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# **Home Energy Conservation Act 1995**

**Progress Report 2015-17 and**

**Further Report 2017-19**

**of**

**Bolsover and North East Derbyshire  
District Council**

**and**

**Nottinghamshire and Derbyshire  
Local Authorities' Energy Partnership  
(LAEP)**

**May 2017**

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## **Nottinghamshire and Derbyshire Local Authorities' Energy Partnership (LAEP)**

The LAEP is a non-statutory partnership of all 20 councils across Nottinghamshire and Derbyshire, established in 1996 and continues to provide an excellent model of how councils can work together for mutual benefit.

This report covers collective activities across the following 15 LAEP district authorities:

### **Nottinghamshire**

Ashfield District Council  
Bassetlaw District Council  
Broxtowe Borough Council  
Gedling Borough Council  
Mansfield District Council  
Newark and Sherwood District Council  
Rushcliffe Borough Council

### **Derbyshire**

Amber Valley Borough Council  
Bolsover District Council  
Chesterfield Borough Council  
Derbyshire Dales District Council  
Erewash Borough Council  
High Peak Borough Council  
North East Derbyshire District Council  
South Derbyshire District Council

Partnership activities are delivered via a membership service and a communications service which are funded through separate subscriptions. Councils benefit from support, information and communication services and collaborate on carbon reduction, affordable warmth and sustainable energy projects, sharing expertise and best practice.

Each council is represented on the Officer Working Group (OWG) which runs the partnership and funds are held by Derbyshire County Council which is the LAEP Treasurer and Accountable Body.

This report is presented in two parts which together provide an update on trends, initiatives and activities since 2015, and plans for the future as LAEP councils work together and independently to reduce domestic carbon dioxide emissions and fuel poverty across Nottinghamshire and Derbyshire:

### **Nottinghamshire and Derbyshire LAEP HECA REPORT (Part 1)**

- Baseline information
- Joint ambitions and achievements

### **BOLSOVER AND NORTH EAST DERBYSHIRE DISTRICT COUNCIL HECA REPORT Annex (Part 2)**

#### **LAEP Chair's introduction**

The production of Part 1 of this report by our partnership, is an example of how our long-standing collaboration has provided huge benefit and exceptional value to our local authority members over the years. In increasingly challenging times for local government, this report provides evidence of how our partnership is striving to maximise the economic, social and environmental benefits to our councils and residents through its work on home energy conservation and affordable warmth.

*Phil Keynes, Team Manager, Energy and Carbon Management*



# NOTTINGHAMSHIRE & DERBYSHIRE LAEP HECA REPORT

## BASELINE INFORMATION

### Levels of fuel poverty

Between 2012 and 2014 across Nottinghamshire and Derbyshire and the East Midlands as a whole, government statistics show that there was a fall in the number and percentage of households categorised as being in fuel poverty, as illustrated in the table below.

<https://www.gov.uk/government/collections/fuel-poverty-sub-regional-statistics>

Although these figures do not cover the period of this report, they are the latest available and show a bigger fall than during the preceding period 2010-2012 reported in the LAEP HECA Report 2012-14.

	2012		2014		
	Fuel poor households	% Fuel poor households	Total households	Fuel Poor Households	% Fuel poor households
EAST MIDLANDS	256,017	13.2	1,941,704	196,859	10.1
<b>Derbyshire</b>	<b>43,565</b>	<b>12.8</b>	<b>340,691</b>	<b>33,527</b>	<b>9.8</b>
Amber Valley	7,078	13.2	53,853	5,426	10.1
Bolsover	4,153	12.4	33,571	3,310	9.9
Chesterfield	6,217	13.0	47,925	4,594	9.6
Derbyshire Dales	4,917	15.6	31,524	3,835	12.2
Erewash	6,287	12.6	49,883	4,704	9.4
High Peak	5,281	13.3	39,898	4,208	10.5
NE Derbyshire	5,239	11.9	44,134	3,836	8.7
South Derbyshire	4,393	11.0	39,903	3,614	9.1
<b>Nottinghamshire</b>	<b>41,432</b>	<b>12.1</b>	<b>342,501</b>	<b>32,029</b>	<b>9.4</b>
Ashfield	6,507	12.5	52,126	4,835	9.3
Bassetlaw	6,193	12.7	48,839	5,072	10.4
Broxtowe	5,736	12.0	47,984	4,388	9.1
Gedling	5,522	11.0	50,562	4,379	8.7
Mansfield	5,796	12.6	46,027	4,292	9.3
Newark & Sherwood	6,311	12.7	49,982	5,026	10.1
Rushcliffe	5,367	11.5	46,981	4,037	8.6

In 2012 government moved to a new measure of fuel poverty named 'Low Income High Costs'. Under this definition households are considered fuel poor if they have an income below the poverty line (including if meeting its required energy bill would push it into

poverty) and higher than typical energy costs; higher costs would be incurred by those in hard to heat homes or those whose health or occupancy needs required higher home temperatures or heating periods.

It is important to note that this new way of measuring fuel poverty led to a fall of around one third in the number of households being categorised as being in fuel poverty in LAEP district council areas, as illustrated in the LAEP HECA Report 2012-14.

### Energy Company Obligation (ECO) funded measures

The ECO programme provides funding for energy efficiency measures for households in hard to treat properties and vulnerable or low income households who struggle to achieve affordable warmth.

The Energy Company Obligation Phase 2 (ECO2) ran from April 2015 to March 2017.

The most recent data available shows the cumulative total of ECO funded measures installed since the beginning of ECO to November 2016, compiled from:

<https://www.gov.uk/government/statistics/household-energy-efficiency-national-statistics-headline-release-january-2017>

ECO OBLIGATION measures						
	Carbon Saving Target (CSO/CERO)	Carbon Savings Community (CSCO)	Affordable Warmth (HHCRO)	Total no. ECO measures installed	All Households in area	ECO measures per 1,000 households*
<b>ENGLAND</b>	682,800	401,415	560,049	1,644,264	22,718,084	72.4
<b>E MIDLANDS</b>	55,923	29,016	50,385	135,324	1,943,621	69.6
<b>Derbyshire</b>	9,837	3,244	7,364	20,445	340,259	60.1
Amber Valley	1,406	412	1,236	3,054	53,746	56.8
Bolsover	613	699	1,201	2,513	33,493	75.0
Chesterfield	2,008	501	1,054	3,563	47,373	75.2
Derbyshire Dales	492	215	260	967	31,399	30.8
Erewash	1,398	399	1,272	3,069	49,907	61.5
High Peak	944	211	837	1,992	39,758	50.1
NE Derbyshire	1,763	741	836	3,340	43,759	76.3
South Derbyshire	1,213	66	668	1,947	40,824	47.7
<b>Nottinghamshire</b>	11,485	5,237	8,656	25,378	341,941	74.2
Ashfield	1,768	696	1,838	4,302	52,117	82.5
Bassetlaw	1,576	1,379	1,280	4,235	48,659	87.0
Broxtowe	1,158	136	1,082	2,376	48,044	49.5
Gedling	2,140	279	1,322	3,741	50,397	74.2
Mansfield	1,329	1,397	1,586	4,312	45,741	94.3
Newark & Sherwood	1,996	1,140	969	4,105	49,948	82.2
Rushcliffe	1,518	210	579	2,307	47,035	49.0

\* More than one measure installed in some homes

# JOINT LAEP ACTION

## 1. Priorities and ambitions

The LAEP acknowledges the requirements for local government to improve the energy efficiency of residential accommodation as outlined in the Climate Change Act 2008 and has a collective ambition to reduce domestic emissions of carbon dioxide and to help reduce fuel poverty across Nottinghamshire and Derbyshire.

