in Eddisbury since 2005⁴.

Lofts insulated	8,700
Cavity walls insulated	7,000
Efficient boilers installed	7,600

New insulation technologies such as cladding for solid walls have also greatly benefitted older homes which would otherwise still be leaking heat.

Eddisbury residents have taken advantage of incentives that enable them to generate their own electricity and low-carbon heat.

Table 2: Low Carbon technologies installed in homes in Eddisbury since 2010⁵.

Low carbon heating	461
Solar Photovoltaic systems	1,390

Businesses

The commercial and industrial stock in Cheshire comprises around 28,270 units with an average floor area of 445 m². This includes 10,080 retail units, 7,230 office units and 8,280 industrial units. The remaining

2,680 are mostly school buildings, hospitals and healthcare, and a wide variety of buildings used for leisure like restaurants and cinemas¹².

Significant improvements have been made to non-domestic buildings. All larger public buildings, such as schools and hospitals, are required to update their display energy certificates (DECs) every year. This allows the buildings' occupants to track their energy consumption over time and helps to highlight high energy consumption. Data from these certificates have shown a steady reduction in the number of poorly performing buildings in Cheshire. In the year DEC's were introduced (2008), 25% scored F and G¹³. By 2015 the number of F and G-rated buildings was down to just 9%. Over the same period the number scoring A to C has gone from 17% up to 28%.



Figure 1: DEC ratings of public buildings in Cheshire¹³.

By requiring organisations to keep track of and display their energy consumption, DEC's are enabling the improvements in energy consumption to be clearly demonstrated. Unfortunately, at present DEC's are not required for private non-domestic buildings, such as shops and offices, so it is not possible to see what - if any - improvements are being made to those buildings.

Businesses in Eddisbury have also been investing in low carbon technologies.

Table 3: Low Carbon technologies installed in businesses Eddisbury since 2010⁵.

Low carbon heating	116
Solar Photovoltaic systems	44

National policies have played an important role at the local level. Charities in Eddisbury have been able to access funds to provide low income households with the heating upgrades they desperately need, and incentive schemes have encouraged residents and

businesses alike to try new technologies like solar panels. The dedication of local businesses and charities, combined with national funding and incentive schemes, have been pivotal in the progress made so far in Eddisbury.

Energy Projects Plus: a local organisation delivering warm homes



Energy Projects Plus is an independent social enterprise and environmental charity that has been in operation since 1995. Their vision is to reduce levels of fuel poverty and promote warmer homes and carbon emission reduction through energy efficiency. They run energy

efficiency and fuel poverty programmes across Cheshire and Merseyside, working in partnership with local councils, utility companies and other local stakeholders.

Within the Eddisbury constituency, they are currently delivering several projects offering energy efficiency advice and support. One such programme is the Save Energy Advice Line which provides a one stop shop for energy efficiency advice, and a referral route to in depth support from other projects. They have also recently begun to work with Weaver Vale Housing Trust to support their tenants with energy efficiency advice, fuel switching and income maximisation.



Another recent project is the Warm & Healthy Homes project, which is funded by The British Gas Energy Trust with the support of six local authorities. The project works with health and third sector partners as well as community groups and organisations in order to identify and support vulnerable residents. The support offered includes energy tariff switching advice, benefits maximisation, and energy efficiency behavioural advice as well as identifying appropriate energy saving measures for the home, sourcing funding for those measures and seeing them through to installation.

The project launched in Spring 2016 and ended in March 2017. It delivered 1,484 home visits, providing support to 2,506 local people. It has supported the installation of £624,811 worth of measures through accessing match funding and has accessed £39,641 of additional income for clients through tariff switching, benefits maximisation and Warm Home Discount.

Peter Owen, Chief Executive of Energy Projects Plus said: "Schemes such as Warm & Healthy Homes are extremely valuable in supporting vulnerable clients who need closer support, which tends not to be available through national energy efficiency schemes. Charities like ours can work very closely with our local authority partners to develop and sustain these schemes to take advantage of funding when it becomes available".



However, he also spoke about how much more could be achieved: "If regional charities like ours could have direct access to funding available from central government, utility fines and Energy Company Obligation, we would be able to replicate Warm & Healthy Homes for a sustainable period of time rather than living on annual windfall programmes. Unfortunately, currently this type of funding is only distributed to national organisations and does not necessarily meet the needs of local residents in need."

Untapped potential

Whilst a promising start has been made to modernise heating systems and insulation in Eddisbury, there are huge opportunities still remaining and many households and businesses that have yet to benefit.

