

Report to Sustainable development panel
29 March 2016
Report of Director of regeneration and development
Subject Norwich City Council HECA 2017-2019

Item

5

Purpose

The draft HECA report sets out the energy conservation measures that the authority considers practicable, cost-effective and likely to result in significant improvement in the energy efficiency of residential accommodation in its area in line with government requirements.

Recommendation

To consider and take note of the progress made against addressing energy efficiency within the city.

Corporate and service priorities

The report helps to meet the council's corporate priorities; Safe Clean and Low Carbon City, Fair City and Healthy City with good housing.

Financial implications

None in addition to those already budgeted for.

Ward/s: All wards

Cabinet members: Councillor Bremner, environment and sustainable development

Contact officers

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Background documents

None

Report

1. Reducing domestic energy use has important environmental, social and economic benefits and therefore contributes to Norwich city council's corporate priorities:
 - A safe, clean and low carbon city
 - A healthy city with good housing
 - Fair City and Healthy City with good housing
2. Over recent years, steep increases in fuel prices have, in part, resulted in a rise in fuel poverty nationally and so emphasises the importance of reducing the impact of this issue locally. The council has been working hard to try to combat the issue of fuel poverty across the city and to mitigate the effects of fuel poverty wherever possible. We have met with some success, bucking both the national and regional trend of increasing fuel poverty levels. Here in Norwich, we are pleased to be able to report a decrease in the number of households in fuel poverty.
3. In Norwich fuel poverty has decreased year on year and significantly from 2013 to 2014. Fuel poverty levels in the city are now at 6,523 households. However, to set this in some context at both a national and regional level fuel poverty levels have increased in recent years.
4. The reduction of fuel poverty is also vital to improve the health of the local community, enhance prosperity and improve the housing stock. Our programme of activities will, we hope, be assisted by a combination of government funding, other ad hoc funding schemes and our own funding.
5. Since the introduction of the Home Energy Conservation Act we have run a wide range of programmes and projects to promote energy efficiency to our residents. This report outlines how we will continue to develop this work over the next two years.

References

Please refer to the NCC HECA 2015-2017



Norwich City Council

Home Energy Conservation
Report 2017-2019

Section 1: Foreword:

Reducing energy use has important environmental, social and economic benefits and therefore clearly contributes to Norwich city council's corporate priorities. It also helps to meet both national and international target to reduce carbon dioxide emissions, one of the main contributing factors to climate change.

Over recent years steep increases in fuel prices have, in part, resulted in a rise in fuel poverty nationally and so emphasise the importance of reducing the impact of this issue locally. The council has been working hard to try to combat fuel poverty across the city and to mitigate the effects of fuel poverty wherever possible. We have met with some success, bucking both the national and regional trend of increasing fuel poverty levels. Here in Norwich, we are pleased to be able to report a decrease in the number of households in fuel poverty. But there is still more to do and we are not complacent.

The reduction of fuel poverty is also vital to improve the health of the local community, enhance prosperity and improve the housing stock. Our programme of activities will, we hope, be assisted by a combination of government funding, other ad hoc funding schemes and our own funding.

However, more than a million households in the UK cannot afford to heat their homes sufficiently even though a member of the household is in employment. A study by the Policy Exchange looked at 2.3 million households in England in fuel poverty and found that half nearly half of them, around 1.1 million households, included a household member who was employed.¹

Therefore there appears to be a disconnect between the government's ambition to improve the energy efficiency of all fuel-poor homes to a decent band C level and the amount of money being spent on the issue. However, as government funding has dwindled over time we continue to work tirelessly to pursue alternative funding options to enable us to continue to deliver this important work and ultimately to reduce fuel poverty in Norwich. We must, however, remain realistic in our aspirations with what we can deliver with decreased resources.

Since the introduction of the Home Energy Conservation Act we have run a wide range of programmes and projects to promote energy efficiency to our residents. This report outlines how we will continue to develop this work over the next two years.

[insert photos here]

Councillor Alan Waters
Leader

Councillor Gail Harris
Deputy Leader &
Cabinet member
for Housing

Councillor Vaughan Thomas
Cabinet member for
Fairness and Equality

¹ Policy Exchange - Warmer Homes – improving fuel poverty and energy efficiency policy in the UK (2015).

2. Executive Summary:

Aim:

The Home Energy Conservation Act 1995 (HECA) recognises that local authorities are well placed to use their position to seek to improve the energy efficiency of residential accommodation within their local communities. HECA updates are required bi-annually and this report provides an update on the work undertaken since the publication of Norwich City Council's 2015 HECA report.

This HECA report is written in accordance with the HECA guidance published by the Department of Business, Energy and Industrial Strategy (DBEIS) in January 2017, titled: Guidance to English Energy Conservation Authorities issued pursuant to the Home Energy Conservation Act 1995.

Structure of the report:

Firstly the report considers the age and condition of the city's housing stock, both privately owned and council owned.

Section 6 considers carbon emissions and energy consumption in the city, before moving to review Fuel Poverty levels and an exploration of the complex factors which make pinpointing causes of fuel poverty challenging in different areas of the city in Section 7. There is a wealth of data available regarding both carbon emissions and factors affecting fuel poverty and Sections 6 and 7 attempt to interrogate some of this data and draw conclusions in order to assist the council in focussing our efforts and resources most effectively.

Section 8 reports the various initiatives that the council has undertaken to help reduce both carbon emissions and fuel poverty across Norwich.

The report concludes by considering progress against actions set over the past 4 years and finishes by detailing future plans to continue to reduce fuel poverty and carbon emissions in Norwich, alongside the need to be realistic in our aspirations in financially challenging times.

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Section 3: Introduction:

Norwich city council is responsible for approximately 60% of the urban area of Norwich, including the historic city centre and a population of approximately 139,000 residents.

Norwich is an innovative, creative and vibrant city, with big ambitions for both the place and the people who live here. The first UNESCO City of Literature in England, Norwich is flourishing. It is home to the headquarters of many global companies in the top thirteen shopping destinations in the country and is the regional employment and cultural capital. Its economic, social cultural and environmental influence is out of all proportion to its size, and extends far beyond its boundaries.

However, Norwich is a 'tale of two cities'. Whilst the city has many positive features, it nevertheless experiences many of the tough challenges that urban centres can suffer. A significant proportion of city residents suffer deprivation, poor educational attainment and poor health. Norwich is also a growing city, which puts demands on ever diminishing public sector resources, both now and in the future.

On average, resident earnings are low in Norwich compared to the rest of the region. This is partly due to low wages and financial capability, as well as limited access to products and services that enable people to manage their money more effectively. A significant proportion of Norwich residents have low-literacy levels and are lacking basic digital skills or internet access. All of which can impede access to some of the most competitive deals on a range of products from car insurance, to mobile telephones, to energy tariffs. The impact of financial recession and welfare reforms has only served to increase the challenges for disadvantaged residents.

One of the council's key corporate priorities within our corporate plan is to 'make Norwich a prosperous city' and within that we have stated an aspiration to "support people on low incomes through advocacy and financial inclusion activities" and "reduce fuel poverty through affordable warmth activities". This HECA report provides a framework to bring together in one document a number of housing improvement activities which will help to reduce fuel poverty, increase wealth and improve health, as well increase the energy efficiency of city homes.