The LAEP supports the aims of the 2015 Fuel Poverty Strategy for England 'Cutting the Cost of Keeping Warm' and the statutory target published in 2012 to ensure that as many fuel poor homes as is reasonably practicable achieve a minimum energy efficiency rating of Band C by 2030, with interim milestones of Band E by 2020 and Band D by 2025.

The LAEP also looks forward to engaging with the reformed ECO framework during the transition period to the longer term ECO3 (running from 2018 – 2022) as a key means of achieving affordable warmth locally.

**Tackling fuel poverty and achieving affordable warmth** has been the LAEP's **key priority** for a number of years and is the main focus of its current work programme.

Affordable warmth is woven into most of the partnership's activities with a particular emphasis on reducing the impacts of the cold on those with long term health conditions.

Through the development of health and housing programmes, local authorities in Nottinghamshire and Derbyshire are taking a leadership role in assisting fuel poor residents with long term health conditions in new and innovative ways, working collaboratively with each other and with Public Health, the NHS and third sector partners to establish and expand the reach and impact of successful LAEP programmes and initiatives.

All local councils are committed to supporting the continued development of the Derbyshire Healthy Home Programme and the Nottinghamshire Warm Homes on Prescription Programme which now have an established track record of delivery.

More broadly the LAEP is committed to providing guidance and improving access to affordable warmth assistance and energy efficiency advice through its community and public engagement service and is exploring opportunities to engage with ECO providers in the new phase of ECO.

The LAEP intends to engage fully with the rollout of smart meters as a way of assisting all local residents to save money and energy in the future and particularly to ensure that the most vulnerable residents are as able as the general population to take advantage of the benefits which smart meters bring.

The LAEP's programmes and objectives are detailed in a number of countywide policy documents which, together, illustrate the integrated and cross-cutting nature of the partnership's activities:

- Derbyshire Housing and Health Joint Strategic Needs Assessment (2016)  
[https://observatory.derbyshire.gov.uk/IAS/Custom/Resources/HealthandWellbeing/Health\\_Needs\\_Assessments/DerbyshireHousingHealthJNA2016.pdf](https://observatory.derbyshire.gov.uk/IAS/Custom/Resources/HealthandWellbeing/Health_Needs_Assessments/DerbyshireHousingHealthJNA2016.pdf)
- Derbyshire Anti-poverty Strategy (2014-17)  
[http://www.derbyshirepartnership.gov.uk/images/Derbyshire%20Anti%20Poverty%20Strategy%20Final\\_tcm39-263319.pdf](http://www.derbyshirepartnership.gov.uk/images/Derbyshire%20Anti%20Poverty%20Strategy%20Final_tcm39-263319.pdf)
- Derbyshire Climate Change Charter (2014-19)  
[https://www.derbyshire.gov.uk/images/Climate%20Change%20Charter%20final\\_tcm44-252695.pdf](https://www.derbyshire.gov.uk/images/Climate%20Change%20Charter%20final_tcm44-252695.pdf)

- Nottinghamshire Joint Strategic Needs Assessment  
<http://jsna.nottinghamcity.gov.uk/insight/Strategic-Framework/Nottinghamshire-JSNA.aspx>
- Nottinghamshire Sustainability and Transformation Plan  
<http://www.stpnotts.org.uk/media/116404/sustainabilitytransformationplan2016-21.pdf>
- An assessment of the Impact of Housing on Health and Wellbeing in Nottinghamshire  
<http://www.nottinghaminsight.org.uk/d/112956>
- Housing and Health Commissioning Group Housing Delivery Plan 2016

As a two tier, two county area comprising 15 district and borough councils, there are both significant organisational challenges to be overcome and operational benefits to be gained from collaborative working on this issue. The value of this joint approach is clearly demonstrated in subsequent sections of this report and in previous reports which document the track record of the partnership over the last 21 years of its operation.

## **2. Achievements 2015-17**

### **2.1 Information, advice, education and promotion**

The LAEP has commissioned the provision of a public facing communications service on behalf of its member authorities since 2010. This provides residents with information, advice and education on domestic energy efficiency, carbon emissions reduction and affordable warmth and is delivered by third sector partner Marches Energy Agency (MEA).

A website provides advice and guidance to residents and active low carbon community groups to encourage and support domestic energy efficiency and other low carbon behaviour change. One to one advice is available for community groups wanting to set up community energy schemes or undertake other low carbon initiatives.

A staffed, interactive, mobile information display vehicle visits three events in each council area per year, promoting home energy saving, energy efficiency retrofitting, potential sources of funding including ECO, and provides information and advice on associated topics including affordable warmth, water efficiency, Smart Meters, fuel tariff switching and the impact of a cold home on health.

The communication service provided by MEA and the LAEP's relationship with National Energy Action (detailed below) has also enabled access to health through affordable warmth training for frontline staff including social workers and health visitors.

### **2.2 Health and housing affordable warmth programmes**

Since 2015 the LAEP and its member local authorities have made great strides in creating and establishing health and housing programmes in Derbyshire and Nottinghamshire, targeting comprehensive affordable warmth assistance at the most vulnerable. Those in fuel poverty with long term health conditions made worse by the cold are identified and provided with home heating improvements and assistance with their fuel costs. This enables them to afford to keep warm and well at home.

Over the last two years over £0.5m of capital funding for domestic heating measures has been secured from external sources including National Grid, the Department of Energy and Climate Change (now BEIS) and National Energy Action (NEA) through competitive tendering for grants; funding has also been granted from public sector budgets including Public Health and Better Care Fund. This has enabled essential works to be paid for in homes where residents had no means to pay for heating repairs, heating replacements or insulation measures.

Many of the householders assisted would have been unable to access ECO funding as they required the replacement of back boilers, whole heating systems or off gas solutions, none of which provide sufficient 'life time savings' for the investment that utility companies would need to make. In the worst cases this leaves vulnerable residents with no means of paying for the works being without any heating or hot water for an indefinite period. In other situations residents are unable to access ECO because they are not on qualifying benefits, often the case for those of working age.

## Derbyshire Healthy Home Programme (ongoing from 2014)



### a) Context

In 2014, Public Health commissioned the LAEP to develop a programme to identify and support very low income householders in Derbyshire, suffering from long term illnesses made worse by the cold to:

- Reduce the detrimental health and wellbeing effects of cold and damp homes on those individuals with long term, cold-sensitive health conditions
- Reduce associated costs and pressures on the NHS and Adult Care services.

The Healthy Home Programme is run by a Programme Manager and a team of four Project Officers funded by Public Health. The service operates at a population level across the whole of Derbyshire but excludes social housing tenants.

The programme is highlighted in the Derbyshire **Health and Housing Joint Strategic Needs Assessment** as an effective approach to delivering a bespoke package of warmth, wealth and wellbeing interventions to clients across all stages of life. The **2016 UK Fuel Poverty Strategy** refers to the Derbyshire Healthy Home Programme as an exemplar of local authority ambition to join up warmth, health and wellbeing services.

### b) Service delivery and partnership

The programme is offered as a prevention service to GP practices across Derbyshire and also accepts eligible referrals from trusted sources including Adult Care, district councils, Citizen's Advice, the Fire Service and the Home Improvement Service where these organisations are unable to assist.