Homes

Detailed surveys of 1,825 homes representing the North West's housing stock were conducted as part of a nationwide housing survey⁶. Surveyors identified a range of opportunities to improve energy efficiency in the homes they visited.

Table 4: Estimated number of homes in Eddisbury that could benefit from basic energy efficiency measures based on survey sample⁶.

	On mains gas	Off mains gas
Could improve the level of insulation in their lofts	4,600	1,900
Could benefit from cavity wall insulation	5,900	2,200
Could benefit from solid wall insulation	5,000	3,100
Could improve the efficiency of their heating systems	9,800	8,700

Despite the significant potential, local charities and installers have found that changes to national energy efficiency schemes in the last few years have meant that funding for low income households is harder to get hold of and support for making costlier upgrades is no longer available.

Looking to the future, current national policy commitments would see just 275 homes receive low cost improvements in Eddisbury each year and those in need of more significant works, common in rural areas, may miss out altogether¹⁰.

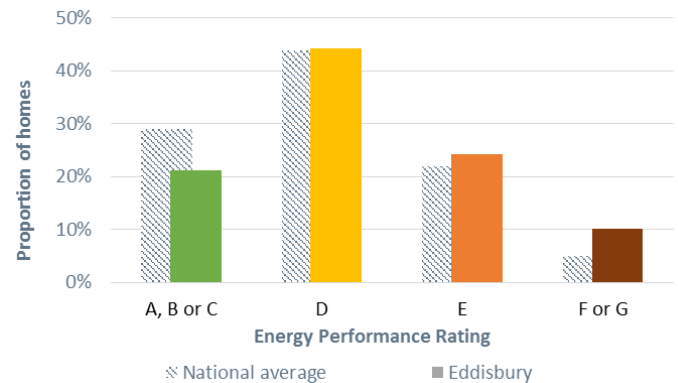


Figure 2: Energy Performance Rating of homes in Eddisbury compared to National Average².

There are 27,000 homes in Eddisbury with an Energy Performance Rating of D or worse that could benefit from improved efficiency. 3,500 of these have the very worst ratings of F or G and are likely to be in urgent need of attention².

Upgrading the energy efficiency of these homes would present a huge opportunity to cut bills, improve residents' health and well-being and boost the local economy. To make this happen, action is needed both locally and nationally.

From April 2018, homes that are privately rented will be subject to minimum energy efficiency standards and those with F and G ratings will have to be improved. This is a good start, but more is needed.

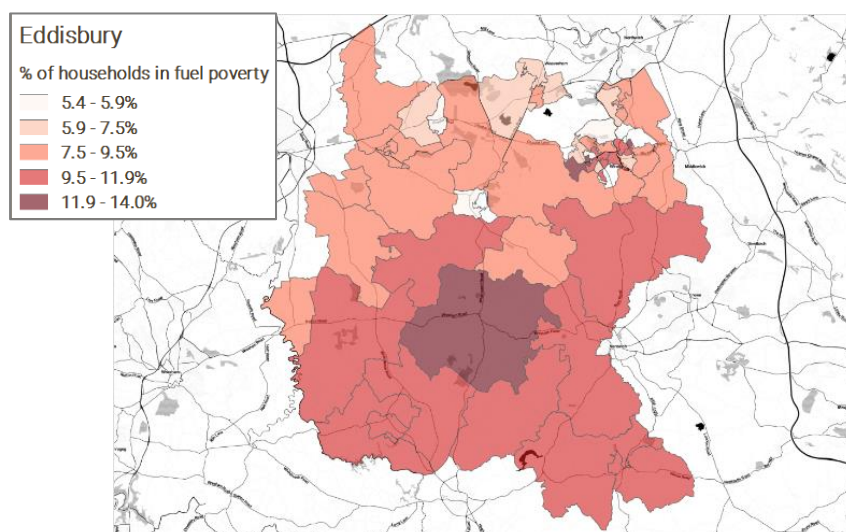


Figure 3: Map showing severity of 'fuel poverty' in Eddisbury. Homes in the darkly shaded areas are more likely to find keeping their homes warm unaffordable. High resolution housing data can be used to identify opportunities and target those in need¹⁴

Cosy Loans: interest free loans for energy efficiency measures

The Cosy Loans scheme provides interest free loans to homeowners and private landlords to make homes more energy efficient and reduce fuel bills for households across Cheshire West. Loans of between £200 and £2000 are available and can be used on a variety of energy efficiency measures, including; insulation, draught proofing, central heating and solar hot water systems. The loan needs to be repaid within 36 months.