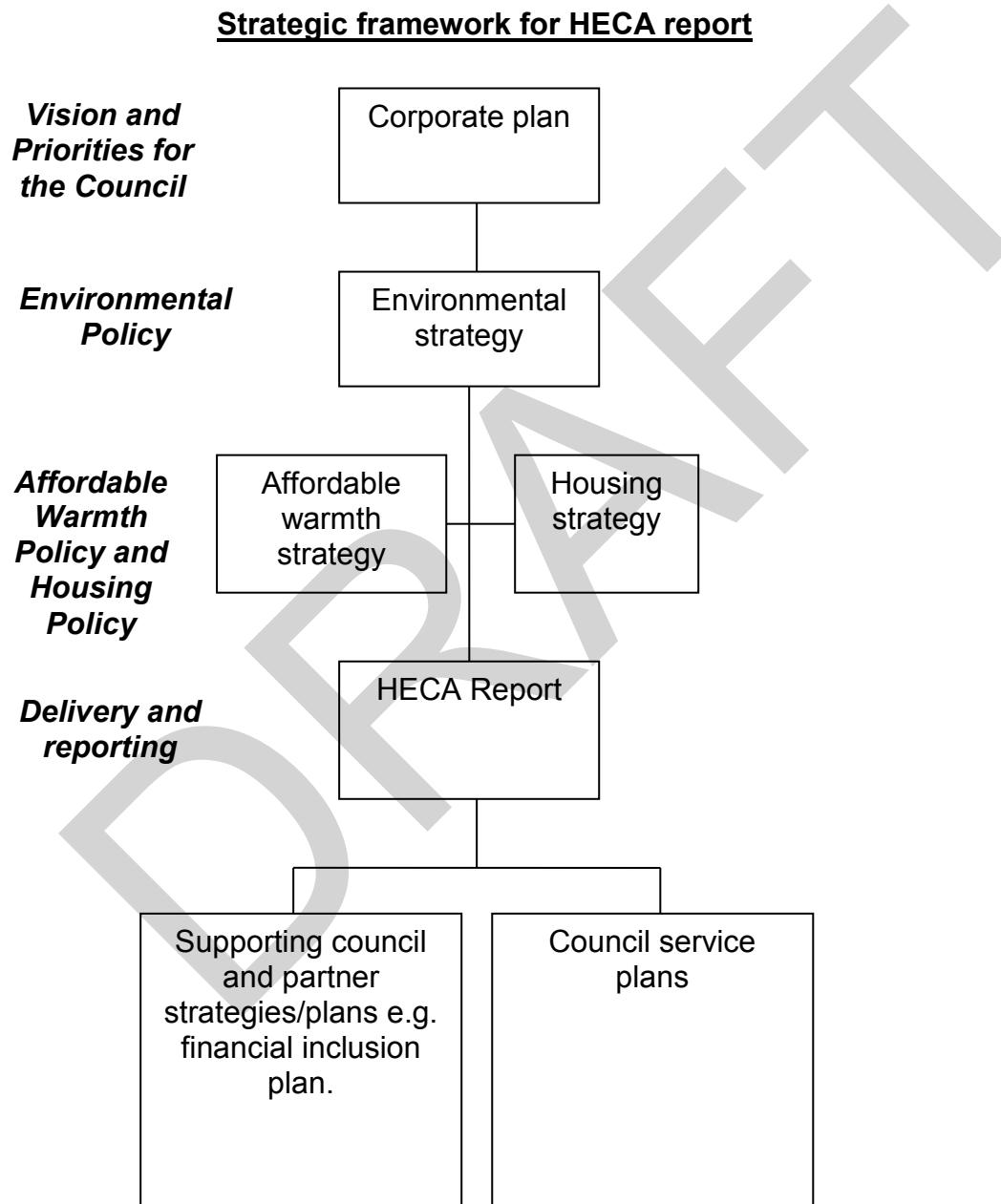
Despite a reduction in fuel poverty levels, 10.5% of all Norwich households still live in fuel poverty, which equates to over 6,500 households. In the past 7 years we have experienced a credit crunch, a global recession, an extended period of limited economic growth and, for many, a stagnation of wages, resulting in a failure for wages to keep up with cost of living increases. National policy changes such as welfare reforms have also affected some of the most vulnerable of Norwich residents.

The Secretary of State for Business, Energy and Industrial Strategy requires all English authorities to prepare an update on HECA reports by 31 March 2017, setting out the energy conservation measures that the authority considers practical, cost-effective and likely to result in significant improvements in the energy efficiency of residential accommodation in the city.

This report will be a living document and will be updated as we continue our work to improve the energy efficiency of residential accommodation in Norwich over the coming months and years.

Section 4: Strategic framework:

The diagram below sets out how the HECA reports fit in with other key strategies, policies and plans:



Section 5: Current position in Norwich

Properties and condition of the housing stock

In 2014 the council commissioned the Building Research Establishment Ltd (BRE) to provide information on key housing and domestic energy variables, with a focus on private sector housing. The information has been derived from a series of models which make use of the Experian UK Consumer Dynamics database using a range of statistical methods. This supersedes the traditional private sector stock condition survey published in 2006.

The tables below show the years in which Norwich properties were built, both council stock and privately-owned stock:

Council Stock	Total
Pre 1918	48
1918 - 1929	519
1930 - 1949	4,703
1950 - 1963	3,969
1964 - 1974	4,017
1975 - 1982	1,607
1983 - 1990	774
1991 - 1997	27

Private Stock	Total
Pre 1919	14,867
1919 - 1939	7,740
1940 - 1963	5,371
1964 - 2001	10,426

In total, 54,068 properties were built between 1919 and 2001; 15,664 council dwellings and 38,404 in the private sector. The largest majority of council stock being built between the 1930's to the 1970's, whilst in the private sector 38,7% of stock was built pre-1919, or before the introduction of cavity walls to housing design.

The 2014 BRE stock modelling highlights the following key facts shown in the maps and table below:

Condition of Private Stock:

The Housing Health and Safety Rating System (HHSRS) identifies 29 potential housing hazards and their health effects. More details of these can be found in Appendix A. If a hazard is a serious and immediate risk to a person's health and safety, this is known as a Category 1 hazard. If a hazard is less serious, or less urgent, this is known as a Category 2 hazard.

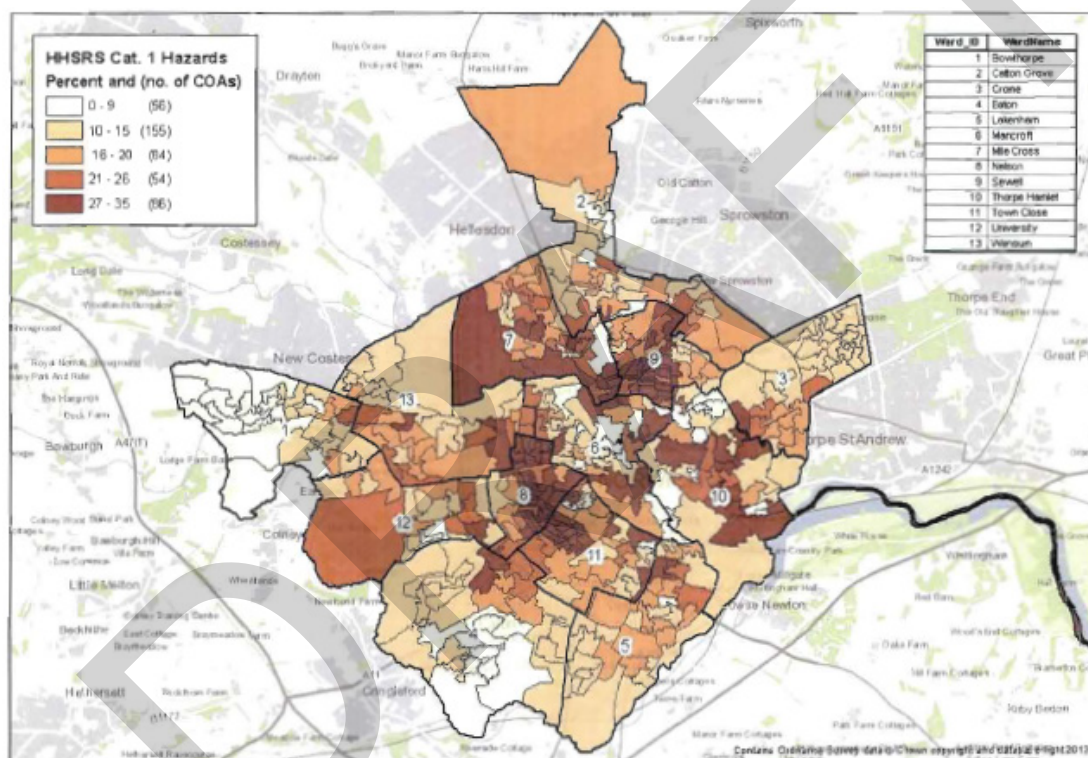
One of the potential housing hazards has been identified as Excess Cold which relate to threats to health from cold indoor temperatures. It is known that Excess Cold can bring about respiratory conditions such as: flu, pneumonia and bronchitis and cardiovascular conditions such as heart attacks and strokes.

We estimate to have 1,676 private sector dwellings with a Category 1 level of Excess Cold. Or, of the 7,981 private dwellings predicted to have a Category 1 hazard, one fifth of them will have a serious and immediate risk to the tenants health due to excess cold.

This is borne out by the average Private Sector Standard Assessment Procedure (SAP) rating of 52 across Norwich. SAP ratings and their purpose will be discussed in more detail later in the report.