An in-home affordable warmth assessment determines housing, heating, financial and wellbeing needs, the risks faced in terms of the cold, trips and falls, and the root causes of their fuel poverty. A bespoke affordable warmth and wellbeing intervention plan is developed for the householder providing the following



combination of services where relevant:

- **Warmth Solutions** - ensuring adequate warmth in the home by providing new heating systems, system repairs, boilers, heating controls, insulation and draught proofing.
- **Fuel Cost Management** - in-home fuel tariff switching, negotiating with energy provider on resident's behalf, fuel debt relief, metering issues, bill payment methods, fuel discounts, Priority Service Registers, Warm Home Discount, Winter Fuel Payment and benefits applications.
- **High Dependency Support** - intensive process, requiring multiple home visits, working closely with statutory and third sector agencies to deliver essential interventions. One-to-one support is provided to resolve long standing, complex problems involving housing options, disrepair, unwilling or absent landlords, condemned/disconnected heating systems, debt, isolation, chaotic lifestyles, hoarding etc.

#### c) Outcomes 2015-17

- 360 vulnerable households provided with multiple interventions (see above)
- 252 homes have received free energy efficiency improvements through the programme including new central heating systems, replacement boilers, insulation and heating controls
- £470,000 of capital funding secured by the LAEP to provide these measures at no cost to these households who are unable to pay for the improvements themselves.

#### d) Evaluation

Self-reported patient feedback following affordable warmth interventions demonstrate the programme's effectiveness:

- 57% of clients said their health condition had "*improved significantly*"
- 83% said they are now comfortably able to keep their home warm.

The programme is being independently evaluated by Newcastle University, Sheffield Hallam University and the Department of Energy and Climate Change as part of the LAEP's commitments to their capital funding grant providers.

### 2.3 Housing intelligence

The LAEP has developed a Housing and Energy Database (HED) containing EPC records, purchased by the partnership, and other housing data, to enable district and borough authorities to identify and target housing archetypes for investment/signposting to ECO, fuel poverty initiatives and government funded schemes.

## 3. Looking ahead 2017-19

### 3.1 Delivering warm and healthy housing programmes for the most vulnerable

District and Borough councils in both Nottinghamshire and Derbyshire plan to develop and expand their innovative health and affordable warmth programmes over the next two years.

LAEP councils will continue to work together to develop countywide alliances with Public Health, CCGs and third sector partners to link into wider strategic priorities and funding streams including ECO, Better Care Fund (BCF) and Sustainability and Transformation Plan (STP), to ensure that the programmes are sustainable.

Using experience and expertise gained to date, targeting and delivery of programmes will be continuously improved. This will ensure that limited resources are used to achieve affordable warmth for those most at risk of harm from the cold, estimated to be around 3,000 households in each county, and will aim to impact on unplanned hospital admissions and avoid costs to the NHS and social care.

The Derbyshire Healthy Home Programme plans to assist 300 eligible households per year in 2017-19 as detailed in the Public Health Service Specification and Service Level Agreement, providing bespoke and comprehensive affordable warmth assistance.

### **3.2 Tackling fuel poverty**

The LAEP will engage with the new affordable warmth focus of ECO to help improve access to grant funding for those in fuel poverty across the two counties, estimated by BEIS to be around 65,000 households. The LAEP's Home Energy Database (HED) will assist councils to bring ECO funding for solid wall insulation into their areas by helping to locate areas of suitable housing type(s).

Comprehensive signposting and guidance about how to achieve affordable warmth, including how to access ECO funding, will continue to be provided through the LAEP website and its innovative community engagement service and through engagement with partner organisations.

LAEP will monitor the effectiveness of ECO to assist those in fuel poverty through the partnership's joint projects and will provide feedback on this to BEIS.

### **3.3 Increasing domestic energy efficiency throughout the population**

Since ECO funding has been refocused to assist those in fuel poverty, 'able to pay' households will not have access to any public funding to assist or subsidise energy efficiency improvements in their homes.

The LAEP will redouble its efforts to provide incentives for individual action by promoting the cost savings and comfort improvements that can be achieved by financial investment and behaviour change, using its community engagement service, currently delivered by third sector partner Marches Energy Agency (MEA). This will include website signposting and public exhibitions (mentioned in item 2. above), co-ordination of Open ECO Homes events across the two counties and the promotion of the benefits of smart meters, as highlighted below.

### **3.4 Rolling out smart meters**

The LAEP is committed to playing a proactive part in the rollout of smart meters and is working with National Energy Action (NEA) through the Smart Energy GB initiative, to raise awareness and help councils to provide a lead. Councils see themselves as partners in the rollout of smart meters to assist residents to reduce domestic energy consumption and tackle fuel poverty.

Opportunities will be sought to ensure that the most vulnerable residents are as able as the general population to take advantage of the benefits which smart meters bring.

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For further information about the contents of this LAEP HECA report, please contact:  
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# **Home Energy Conservation Act (HECA) Report for the Strategic Alliance of Bolsover District Council and North East Derbyshire District Council 2017**

## **1 - Introduction:**

Bolsover District Council (BDC) and North East Derbyshire District Council (NEDDC) have been developing a range of strategies together with the development of a dedicated team, the Home Improvement Team (HIT), to deal with energy consumption and fuel poverty. The HECA report allows the Strategic Alliance to identify benchmark and develop a continuing plan in order to maximise the efficient use of resources whilst delivering the best and most cost effective solution for the residents.

BDC consists of approximately 33,493 Households and NEDDC 43,759. Approximate figures will be based around these numbers in order to paint a picture for the HECA report.

The HIT works across the Strategic Alliance specialising in a cross-cutting capacity to deliver practical interventions to ALL residents within both districts. Such interventions range from fuel switching to full heating system installation and all measures are carried out through partnership working. This is explained in detail later in the report.

The HIT sits within the Joint Environmental Health Service and benefits from an intelligent use of resources which enables effective carbon reduction delivery to all housing stock. It also allows for 3<sup>rd</sup> party partner organisations to target acutely vulnerable households to deliver other measures such as Disabled Facilities Grants (DFGs), respite care and/or one off grants to cover white goods, which have previously existed “under the radar”.

As the UK housing sector is responsible for approximately 25% of all UK carbon emissions, it is a key area to focus on in terms of protecting the environment and air quality. This is not the only benefit; the effects of energy saving impacts positively on health, by providing decent warm housing, improving health and wellbeing and lowering NHS. The longer people can live in their homes independently, the less money is required to be spent on caring, curing and dealing with complex cold and respiratory related illnesses and any subsequent increases in the winter mortality rate.