The scheme was originally set up by Wirral Borough Council and Ellesmere Port and Neston Borough Council in 2000. In 2009 it was rolled out over the whole of the newly formed authority of Chester West and Chester, with Wirral Methodist Housing Association administering the loans.

During this period the Cosy Loans scheme has helped residents in Cheshire West to improve the energy efficiency of their homes. Consequently many constituents in the Eddisbury constituency now live in warmer, healthier and cosier homes!

Councillor Karen Shore, Cabinet Member for Environment says: “The fact that the loans are interest free is great for residents. Most people we speak to want to improve their homes and make them warmer and more energy efficient but many find it difficult to find the cash up-front. With this scheme, they pay back the loan over three years at the same time as seeing the benefits and saving money on their fuel bills - making things much more affordable.”

Businesses

All commercial and industrial buildings are required to have an Energy Performance Certificate (EPC) if they are sold or let to a new tenant. Since 2008, 12,600 EPCs have been lodged in Cheshire for non-domestic buildings. Of these certificates, almost two thirds (8,000 buildings) received an efficiency rating of D or worse³. These buildings would benefit from improvements to their fabric and energy services. 2,000 of these buildings are rated F or G, meaning that they are very inefficient and likely to be wasting a large amount of energy.

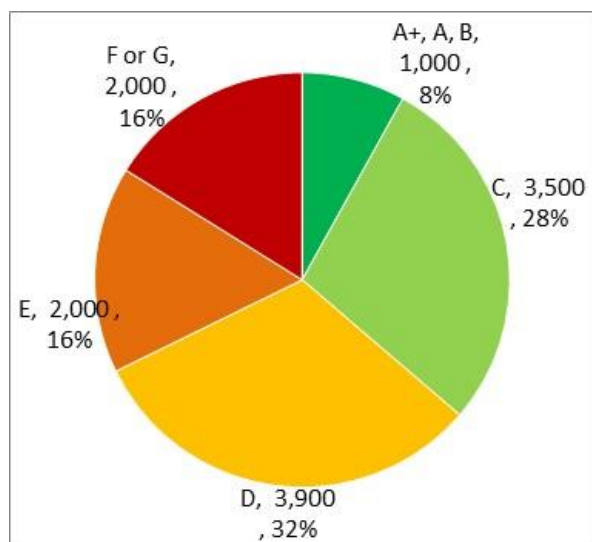


Figure 4: EPC ratings of non-domestic buildings in Cheshire³.

From April 2018, leased properties will be subject to minimum energy efficiency standards. This will mean that leased buildings with F and G ratings will have to be improved.

Public buildings like schools and hospitals use a significant amount of energy. Even though progress has been made, there is still huge room for improvement. Almost three quarters of buildings rated were given a score of D or worse, and these buildings are likely to have significant potential for improvements. Ensuring action in this area is particularly important as public buildings are well placed to demonstrate best practice in low energy buildings and provide a leadership role for building energy management.

The non-domestic building stock is extremely diverse so a wide range of solutions are needed to address their energy consumption. Innovative approaches may be required as well as more traditional fabric refurbishment.

Real benefits for Eddisbury

It is easy to see the immediate benefits of reducing your energy bills and having a warmer home and place of work, but the impact of upgrading the buildings in Eddisbury goes much further.

Well maintained homes

Energy efficiency works are a vital part of maintaining your home. Cold homes often become damp which can lead to mould and further complications in the long run. Insulated wall cladding will tackle damp permanently and can rejuvenate the appearance of a home.

Keeping money in the local economy

We estimate that Eddisbury residents spend approximately £63 million annually on domestic energy bills⁷. Across Cheshire businesses spend approximately £495 million annually on energy. Money spent on fuel is mostly taken out of the local economy, so cutting bills means that local people have more money to spend in local shops and businesses.

Creating skilled Jobs

Economists have estimated that an ambitious UK energy efficiency programme would create 9,800 jobs in the North West⁸ in the domestic retrofit market alone. Energy efficiency works rely on skilled tradespeople and small-scale contractors. This means that these jobs are spread across all communities and not just concentrated in a few industrial areas.

Improving health and wellbeing

Cold homes have been shown to be damaging to both physical and mental health. Children living in cold homes are significantly more likely to suffer from respiratory problems such as asthma and bronchitis. It has been shown that for every £1 invested in renovating cold homes, the NHS saves 42 pence in reduced hospital admissions and GP visits⁹.

Business productivity

Energy costs can be a significant overhead for businesses. Improving the efficiency of commercial buildings, vehicles and equipment can cut waste and add to the bottom line. In the retail sector, cutting energy costs by 20% can have the same impact on the bottom line as a 5% increase in sales¹⁵. Helping local businesses to identify these opportunities can boost productivity and make them more competitive.