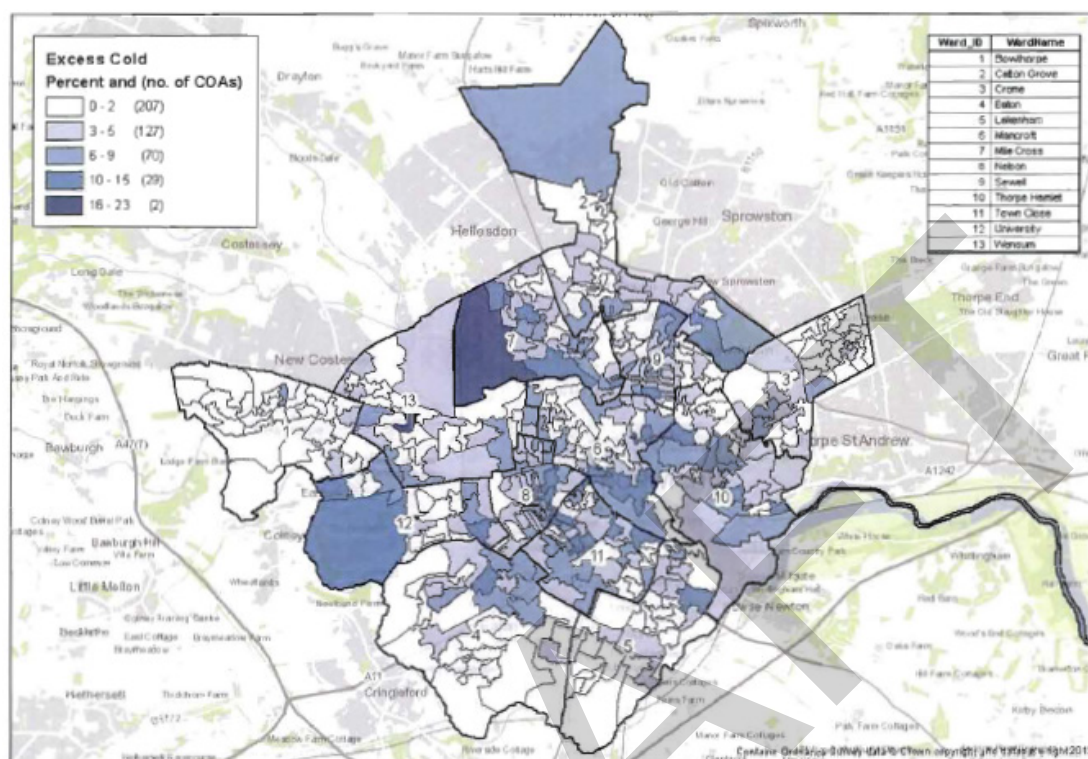
Map 1 (below) highlights the areas of the city where Category 1 hazards have been identified. The darker the colour, the greater the concentration of properties.

Map 1 – Category 1 hazards:



Map 2 (below) highlights specifically where Category 1 Excess Cold hazards have been identified. The darker the colour, the greater the concentration of dwellings.

Map 2 – Excess cold:



The table below shows the energy efficiency rating of the private sector stock across the city. A is the most energy efficient category, with G being the least energy efficient. 13.7% of private sector properties are F&G rated. To set some context, in England 6.4% of properties are rated as EPC F&G² (across all tenures).

Energy Efficiency Rating (Based on SAP) private sector stock

	Count	Percent
(92-100) A	0	0%
(81-91) B	122	<1%
(69-80) C	4,281	10%
(55-68) D	13,726	32%
(39-54) E	18,846	44%
(21-38) F	5,424	13%
(1-20) G	478	1%

² DCLG – Energy Efficiency of buildings certificates in England and Wales: 2008 to December 2016 (2017) Source: BRE Stock modelling data (2014)

Council stock:

The council stock consists of approximately 15,000 dwellings.

In December 2010 the council's housing stock achieved the decent homes standard and we have continued to build on this good work developing the 'Norwich Standard'. The Norwich Standard is a commitment to ensure that no individual component goes beyond its life expectancy, for example, no kitchen will be older than 20 years, no bathroom older than 30 years and no boiler older than 15 years.

The average SAP rating across council housing stock is 70.8. This equates to an Energy Performance Certificate (EPC) rating of C.

To set some context, in 2014 the average SAP rating across 22.5 million English dwellings, regardless of tenure, was 61 points, or an EPC rating of D³. This was an improvement on the 1996 figure of 45 points, or an E rating.

From this we can see that whilst Norwich's private sector housing SAP rating (52) is lower than the national average SAP rating (61), the SAP rating for council stock (70.8) is significantly higher.

³ DCLG – English Housing Survey Headline report (2016) p.4

Section 6: CO₂ emissions from across the city:

The national picture:

UK primary energy consumption increased from 1970 to 2011, peaking in 2001.⁴ However, since then levels have decreased by 18% to 2015. This is thought to be due to a number of factors, including (at a national level) the decrease in 'dirty energy' from coal and petroleum going into the national electricity grid and, the increase in 'clean energy' such as renewable technologies. In addition, a double-dip global recession earlier in the decade and a stagnation of wages more generally has contributed to a need to reduce energy consumption.

In 2015 domestic energy consumption made up 29% of the total UK energy requirement. Since 1970 the number of UK households has increased by 46% from 18.8 million to 27.5 million households, with a population increase of 17 million. Despite this increase energy consumption has only increased by 7% over the same period.

Heating is the main energy requirement of most UK homes. Gas is the dominant fuel used in the domestic sector. In 2015, 80 per cent of energy use in homes was required for space and water heating. However, this means that domestic gas consumption figures are profoundly influenced by the outside temperature.⁵

The local picture:

Table 1 and Graph 1 both show that between 2005 and 2014 the population of Norwich increased each year, in total by an additional 11,900 residents over the 9 year period. The per capita emissions dropped consistently and then levelled out in 2010, followed by a significant drop in 2011 and a rise in 2012 and another significant drop in both 2013 and 2014, particularly in both the Domestic (30% since 2005) and Industrial (35% since 2005) sectors. The Transport sector by comparison is relatively stable with a steady decrease of 12% over the period. The trend lines on this graph reflects the volatile nature of the energy required for space heating. Both the domestic and industrial sectors require energy for heating living or business space and both were obviously influenced by the significant cold snap in 2010, shown by the noticeable peak in carbon dioxide emissions in this year.

The peaks observed in 2010 and 2012 are due to an especially cold and extended winter in 2010 (average of 9 degree Celsius per day) and a warmer than expected 2011 (average 10.7 degree Celsius per day), followed by a typical 2012 (average of 9.8 degree Celsius per day). 2013 was also very close to the average, followed by 2014, which was the hottest UK year on record at the time, which is reflected on the graph by the sharp drop in carbon emissions that year, at least in part due to less energy being required for heating purposes both in the Industrial and Domestic sectors.

⁴ DBEIS – Energy consumption in the UK p.8-9 (November 2016).

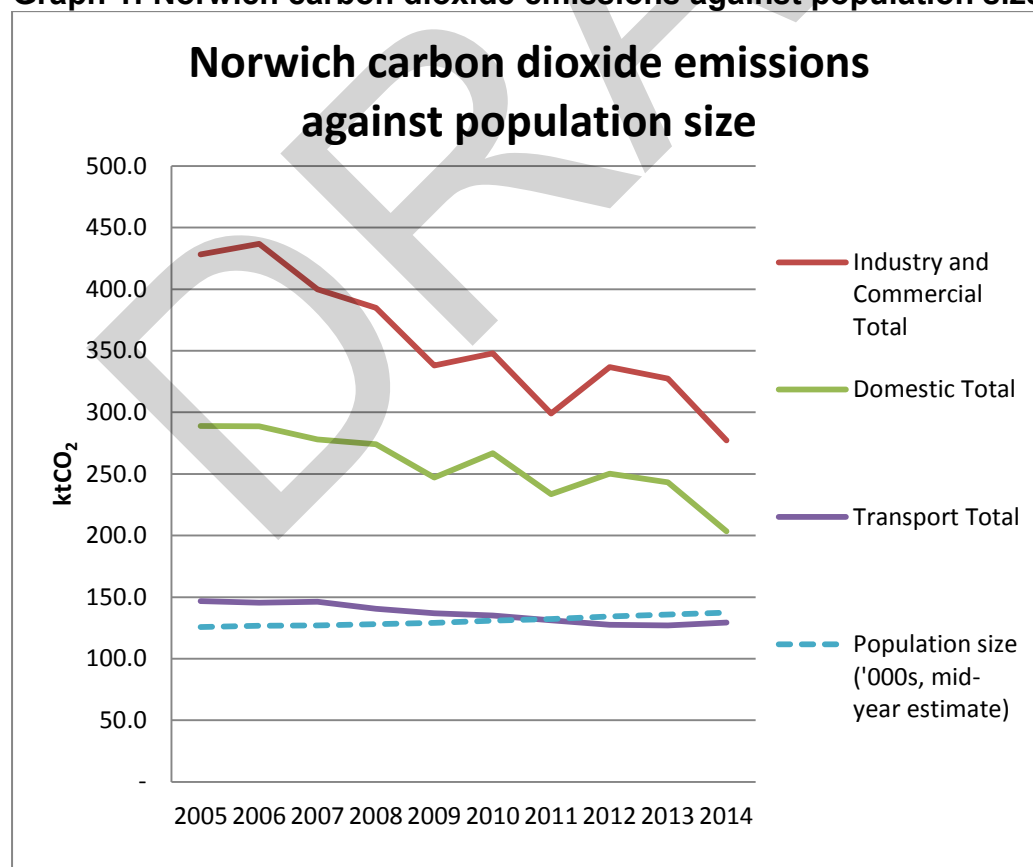
⁵ DBEIS – Energy consumption in the UK p.21 (November 2016).