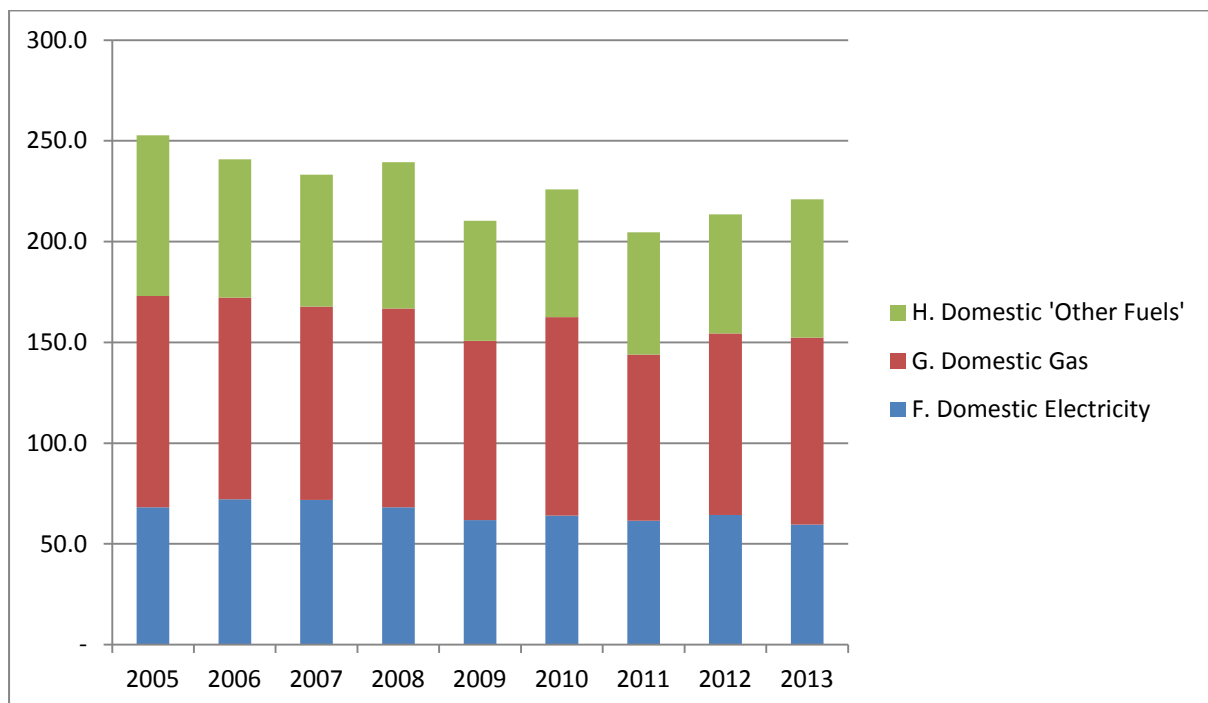
Prevention is preferable to cure, despite the initial costs of providing upgraded energy efficiency measures. The cost of the upgrading energy systems can be considerably less than a patient spending two or more weeks in hospital. In order to explore progress to date and how strategies can be taken forward, the trend in carbon emissions, energy consumption and fuel poverty need to be understood in the two districts first.

## 1.1 - Carbon Emissions

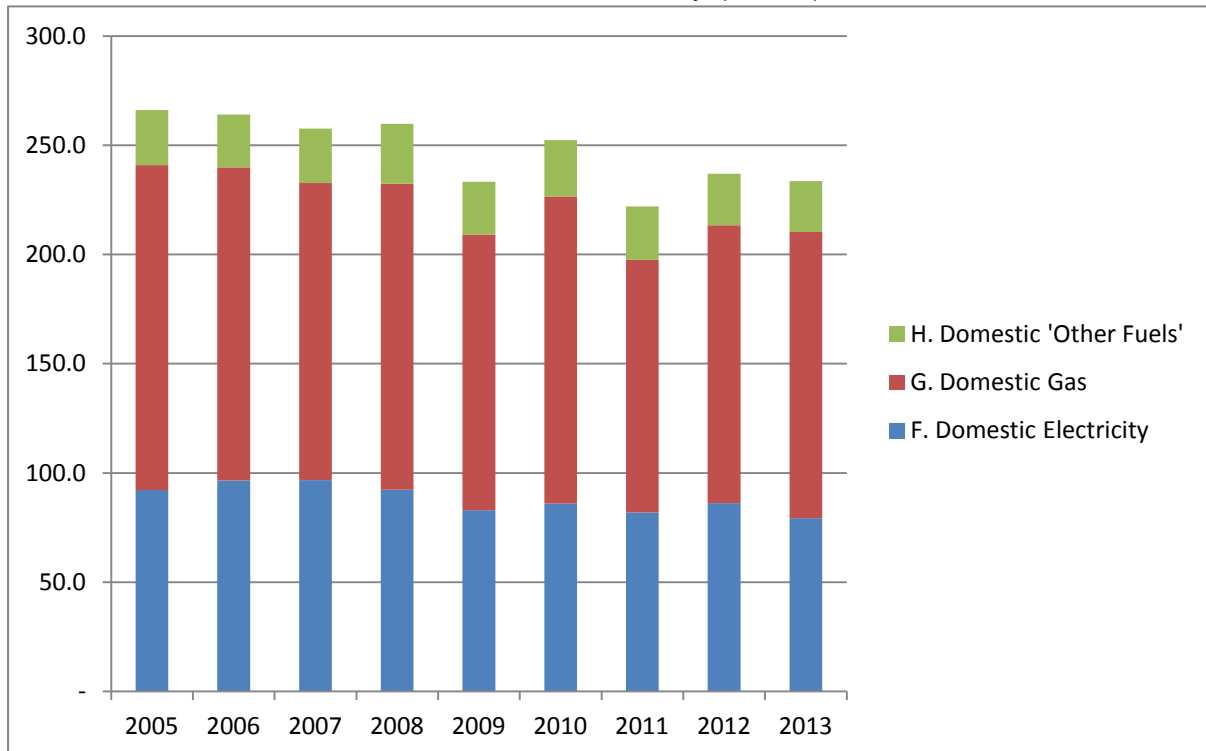
Illustrated below are the carbon trends in the domestic sector in both districts according to department Business, Energy and Industrial Strategy (BEIS). The last 9 years recorded statistics demonstrate that there has been a clear overall decrease in the consumption of gas, other heating fuels and electricity across the districts.

Despite the very cold winter of 2010-2011, both districts have reduced their carbon emissions by 10kt CO<sub>2</sub> during this period. To illustrate this saving, it is the equivalent of taking 1,667 average family cars off the road permanently per district (3,334). This is based on an average vehicle putting 6 tonnes of CO<sub>2</sub> emissions a year into the atmosphere.

BDC Carbon Emissions in Fuel and Electricity (ktCO<sub>2</sub>):



### NEDDC Carbon Emissions in Fuel and Electricity (ktCO<sub>2</sub>):



The overall decline can be attributed to the gradual implementation of energy efficiency measures across the districts which largely consisted of loft and cavity wall insulation. These measures were usually fully funded through the Carbon Emission Reduction Target (CERT) and Community Energy Saving Programme (CESP) schemes which were open to all households up until 2012.

The schemes produced the following outcomes across the districts of Bolsover and North East Derbyshire (Council and privately owned homes 2010-2012):

#### **NEDDC**

- Loft top-ups – 624
- Cavity Wall Insulation - 307

#### **BDC**

- Loft top-ups – 602 and
- Cavity Wall Insulation - 372

By increasing the energy efficiency of traditional construction type properties up to a modern insulation standard (0.3U-value) this has saved around 60% on energy wastage. However, this did not address non-traditional and solid wall construction properties. The Green Deal was set up as an affordable finance scheme in an effort to address this.

From 2013 onwards the idea was to charge the energy suppliers to part fund measures such as solid wall insulation through Energy Company Obligation (ECO) and have the rest of the funding covered by a low interest finance scheme that would be attached to the electricity meter. The savings from the installed scheme on the energy bill would pay for the intervention over a period of no more than 10 years (known as the Golden Rule).

The Home Heating Cost Reduction Obligation (HHCRO) was set up as a funding stream entirely devoted to vulnerable households that were deemed as being in 'fuel poverty'. Taking into consideration: entitlements, high energy costs vs low income. HHCRO will fund schemes such as new heating systems for people that qualify. This is aimed purely at the private owner occupied/private rented market as all council properties had their own agenda under CERT and Decent Homes provisions.