Increased efficiency can also make it easier and cheaper to maintain a workplace at a comfortable temperature, and there is good evidence to show that this leads to increased worker productivity and hence financial benefits to employers¹⁶. Crucially, thermal comfort, good ventilation and lighting quality in the work environment is now well-established as a real boon to workers' health, wellbeing and productivity¹⁷.

Improving local energy resilience

It is easy to take basic services like gas and electricity for granted, but our energy security has become a significant concern in recent years. A more efficient building stock and local generation will make Eddisbury more resilient to future energy price shocks or interruptions to supply and can take the strain off local energy infrastructure.

With thanks to

- Peter Owen, Chief Executive of Energy Projects Plus <http://www.epplus.org.uk/>
- Emma Edwards, Low Carbon Project Officer, Cheshire West and Chester council. <https://www.wirral.gov.uk/housing/help-your-home/energy-efficiency/loans-help-make-your-home-more-energy-efficient>
- Councillor Karen Shore, Cabinet Member for Environment, Cheshire West and Chester council.

And

- Calor, for sponsoring the development of this report



More to explore

Nearest Super Home: Nantwich, Hatherton, Audlem Road, Artlebrook Cottages. A brick-built cottage c1815 with an 80% carbon saving.

<http://www.superhomes.org.uk/superhomes/nantwich-hatherton-audlem-road-artlebrook-cottages/>

Nearest certified Passive House: The Green Base in St Helens Lancashire. The Green Base is in the heart of Helena's Queensland Estate in Thatto Heath, and provides an office for the Green Space Service as well as a centre for the community to find out more about green issues and in particular, learn more about their environment and their green spaces

<http://passivhausbuildings.org.uk/viewproject.php?id=267>

¹ Based on an average electricity bill in Eddisbury of £728 and on-gas properties spending an additional £685 per year on gas. These estimates are based on 2015 DECC lower super output area (LSOA) [domestic gas](#) and [electricity consumption data](#) and fuel tariffs from 2015 DECC [regional fuel price data](#). Off-gas residents assumed to spend an additional £1,704 on oil annually, the national average expenditure for oil-heated properties from the DECC [Living Cost & Food Survey](#).

² 2015 DECC LSOA-level [household energy efficiency ratings data](#).

³ CLG (2016) [Live tables on Energy Performance of Buildings Certificates](#).

⁴ Delivery of measures 2005-2012 derived from a sample of [6,605 homes in the North West](#), adjusted to reflect the number of off-gas properties in the Eddisbury Constituency. Delivery of measures after 2012 based constituency level 2015 DECC [GD & Energy Company Obligation \(ECO\)](#)

⁵ 2015 DECC [Feed-in Tariff \(FiT\)](#) and [Renewable Heat Incentive \(RHI\)](#) statistics.

⁶ Estimate is based on surveys of 1,825 North West homes, adjusted to reflect the number of off-gas properties in the Eddisbury Constituency. Survey data part of the 2015 DCLG [English Housing Survey](#).

⁷ Derived estimate based on average bill data (described in end note 1) with household number data from 2015 DECC [meter data](#) and [regional statistics](#).

⁸ Verco & Cambridge Econometrics, 2012, [Jobs, growth and warmer homes](#).

⁹ Department of Health, 2009, [On the state of public health: Annual report of the Chief Medical Officer 2009](#).

¹⁰ Based on Eddisbury Constituency receiving a fair share of the [Autumn Statement pledge](#) to deliver low cost energy efficiency measures to 200,000 homes each year during this Parliament.

¹¹ DECC (2016) [Domestic Energy Price Indices](#).

¹² Non-domestic floor space estimate based on Valuation Office Agency (VOA) (2012) [Business Floorspace \(Experimental Statistics\)](#).

¹³ CLG (2016) [Live tables on Energy Performance of Buildings Certificates](#): 'Table DEC1: Display Energy Certificates by local authority and energy performance operational rating'.

¹⁴ 2015 DECC constituency and LSOA level [fuel poverty data](#).

¹⁵ Carbon Trust's [Energy efficiency advice for retail businesses](#).

¹⁶ LBNL Indoor Environment Group. 2016. "[Cost Effectiveness of Improving Indoor Environments to Increase Productivity / Indoor Air Quality \(IAQ\) Scientific Findings Resource Bank \(IAQ-SFRB\)](#)." Lawrence Berkeley National Laboratory.

¹⁷ World Green Building Council, 2016, "[Health, Wellbeing and Productivity in Offices: The Next Chapter for Green Building](#)".