Table 1: Norwich carbon dioxide emissions 2005-2014

LA Region Name	Year	Industry & Commercial Total	Domestic Total	Transport Total	Grand Total	Population ('000s, mid-year estimate)	Per Capita Emissions (t)
Norwich	2005	428.3	289.1	146.9	864.2	125.6	6.9
	2006	436.8	288.6	145.4	870.9	126.8	6.9
	2007	399.8	277.9	146.1	823.8	126.9	6.5
	2008	384.8	274.2	140.5	799.5	128.0	6.2
	2009	338.2	247.0	136.8	722.0	129.2	5.6
	2010	347.9	266.9	135.0	749.8	130.9	5.7
	2011	299.0	233.5	131.2	663.7	132.2	5.0
	2012	336.8	250.1	127.7	714.6	134.3	5.3
	2013	327.5	243.2	127.1	697.9	135.9	5.1
	2014	277.2	203.4	129.5	610.0	137.5	4.4

Source: DECC: UK local authority and regional carbon dioxide emissions national statistics: 2005-2014 (June 2016)

Graph 1: Norwich carbon dioxide emissions against population size

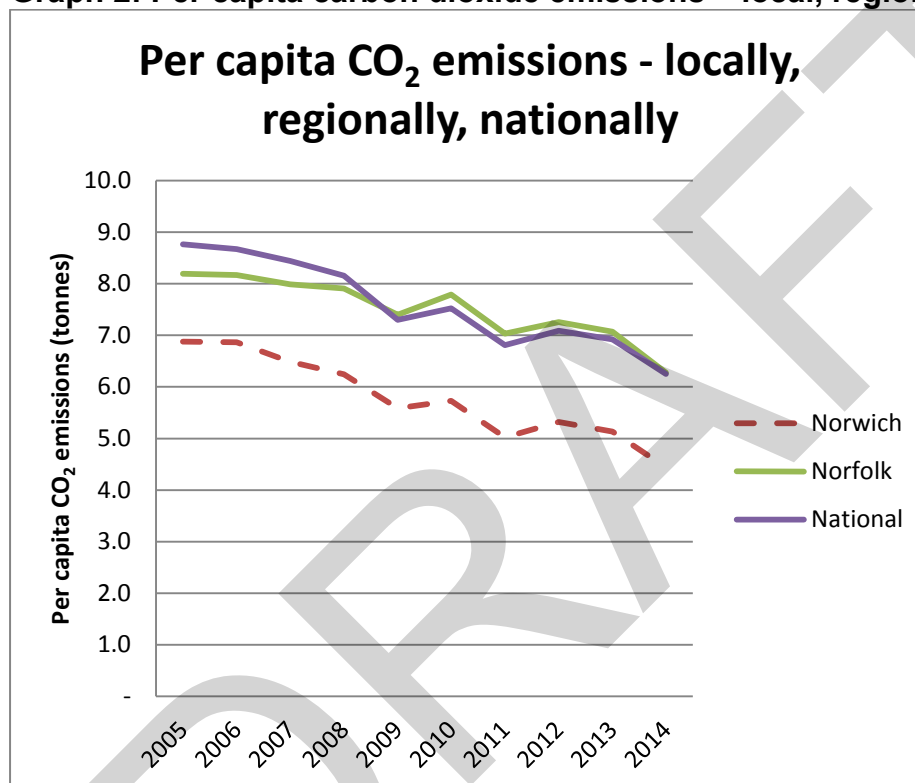


Source: DECC: UK local authority and regional carbon dioxide emissions national statistics: 2005-2014 (June 2016)

In summary, between 2005 and 2014 Norwich has reduced its carbon dioxide emissions by 29% (taken across all 3 sectors), whilst experiencing an increase in its population of 9%.

Graph 2 (below) shows Norwich's per capita carbon dioxide emissions between 2005 and 2014 were considerably lower than those at both a county and a national level. However, local, regional and national levels largely mirror the same peaks and troughs as expected with cold period in 2010, warm 2011 and average 2012. The overall trend is a significant reduction with Norwich dropping from 6.9 tonnes per capita of CO₂ in 2005 to 4.4 tonnes per capita 9 years later.

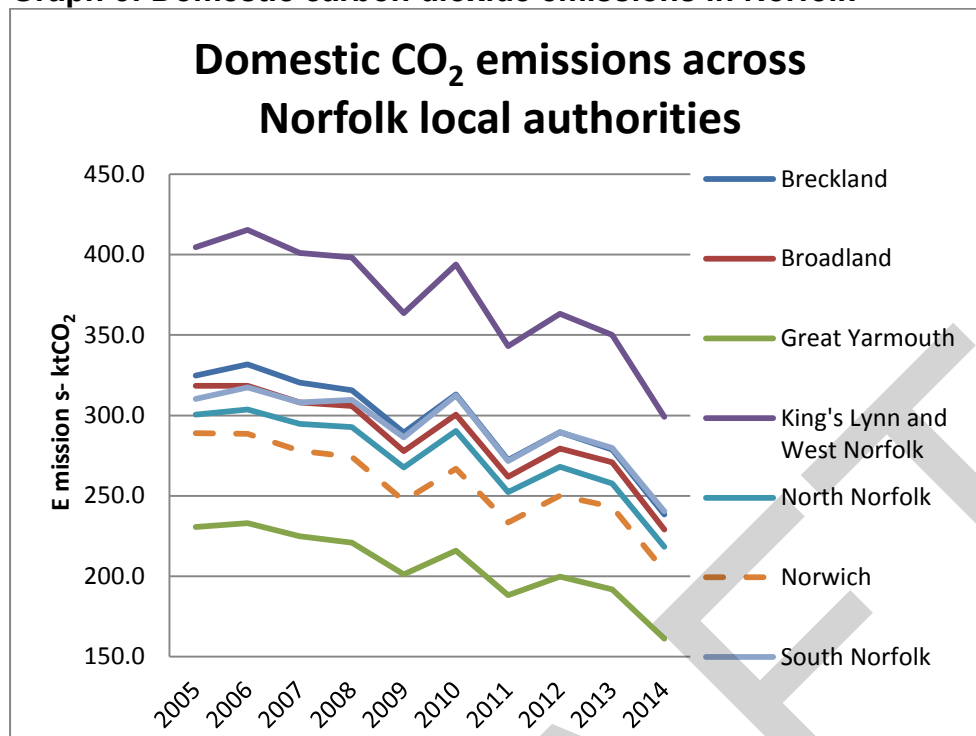
Graph 2: Per capita carbon dioxide emissions – local, regional, national



Source: DECC: UK local authority and regional carbon dioxide emissions national statistics: 2005-2014 (June 2016)

The figures for tonnes of CO₂ produced by sector vary widely at a local, regional and national level to be able to present them graphically in a meaningful way. Only the per capita emissions are directly comparable. However, it is possible to compare Norwich with its nearest neighbouring local authorities. This is shown in Graph 3, below.

Graph 3: Domestic carbon dioxide emissions in Norfolk



Source: DECC: UK local authority and regional carbon dioxide emissions national statistics: 2005-2014 (June 2016)

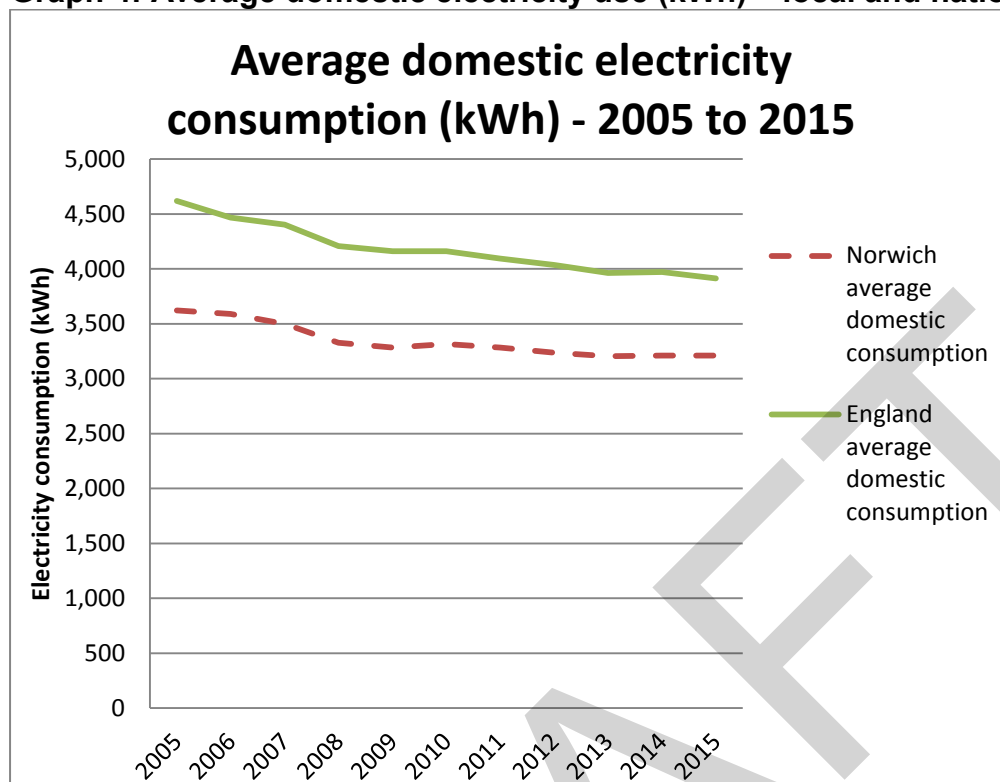
Carbon dioxide emissions have fallen across the county over the period 2005-2014, with a rise in 2010 due to extended periods of cold weather and snow. The Norwich local authority area created the lowest level of carbon dioxide emissions, behind Great Yarmouth. This is thought in part to be due to the city being well connected to the national gas grid for mains heating when compared to more rural areas which rely on more carbon dirty forms of energy such as coal or oil. This graph represents all energy types.