With the demise of the Green Deal in 2015, the Strategic Alliance had to adapt quickly in order to continue delivering solutions to the most vulnerable of homeowners, private tenants and council tenants. By finding a mix of ECO, Derbyshire County Council (DCC) schemes and one off grants, there was still a good opportunity to deliver potentially lifesaving interventions for local residents.

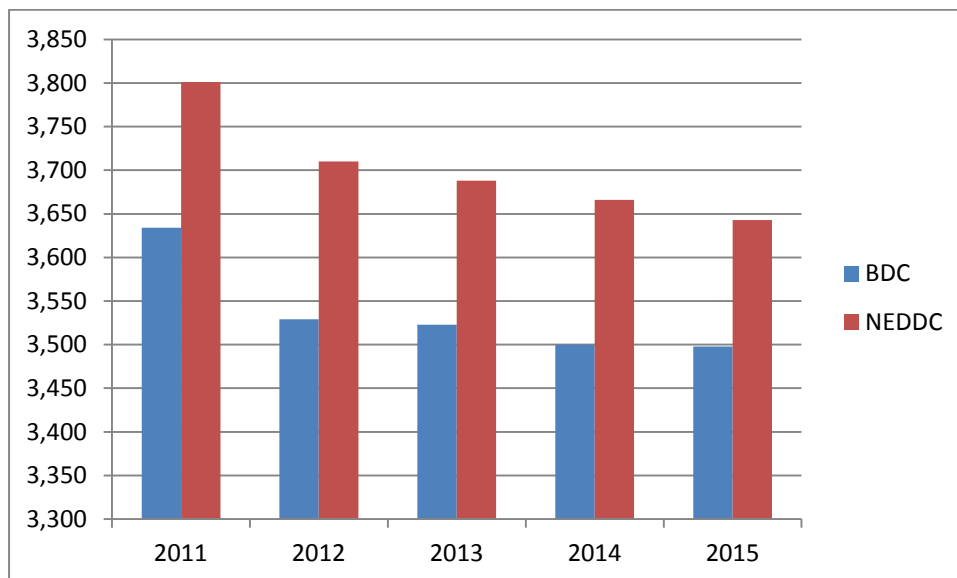
## **1.2 - Electricity Consumption:**

When looking at the average electricity consumption of the domestic electricity market within the Strategic Alliance, the statistics show a gradual decline over the last decade. This can be put down to more energy efficient appliances, lighting and residents being more aware of wastage. As electricity is priced considerably higher than gas in pence per kilowatt hour (kWh), this drives residents to be far more aware of their energy consumption.

Together with the gradual introduction of smart metering, energy monitors and domestic renewable energy systems, such as solar electricity, this again encourages people to take control over their own energy usage. Both BDC and NEDDC have heavily invested in renewable energy systems for their housing stock along with other measures such as LED (light emitting diode) bulbs in order to drive down the domestic electricity consumption.

In the private housing sector (including private rented), there is a district wide impartial energy advice and energy audit service that is available to ALL residents. This will ensure that anyone who accesses the service will receive the energy advice they need rather than a sales pitch to sell an 'eco system' that can fail to deliver the savings (CO<sub>2</sub> and cost) of a conventional energy saving intervention.

Below is a graph illustrating the annual consumption of electricity used in the domestic market within North East Derbyshire (NEDDC) and Bolsover District Council (BDC) over 2011-2015 in kWh.



### 1.3 - Gas Consumption:

The monitoring of gas consumption in BDC and NEDDC is a crucial indicator in understanding the success of carbon reduction and fuel poverty measures. As mentioned before, space heating and hot water in the domestic sector accounts for 80% of energy consumption. Therefore ensuring efficient use of gas (and any other form of heating for the home) is used correctly.

Across the Strategic Alliance area, there has been a drop in 10,000kWh for each authority. This 20,000kWh overall fall in average domestic consumption is a very significant drop. This means that there is an average saving of £400 (10,000kWh x £0.04 = £400) per household in each district over the 10 year period. Bearing in mind the average fuel bill is around £1,400 a year, this is a welcome reduction.

The major factor contributing to this saving is a mixture of heating upgrades, insulation works and lifestyle change by utilising the heating controls to their optimum effect. Indeed some renewable energy systems such as air source heat pumps, solar thermal and biomass do play a part in this reduction, but the local evidence overwhelmingly supports efficient heating and insulation measures delivering this success.

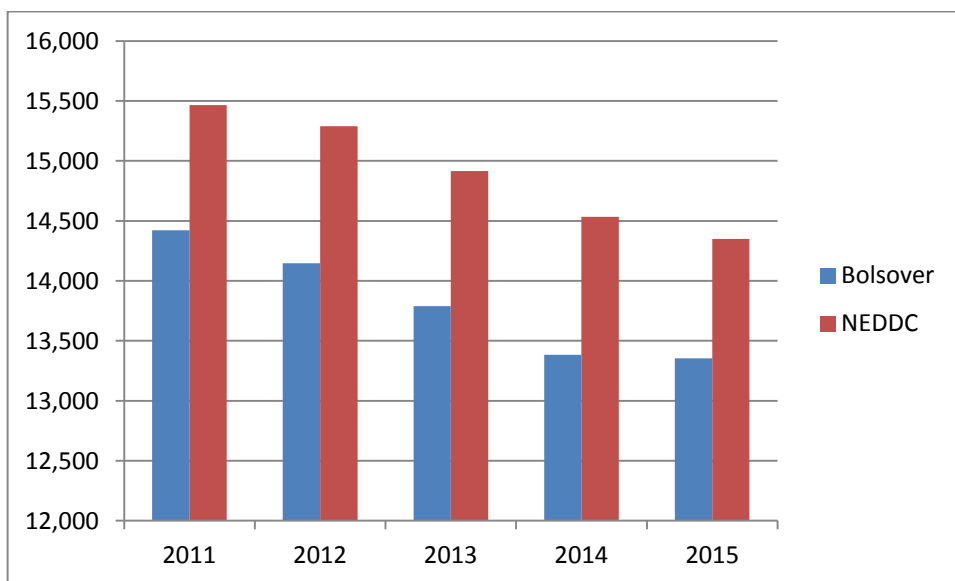
The majority of the council stock and owner occupied properties without a gas connection tend to be on solid fuel. This is down to the legacy of the coal mining industry and retired miners and their families living in the area and who are in receipt of the National Concessionary Fuel Allowance. Overall trends still report a drop in



both carbon emissions and usage of natural gas within the districts despite both local authorities working closely with National Grid Affordable Warmth Solutions to put mains gas into properties across all tenures.

This fact illustrates that it is energy conservation through the investment of more efficient gas boiler installations and insulation which is the means of vastly reducing energy consumption. To add to this, people claiming the National Concessionary Fuel Allowance receive a cash payment in lieu when they convert to a gas heating system. This effectively gives more incentive to 'burn gas', and yet there is still a noticeable decline in gas usage year on year.