Domestic energy use:

The following graphs (4-7) show the trends in electricity and gas use in Norwich as compared to the national average. Both the national average and Norwich figures show an overall decrease in gas and electricity consumption over the 10 year period to 2015, with Norwich average domestic electricity consumption being significantly lower than the national average.

Domestic electricity use in Norwich:

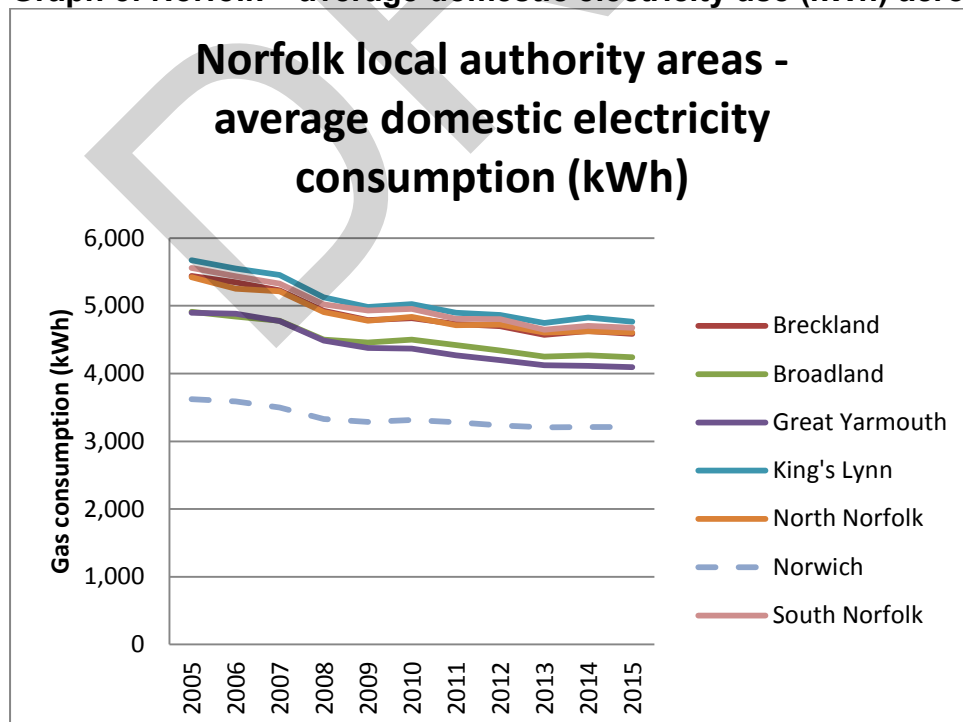
Graph 4: Average domestic electricity use (kWh) – local and national



Source: DBEIS: Regional and local authority electricity consumption statistics: 2005 to 2015 (2017)

At a regional level, compared with neighbouring Norfolk local authorities average electricity use is by far the lowest in the county.

Graph 5: Norfolk – average domestic electricity use (kWh) across Norfolk

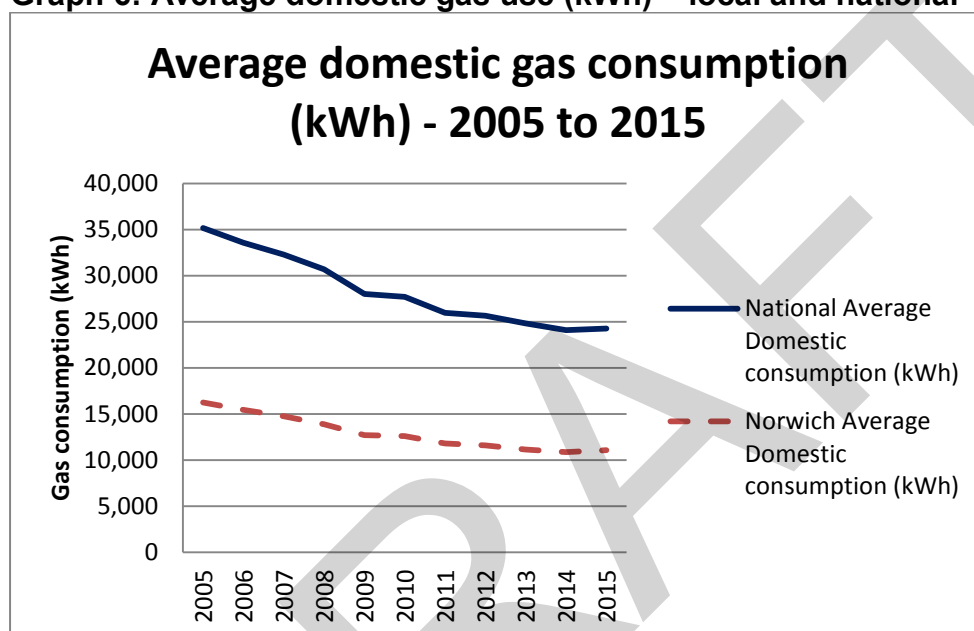


Source: DBEIS: Regional and local authority electricity consumption statistics: 2005 to 2015 (2017)

Domestic gas use in Norwich:

Graph 6 shows gas consumption in Norwich and again shows a similar trend to domestic electricity use in the city, that of significant reduction over the 10 year period. Of particular interest is the large difference between domestic gas consumption in Norwich and the national level gas consumption. This could be due to a range of factors including; household income levels, energy efficiency of housing, how many hours a day homes are occupied for.

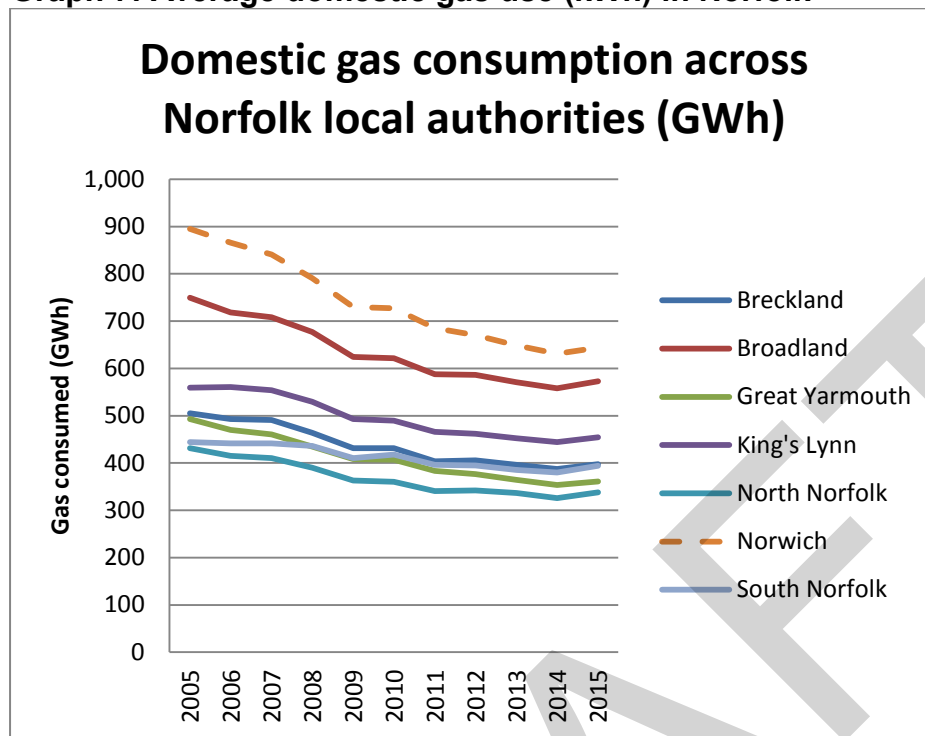
Graph 6: Average domestic gas use (kWh) – local and national



Source: DBEIS: Regional and local authority gas consumption statistics: 2005 to 2015 (2017)

Graph 7 shows how Norwich compares at a regional level. Norwich is by far the largest consumer of domestic gas in Norfolk. However, this is most likely to be because there are large parts of Norfolk which remain 'off-gas' and are reliant on other forms of domestic energy such as oil fired central heating. Indeed, this may also play a part in the higher electricity consumption seen across the rest of the county as some households who are 'off-gas' will use electric heating as an alternative.

Graph 7: Average domestic gas use (kWh) in Norfolk



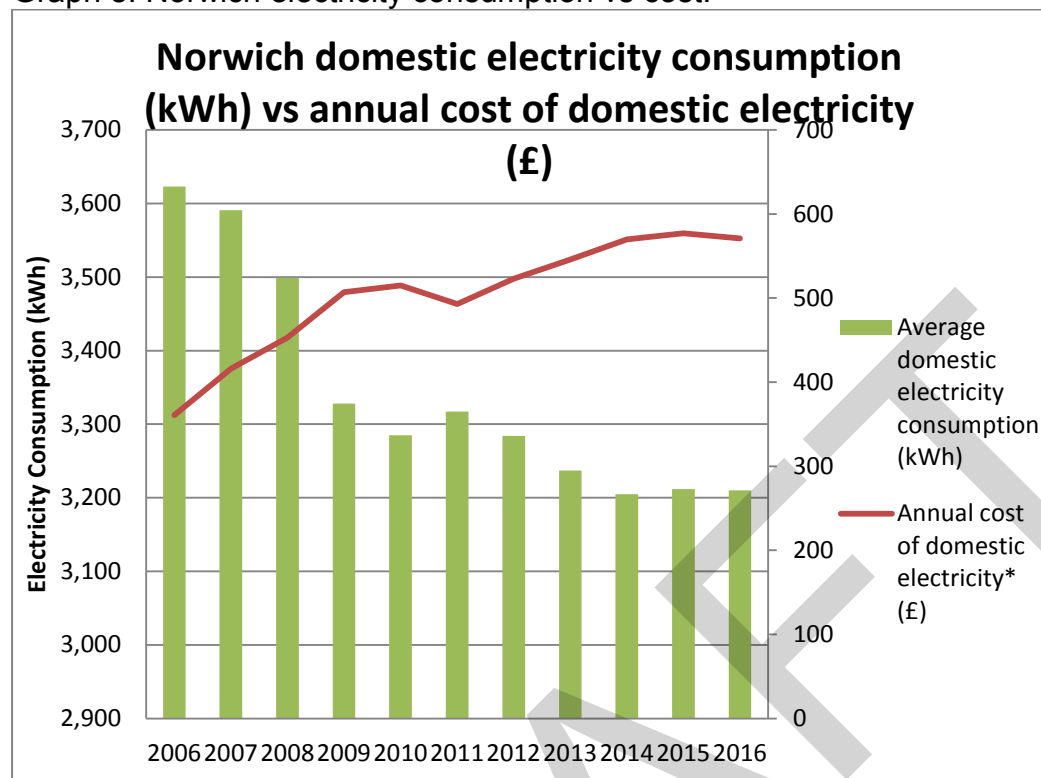
Source: DBEIS: Regional and local authority gas consumption statistics: 2005 to 2015 (2017)

The reasons for the decrease in domestic gas consumption over the years are complex. There is no single reason. The decrease is likely to be in part due to an increase in energy efficiency measures being installed, but also due to the increase in fuel prices over this period, causing more households to reduce the amount time they heat their homes for.

Gas consumption falls more sharply at a local level than electricity consumption and this may reflect the fact that, in the city at least, a majority of homes will be heated using gas central heating. The decision to 'heat or eat' is sadly a reality that many households facing fuel poverty may have to make.

The rising cost of energy:

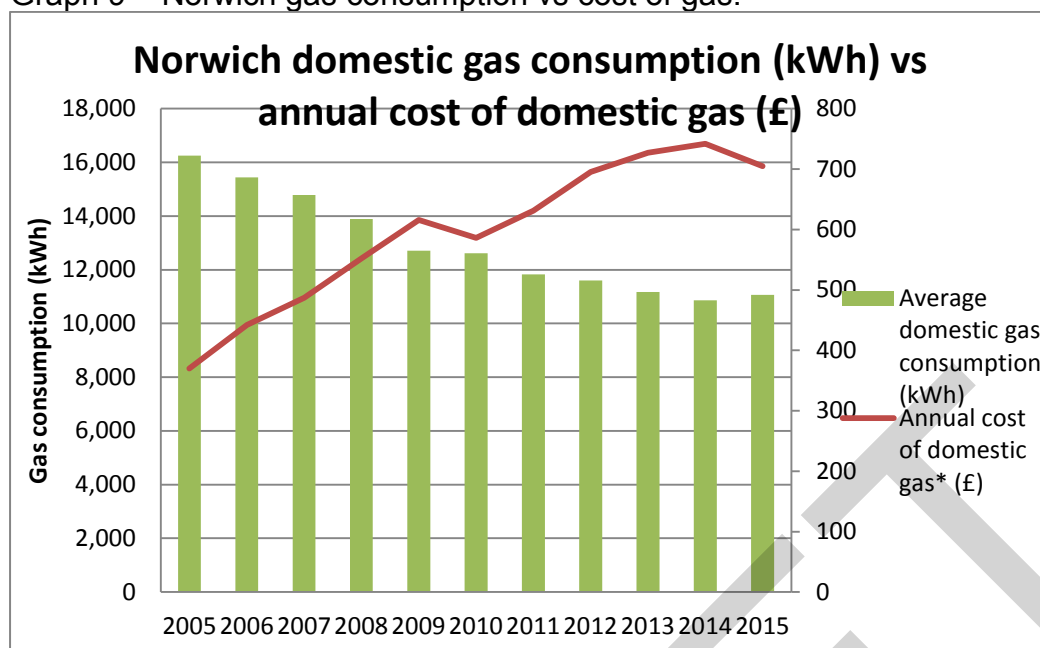
Graph 8: Norwich electricity consumption vs cost:



Source: DBEIS: Regional and local authority electricity consumption statistics: 2005 to 2015 (2017)/ DBEIS: Annual domestic energy bills (2016)

Graph 8, perhaps unsurprisingly, appears to show a close relationship between the cost of electricity and electricity consumption. Note in 2011 where the cost of electricity dips for the first time since 2006 electricity consumption increases. This is not due to heating of homes, as 2011 is on record as having been of above average temperature. And again in 2012 when electricity prices increase once more consumption drops once again, until 2015 when prices level off and so does consumption. We will continue to monitor how this trend develops over time.

Graph 9 – Norwich gas consumption vs cost of gas:



Source: DBEIS: Regional and local authority gas consumption statistics: 2005 to 2015 (2017)/ DBEIS: Annual domestic energy bills (2016)

Graph 9 shows the relationship between domestic gas consumption in Norwich and the price of gas. The overall trend is for a reduction in gas use. It can be seen from the graph that the drop in gas consumption slowed in 2009/2010 with the drop in gas prices, and continued to drop until gas prices reached their peak in 2014, when consumption rose slightly with the drop in gas prices.

The cost of energy appears to be more of an influencing factor than outside temperatures. Winter 2009/2010 saw extended periods of snowfall and cold temperatures. However, domestic electricity consumption fell in this year and gas consumption, which is the predominant source of energy used for domestic heating in Norwich, dropped very slightly in correspondence with dropping gas prices.

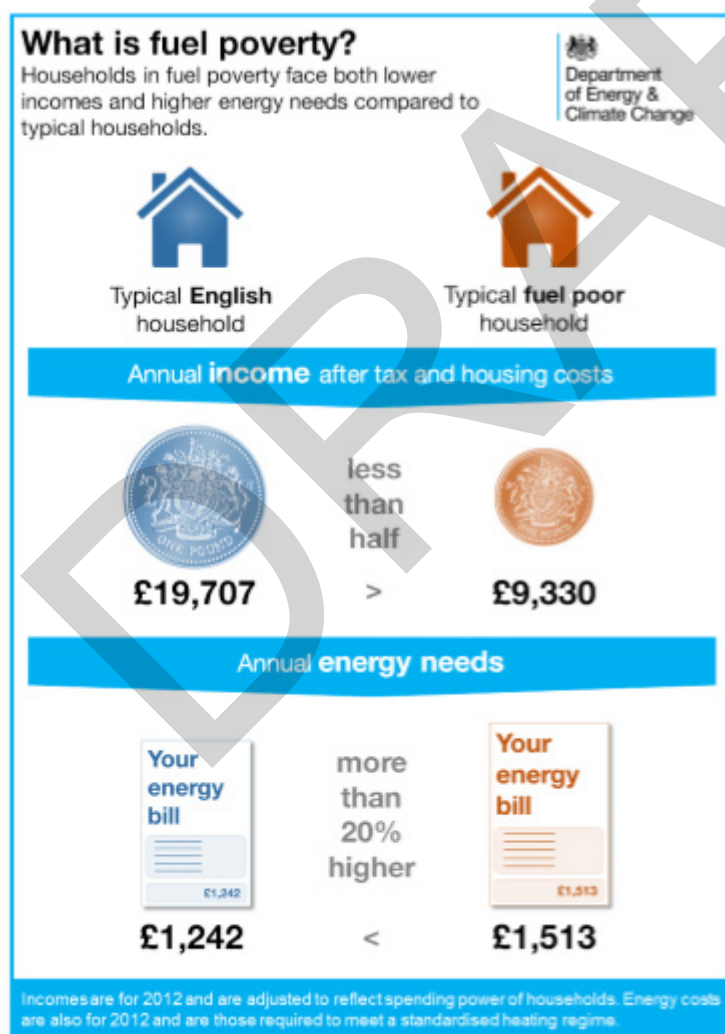
To suggest that the cost of energy is the only contributing factor to energy consumption would be to over-simplify the complexity of this situation. Although it would seem that there is a relationship between the two factors. However, the increase in the levels of home insulation e.g. loft, cavity wall and solid wall insulation, will also serve to reduce the amount of energy required to heat domestic properties. In addition, the number of properties producing their own renewable energy e.g. from photovoltaic panels will also result in a reduction in the amount of energy consumed from the national grid. Both the installation of home insulation and domestic renewables require the ability to be able to afford the investment in these technologies, which can be considerable. The rate of take up of both home insulation and renewables will be considered later in this report. But now, focus turns to the problem of fuel poverty.