Below is an illustration in gas usage over the districts over the 2011-2015 in kWh:

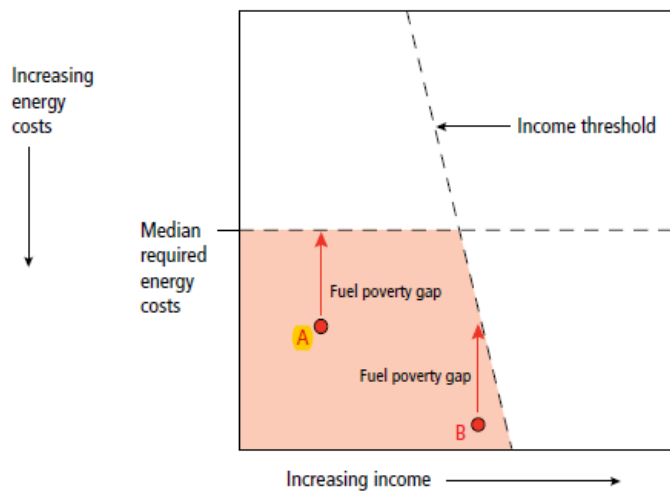


#### 1.4 - Fuel Poverty Statistics:

The statistics for fuel poverty do reflect a slight decline in both districts; however this is in no way follows the success of the carbon emission/fuel consumption trends. Indeed there is a sudden drop in both districts in the year 2013 but this is entirely down to central government altering the definition of 'fuel poverty'. Up until 2013, the flat rate of more than '10% of income spent on fuel' was defined as 'fuel poverty'.

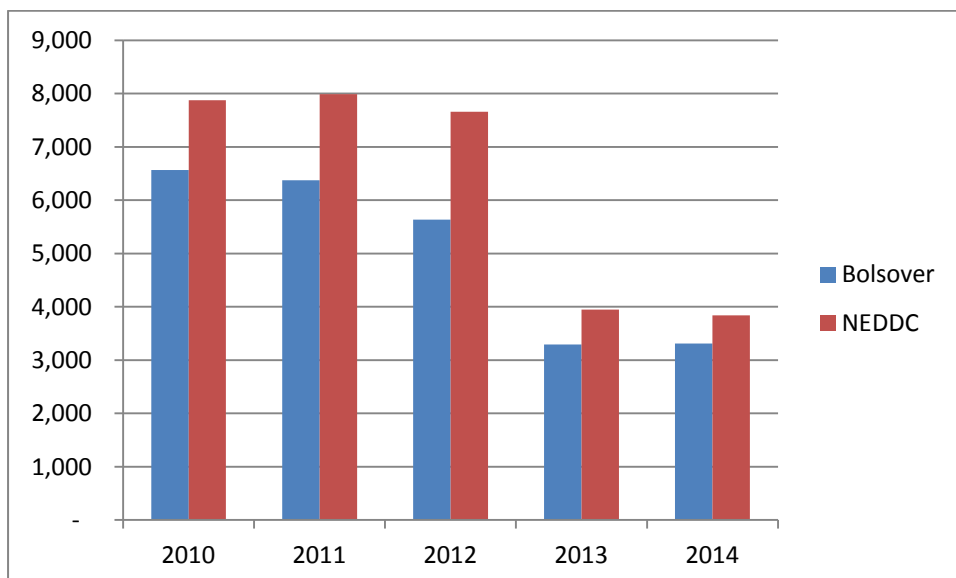
Post 2013 the definition to define fuel poverty was changed to create a scale based on 'low income high costs'. Therefore to fall within the new category, the occupant has to be in receipt of a low income, have inefficient heating/insulation measures coupled with high expenditure.

### Fuel Poverty Illustrated Diagram:



As a result of the change of definition, this automatically removed around 3,000 households from each district. However in reality, this has had little impact on the negative effects of fuel poverty on people’s personal wellbeing. Despite this reduction, there are still 4,129 households in Bolsover (10%) and 3,500 households in North East Derbyshire (9%), in fuel poverty which when combined, amount to a figure of approx 8,000 homes across the Strategic Alliance which is still far too high.

This graph illustrates the very steady decline in fuel poverty in terms of households within BDC/NEDDC 2010-2014:



This is a concern for the districts, as what may appear as a single percentage figure in each authority, could mean 1000’s of unnecessary cold related hospital admissions each year. Winter deaths for each district are 70 for Bolsover and 40 for North East Derbyshire yearly. This is a total of 110 deaths per year, which are completely avoidable.

Interventions at ground level can make a large impact on these statistics. Indeed physical interventions such as boiler replacements and insulation upgrades will instantly take a vulnerable household out of 'risk of a cold related illness'. To put in a new heating system will cost around £2,800 and to fully insulate a traditional build property £700. £3,500 investment per property is far cheaper than a 2 week stay in hospital estimated at £5,600 per person (£400 a night per bed).

'Prevention' as opposed to 'cure' is the approach the Home Improvement Team is taking in order to reduce costs to the NHS and Clinical Commissioning Groups (CCG). Indeed hospital costs are at their highest ever, but there is still £100,000s that could be saved each year by each CCG made up of GP time and home visits from district nurses and other clinical professionals.

By implementing appropriate preventative measures as outlined above, the outcome clearly demonstrates best value for money when compared to treatment 'cure' costs. An example of this would be:

- 8,000 houses treated with insulation and boilers     £2,800,000
- Treatment of individuals for 2 weeks in hospital     £4,480,000

The £2.8M would cover permanent installations.

The £4.48M will not include re-admissions or further clinical interventions.

## **2.0 - Energy Efficiency Measures:**

When identifying and delivering the most appropriate physical and customer required interventions, the Joint Environmental Health Service has identified a strong strategy for maximising impact across the Strategic Alliance. A cross cutting service that includes a 'start to finish' customer journey has been developed.

An example of this would be an Environmental Health Officer identifying a property that has housing repair issues, with an elderly occupant and/or other factors impacting on their health. This occupier is then referred to the HIT to coordinate, for example, a new boiler through the LAEP DCC Scheme. A referral is then made to the in-house Community Outreach Team to ensure that the occupant is receiving all their correct benefit entitlements.

This cross-cutting approach ensures that the end user receives appropriate interventions and has a full welfare benefits check to ensure they are safe, warm and well in their home. This provides a sustainable long term approach to ensuring that the resident is able to remain living independently in their home. The potential saving to the NHS and CCG is £10,000s as it ensures the resident is not admitted to primary care services for expensive treatment for cold related preventable illnesses.

## **2.1 - Measures Identified as Most Effective:**

Through the various energy efficiency measures and renewable energy technologies, both Councils have been able to establish the most cost effective and high impact fuel reduction schemes for the residents. When considering the various heating systems that are available on the market, ranging from solar thermal, heat pump technology, biomass and combined heat and power; the most effective has been proven to be high efficient gas condensing boilers.

As the both districts have access to mains gas, this makes installing highly efficient boilers the most cost effective solution to improve heating to properties. Thanks to efforts over the last four years, working in partnership with the National Grid Affordable Warmth Solutions Team, over 300 multi- and one-off connections have been installed across the Strategic Alliance.

This has effectively connected the vast majority of properties across both authorities onto mains gas and as a result has enabled numerous projects and strategic partnerships to deliver funded upgrades. The funded upgrades spread across all housing tenures together with feedback has clearly demonstrated a large drop in fuel bills, better quality of life and, naturally, a drop in emissions.

Installing insulation through local trusted Green Deal Certified Installers has also been a valuable asset when working with owner-occupier/private rented occupants. Thermal insulation is one major factor capable of bringing a dwelling out of fuel poverty. Empty cavity walls can be addressed with ease as these can be done free of charge under the ECO schemes. However, the largest issue affecting private sector properties, and still many council properties, is dealing with solid wall/hard-to-treat (HTT) properties with external wall insulation (EWI).

Despite some funding being available, private residents are still expected to make around a 60-80% contribution towards EWI. An average 3 bedroom semi detached property would have to make approximately £6,000 contribution toward an £8,000 installation cost. Clearly this is level of disposable cash is out of reach for the majority of vulnerable residents and with the closure of the Green Deal Loan Scheme, quite impossible. Even with the installation of a modern gas boiler, the generated heat will be lost through the un-insulated walls of the property.

Most lofts can be topped up and are often fully funded if there is little or no existing insulation. If there is existing insulation then the 'top-up' cost is often in the low £100s and therefore affordable. This is well worth the investment as it will make a difference to the fuel bills by around 25% but the house will still be prone to cold and condensation and subsequently mould growth if the walls remain un-insulated.

Despite all efforts to address the council housing stock, there are still thousands of HTT properties that remain free of external wall insulation. Every effort has been made to part fund EWI installations in batches of 100-200 but this is very limited due

to the low ECO rates available. Both Bolsover District Council and North East Derbyshire District Council have to plunder essential maintenance funds in order to address these issues.

## **2.2 - Uptake in Green Deal and ECO**

When the ECO and Green Deal schemes replaced the old CERT/CESP scheme, there was a huge difference in the amounts of ECO measures delivered (funded) and Green Deal finance plans administered against properties. Successful interventions under the ECO scheme far outweigh the number of Green Deal plans that have been assigned to houses across both districts.

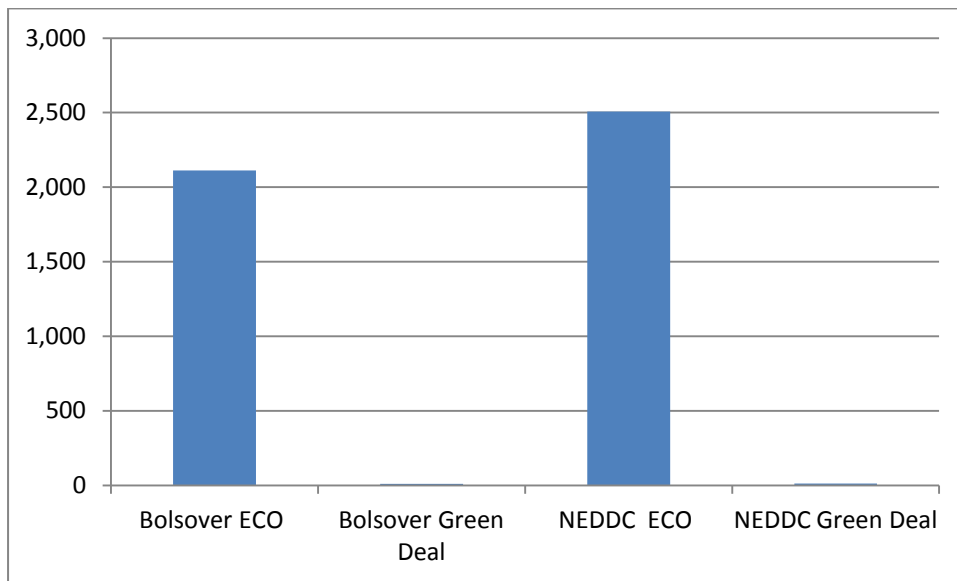
This pattern was illustrated nationally as in 2015 the Green Deal loan scheme was scrapped following its launch in 2013. This is a shame, as this was set to be a UK flag-ship scheme that would be an affordable solution for the private housing sector. The idea was to create a 7% APR loan that was attached to the electricity meter of the property. This loan would follow a Green Deal Assessment that would identify the savings made from an intervention such as EWI.

For example, EWI would cost £8,000 and as a result attract £4,000 via ECO. The remaining £4,000 would be placed as a debt/loan against the electricity meter (everyone has electricity) and would be paid/reduced out of the savings made from the heat escaping through un-insulated walls, and was deemed to be affordable. As the loan is attached to the property and not the occupant, the Green Deal Plan would simply remain with the house even if the occupier changed. As long as the scheme could be paid for within a reasonable amount of time (10 years), this would meet what was called the 'Golden Rule'. If the plan was to last longer than 10 years based on the initial energy assessment then the loan was not deemed to be viable.

All works had to be carried out by Green Deal Certified installers. This kite mark was created in order to ensure that the work was being carried out to a nationally acceptable standard. The technical specifications and guarantees were set by the Building Research Establishment and this was done on behalf of BEIS (Department for Business Energy and Industrial Strategy) (formally Department of Energy and Climate Change [DECC]). The standard included essential aspects such as a 25 year structural guarantee (for at least the life of the Green Deal Plan) and also to meet the 0.3U-value (the same standard as a modern insulated property).

This in theory prevented any sub-standard works and also ensured, so far as was reasonably possible, that all works met standard criteria. Any ECO works carried out to this day (and from ECO 3 onwards) will also be installed to this high standard. This is crucial in order to ensure that fuel poverty interventions delivered, significantly reduce household energy consumption and heating costs.

Below is a graph of ECO and Green Deal interventions across both districts in participating households from 2013 to present date:



The majority of the ECO/Green Deal interventions were for boiler and insulation upgrades across the joint districts. The installation of domestic renewable energy technologies is very small in comparison and the statistics are reflected both on a national level along with the comprehensive data collected by the Strategic Alliance.

### **3.0 - Partnership Working:**

Over the last five years the Strategic Alliance has been working very closely with a wide variety of organisations to best deliver carbon reduction and fuel poverty measures for the residents. The intelligence collected over this time has made it clear that interventions need to be delivered proactively to those in need. Vulnerable residents need to be identified and approached. These households may be housebound or may simply be ‘too proud’ to apply for grant funding.

Developing a fluid communication with ground workers and organisations working to identify these householders and referring them to the Council, in order to coordinate potential interventions such as new boilers, insulation and/or fuel-switching is key. The tools, communication and services of the authorities have been developed and refined in order to quickly and cost effectively deliver high impact fuel poverty interventions.

### **3.1 - Who We Work With:**

- Nottinghamshire and Derbyshire Local Authorities Energy Partnership (LAEP)
- Citizens Advice Bureau
- Community Voluntary Partnership
- Clinical Commissioning Groups
- Local Installers
- DCC Public Health

- DCC Social Services
- Local Enterprise Partnership
- GP Practices
- DCC Childrens Services
- NGOs
- DCC Adult Services

### **3.2 - Identifying the Residents Most in Need:**

The Environmental Health Service has been working diligently over the last few years to develop an overarching strategy to identify and deliver positive outcomes for all residents across the Strategic Alliance. Fuel poverty is a key driver in determining the welfare of any resident/household but it has also been noticed that partnership working is essential in the complete delivery of this strategy.

For example, if an Environmental Health Officer goes into an owner occupied property where the occupants are vulnerable with inefficient heating, disrepair hazards and/or hoarding. A Vulnerable Adult Risk Management (VARM) meeting is then arranged which pulls in all agencies that may need to be involved in the safeguarding process. Funding can be gained to contribute to clearing the property; adult care support is provided when necessary, smoke detection measures are installed and visual safety checks for the gas/electricity can be undertaken.

Following this, the property can then be assessed on a personal level by the HIT. The HIT will gather information from the occupant and refer them for, perhaps, a new funded central heating system and/or insulation via HHCRO and then often refer them to the DCC to apply for a Disabled Facilities Grant, which will give them much needed safe access into, out of and around the property and allow them to remain living independently in their home.

After such interventions, the HIT can then revisit to ensure that the householder knows how to use the new heating system, to ensure that they are on the most competitive energy tariff and to refer to the Community Outreach Workers if it is felt that they are not claiming their full benefit entitlement income. This way, the end user is set up for an independent future that is sustainable.