Section 7 - Fuel poverty:

Following the recommendations contained in the John Hills report 'Getting the Measure of Fuel Poverty' (March 2012) central government scrapped the 10% fuel poverty indicator, and the way that fuel poverty is measured was re-defined with the introduction of the Low Income High Costs (LIHC) indicator.

Under the LIHC indicator a household is considered to be in fuel poverty if they have required fuel costs which are above the national average (national median level) and were they to spend that amount, they would be left with a residual income below the official poverty line. This makes comparing the data before the introduction of the LIHC indicator impossible. However the Department of Business, Energy and Industry has released fuel poverty data for the years 2011 to 2014 applying the LIHC indicator as shown on Graph 10 below.

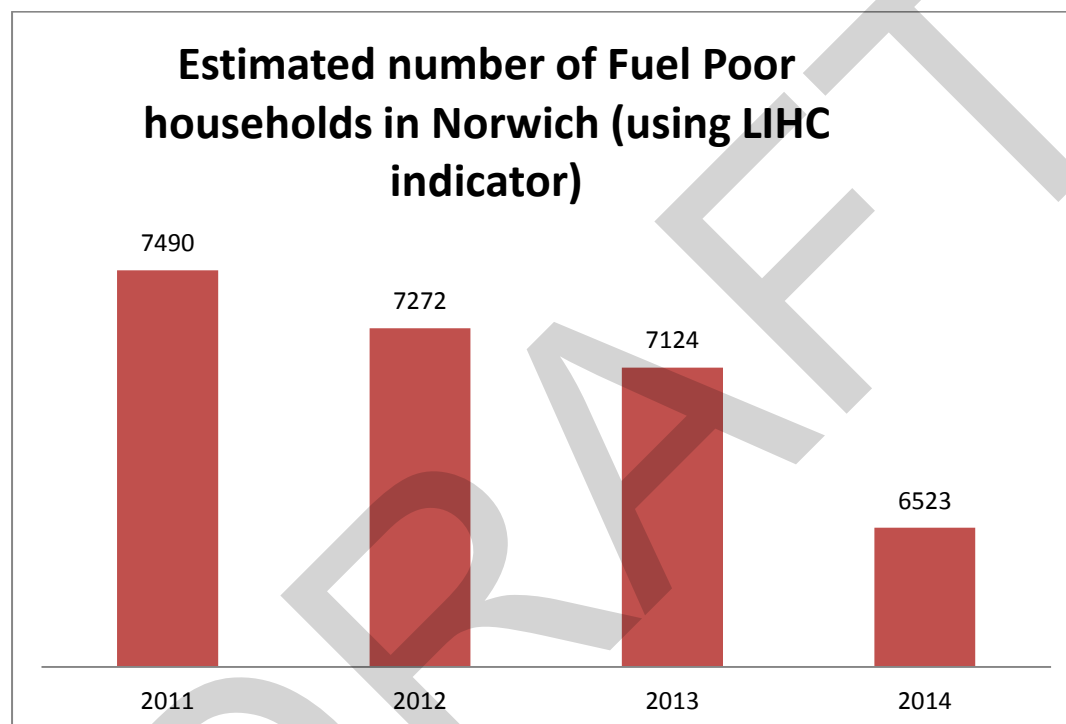
The government infographic below attempts to explain what fuel poverty is in real terms under the LIHC indicator:



Source: DECC – Cutting the cost of keeping warm – a fuel poverty strategy for England (March 2015)

What is the poverty line? Firstly it's not simple. And it's not a static figure. The current definition of the poverty line, or relative poverty, is defined as 60 per cent of the median UK household income. In other words, if a household's income is less than 60 per cent of this average, they are considered to be living in relative poverty. Put more simply, Professor Peter Townsend, a leading authority on UK poverty, defines relative poverty as when someone's "resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities".⁶

Graph 10: Estimated number of Fuel Poor households in Norwich



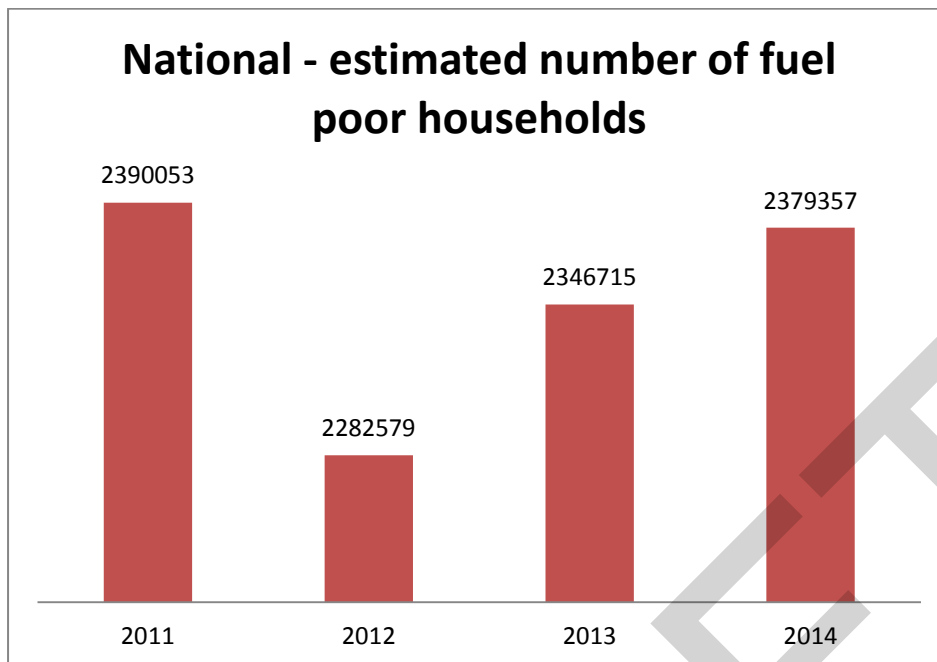
Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016)

What does it show? In Norwich fuel poverty has decreased year on year and significantly from 2013 to 2014.

Fuel poverty levels in the city are now at 6,523 households. However, to set this in some context, the following graphs show the fuel poverty levels both nationally and regionally in recent years.

⁶ Reporting Poverty in the UK: a practical guide for journalists (2009) p.15

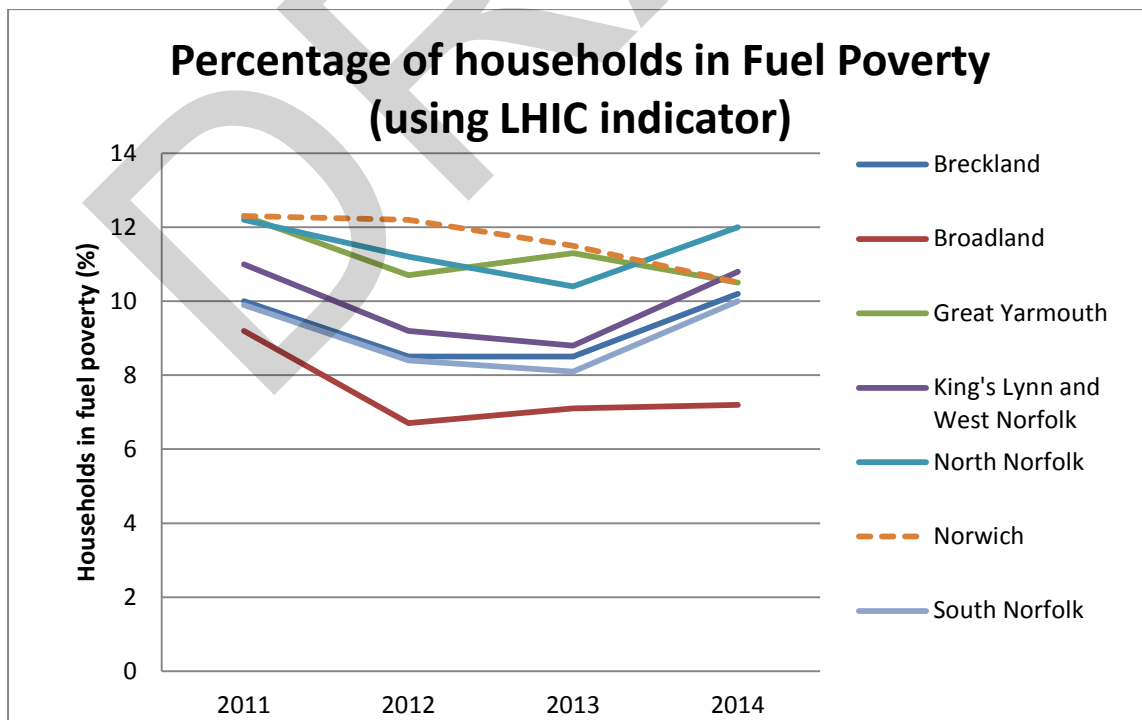
Graph 11: Estimated number of fuel poor households - nationally



Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016)

What does it show? At a national level, (following the introduction of the LIHC indicator in 2012) the number of fuel poor households dropped, but increased in 2013 and again in 2014 to over 2.37 million households.