The installation of a new boiler and insulation measures reduces CO<sub>2</sub> emissions in housing by anything up to 60%, it saves occupants £250-£500 a year and also £1,000s per capita in the local/regional NHS. The combined costs effectively pay for themselves well within a 10 year period. When dealing with vulnerable residents, families or young people, these interventions and outcomes soon justify themselves in terms of savings to central government, whilst assisting carbon reduction commitments.

### **3.3 - Solutions Identified:**

There are multiple solutions that have been identified as big 'carbon reducing' technologies but the Joint Environmental Health Service has determined that the best approach is multiple interventions being delivered in partnership by multiple agencies. The most cost effective solutions within the districts have been replacing old boilers with new condensing combination units. Traditional insulation such as loft insulation top-ups and/or cavity wall insulation has been referred to a trusted trader then installed under the HHCRO scheme.

When compared to solar photovoltaic and solar thermal measures, the traditional measures still save far more than their savings combined with the FIT (Feed-in-tariffs) / RHI (Renewable Heat Incentive) payments. Indeed EWI is a very good solution for the solid wall / HTT properties, however, there is no tangible bridging funding available for the owner occupiers/private rented market. With this in mind, boiler upgrades are still far more cost effective than all of the above measures. As the vast majority of each district is connected to gas, this supports the traditional intervention being the best option.

### **4.0 - Delivery to Date:**

#### **4.1 - Numbers of residents in Council Housing Sector**

##### **Bolsover District Council:**

- Boilers - 673
- EWI - 60
- Loft Top-ups 3

##### **Rykneld Homes (NEDDC):**

- Boilers – 227
- EWI – 471
- Loft Top-ups - 2

#### **4.2 - Number of residents in Private Sector Contacted by HIT**

- Contacts (face-to-face) - 1,735
- North Derbyshire - LAEP Referrals – 61 (boiler upgrades, repairs or heating controls)
- Community Outreach/CAB Financial Checks – 71
- ECO, HHCRO and Trusted Trader referrals for insulation - 86
- One off grants for specific interventions – 29
- Renewable Energy Advice – 7



- Damp, Condensation and mould advice – 64

Also included in the overall statistics are a number of fuel-switches, thermostat control demonstrations and other demonstrable lifestyle changes which help people to save energy/money. All interventions will cause a reduction in an individual's carbon emissions. The statistics above clearly illustrate the ongoing need for raising awareness of energy efficiency and available measures across both districts.

As the team is proactively engaging with the most vulnerable residents, this is helping to coordinate the most appropriate interventions for those residents.

As the statistics show, the methods being implemented are the basics that deliver the highest energy, cost and carbon reduction. Insulation, heating controls and boiler upgrades score highest in the grassroots statistics collated within the HIT. The fact that there have only been 7 renewable energy queries, again illustrates the importance of traditional 'tried and tested' methods.

Work with the most vulnerable residents, who require Disabled Facilities Grants (DFGs), also tend to lead to a large number of energy referrals. 53 energy referrals were generated as a result of DFG visits and most of these were alongside already identified energy saving interventions. As a result, the resident is able to save money and energy and also feel safer and remain more independent in their home.

Other added value as part of partnership working consisted of Derbyshire Fire and Rescue and the Handyvan Network carrying out fire safety checks, installation of smoke detectors, visual electrical safety checks. Carbon monoxide alarms, minor adaptations and small repairs can be installed at very short notice and give the resident peace of mind.

## **5.0 - Ambitions:**

### **5.1 - Way Forward**

The key to continually improving the carbon reduction strategies, is to continue to identify the most inefficient properties with the most vulnerable residents. As all local authorities are tasked with becoming more efficient with funding, this is reflected in the strategically coordinated LAEP approach with Derbyshire County Council and other organisations within the districts.

In the future it will be essential to match up the criteria for the ECO/HHCRO schemes so that the most in need can get the maximum benefits. The Strategic Alliance will continue to work with certified installers, NHS and NGO care providers to ensure that all solutions can be delivered effectively. Other interventions such as care packages and respite care can also be included to benefit a householder where necessary.

Through this, the Strategic Alliance will be looking to further reduce carbon emissions from homes by 15% in the next 5 years. Through each intervention, we will be looking to decrease fuel poverty by the same amount and also improve the quality of life for the residents who are most in need. We will continue to do this via proven practical interventions and seek to deliver EWI far more cost effectively by working with local partner installers.

## **5.2 - Future Targeting**

The HIT team will continue to work with the Environmental Health Officers, Council Housing Teams and NHS to identify and coordinate engagement with the most vulnerable residents who are most in need. Within the Strategic Alliance, elderly retired residents that have a mining back ground are a large customer base. This client group has benefitted the most from the delivery of energy efficiency measures and disabled facilities grants.

The HIT team will also develop additional links with the vulnerable families and younger residents demographic. There is a good track record of working with the elderly community which needs to be duplicated in this sector. Avenues into Child Services and the local education sectors will be explored to help identify residents in need. From this work, very similar outcomes can hopefully be delivered.

## **5.3 - Future Technologies**

The integration of technologies that will have the best possible outcome for residents is a key deliverable in carbon reduction. Already the Strategic Alliance is finding that the installation of intelligent heating control systems coupled with internet connectivity has helped the lives of disabled residents. Such systems often help the disabled resident control their heating, lighting and security by using a laptop/tablet.

The HIT team will also work closely with the council housing sector to ensure that future innovative energy efficiency projects can be put into practice by submitting a request for funding via an ECO funding bid. As some of the stock is listed and unique, match funding bids can also be made to bodies such as European Regional Development Funding (ERDF).

Where renewable energy systems can be applied to communal (sheltered) accommodation schemes, the Strategic Alliance will continue to explore systems that are both cost effective and which generate a sustainable income for the housing teams. High efficiency heating systems coupled with hydrogen fuel cell technologies have been installed in Clay Cross. In Clowne, a solar photovoltaic system has been installed to displace communal lighting electricity consumption whilst generating a return through the feed in tariff.

The main focus of future technologies will be following the boiler and EWI market. As future mains gas boilers become more efficient coupled with the price of EWI reducing (hopefully), the innovative approach of making these measures accessible

to the most in need will be a key objective. As there are a wide variety of HTT non traditional construction homes of all tenures in both districts, this is very important.

As the cost of EWI comes down and the efficiency of boilers goes up, this reduce the funding required so that either a package can be delivered which is accessible to a resident or those that are defined as being in fuel poverty delivered free under HHCRO or the Derbyshire County Council Healthy Homes Scheme.

Technology is always a very good way of reducing carbon emissions and fuel poverty. However, this report has identified that intelligent implementation using partner organisation is a far more effective tool that achieves vast positive impacts on both national carbon reduction figures and the lives of the resident end user.

#### **5.4 - Future Partnership Delivery**

To maintain and improve the success of current practices, the HIT will further develop other strategic partnerships. The area identified for future development is in the young family and child sector. The HIT team will build on existing links with public health, social services and child support services to identify vulnerable families.

From this, a plan of action can be developed and implemented to work with all agencies as listed in the previous sections. The objective will be to build on the existing communication networks and lead clients through these partnership agencies to ensure the best possible outcomes in terms of physical interventions and support mechanisms.

#### **6.0 - Conclusion**

Bolsover District Council and North East Derbyshire District Council are working proactively to maximise resources to deliver large carbon reductions. This is true across all of the Strategic Alliance but for many years now, the Environmental Health Service has focused on delivering this key service to all residents. It is keen to continue reaching residents on the ground by remaining proactive with the agencies that help in identifying vulnerable residents.

The Strategic Alliance is committed to in improving the lives of all residents in its areas and will continue to deliver this objective in conjunction with successful partnership working across all agencies.