Graph 12: % of Norfolk households in fuel poverty



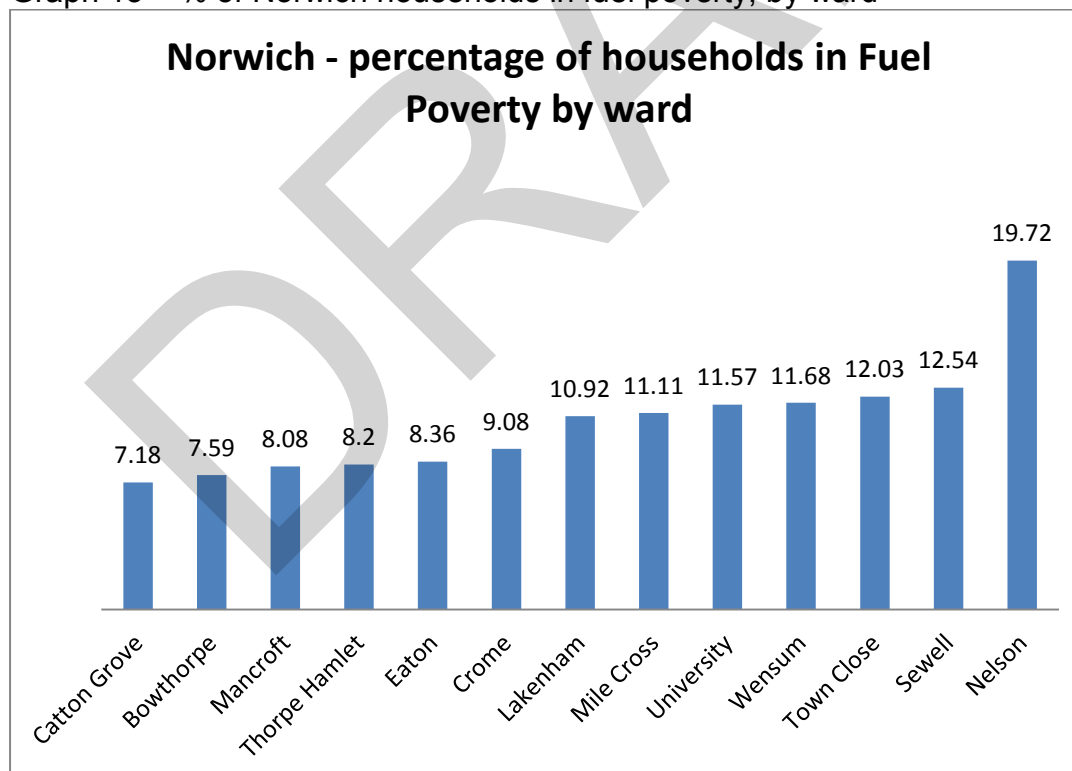
Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016)

What does it show? In 2011 Norwich experienced one of the highest levels of fuel poverty in the county. However, levels of fuel poverty in the city have been falling since then and we are the only authority to have reduced levels of fuel poverty over the four years, with all other Norfolk local authorities (excepting Great Yarmouth) experiencing an increase in fuel poverty levels in 2014. By and large the regional picture reflects the national picture.

Norwich City Council have invested considerable resources into supporting those households in fuel poverty through a range of initiatives including: the Cosy City scheme, supporting residents to utilise Energy Company Obligation (ECO) funding for boilers and home insulation, the Big Switch and Save collective energy switching scheme, our Warm and Well work both with stakeholders and the public, Home Improvement team work, work with the Private Sector landlords around category 1 hazards, ongoing improvements to our housing stock and most recently through our work to raise awareness of the national Smart Meter rollout. Norwich has seen a drop in fuel poverty levels from 12.3% of all households to 10.5%. But fuel poverty is complex and we not complacent about the need to continue our work.

Despite the reduction in the percentage of households in fuel in the city there are still significant pockets of fuel poverty. Graph 13 below shows the fuel poverty figures for the city broken down to ward level.

Graph 13 – % of Norwich households in fuel poverty, by ward



Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016)

What does it show? These figures are the most recent figures released by central government and relate to fuel poverty levels in 2014. Fuel poverty levels in the city vary from ward to ward and the reasons for this are complex. Nelson is the ward

with the highest percentage of households experiencing fuel poverty at 19.72%, whilst Catton Grove experiences the lowest levels at 7.18%.

Measuring fuel poverty is complicated. When gauging fuel poverty levels the government uses 3 factors:

- household income,
- household energy requirements and
- fuel prices

This seems quite straightforward, but other factors to consider are:

- How the dwelling is occupied – what is the ‘standard heating regime’ - are the residents out of the house for much of the day, or are they predominantly home-based with medical problems.
- How old is the dwelling? Is it a house or a flat, does it have a pitched or flat roof, does it have a cavity wall?
- Who owns the dwelling – the resident, a private sector landlord or the council?

In order to identify the types of household who are in the most need government has suggested that the following factors may be involved in identifying those most in need: a. Low income, b. Old dwelling (pre-1945), c. Larger dwelling, d. Private rented sector, e. Old/inefficient boiler (or no heating system), f. Non-gas heating⁷

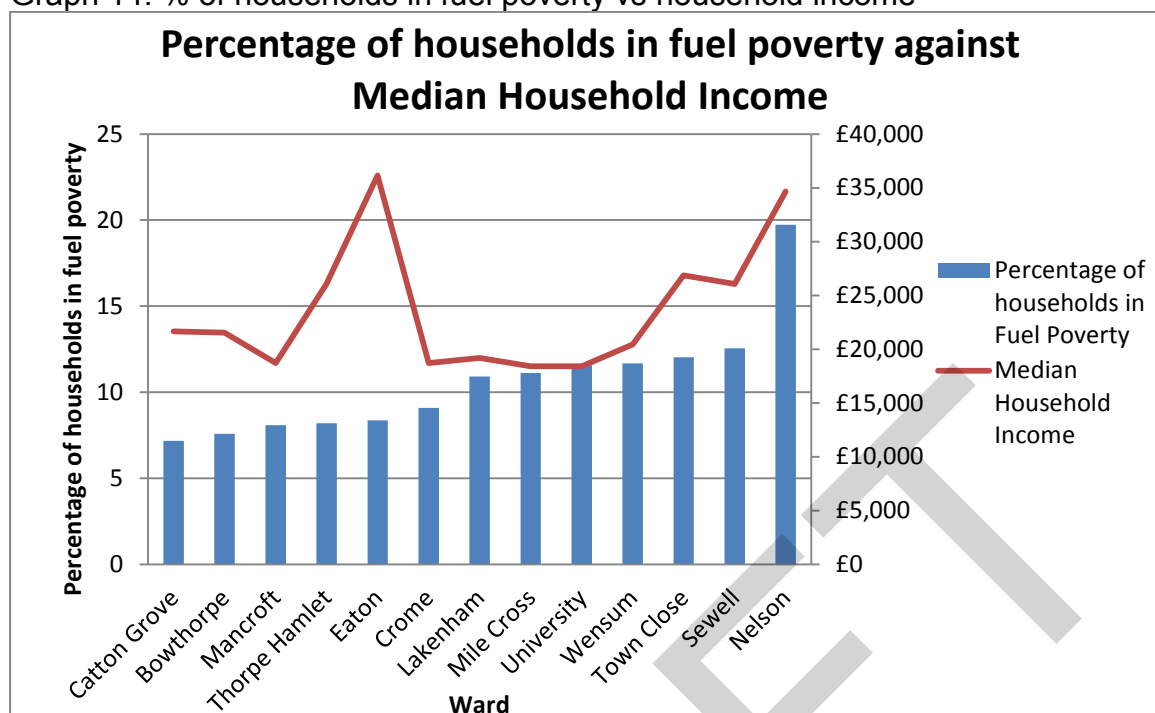
In addition, within fuel poor households there are those who have increased vulnerability such as the very old or the very young and those with long term health conditions. Everyone can be negatively impacted by living in a cold home, but these vulnerable groups are particularly at risk of the cold exacerbating underlying health conditions such as respiratory and cardiovascular problems. It has been recognised that children who are “living in cold homes are significantly more likely to suffer from chest problems, asthma and bronchitis”⁸.

The following graphs (14-19) attempt to consider various factors which may contribute to fuel poverty levels in a ward. Firstly, median household income. This is the mid-point income figure for all the households incomes within a ward.

⁷ DECC: Fuel Poverty – a framework for future action (July 2013) p.15

⁸ DECC: Fuel Poverty – a framework for future action (July 2013) p.20

Graph 14: % of households in fuel poverty vs household income



Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016)/ CACI Paycheck data (2016)

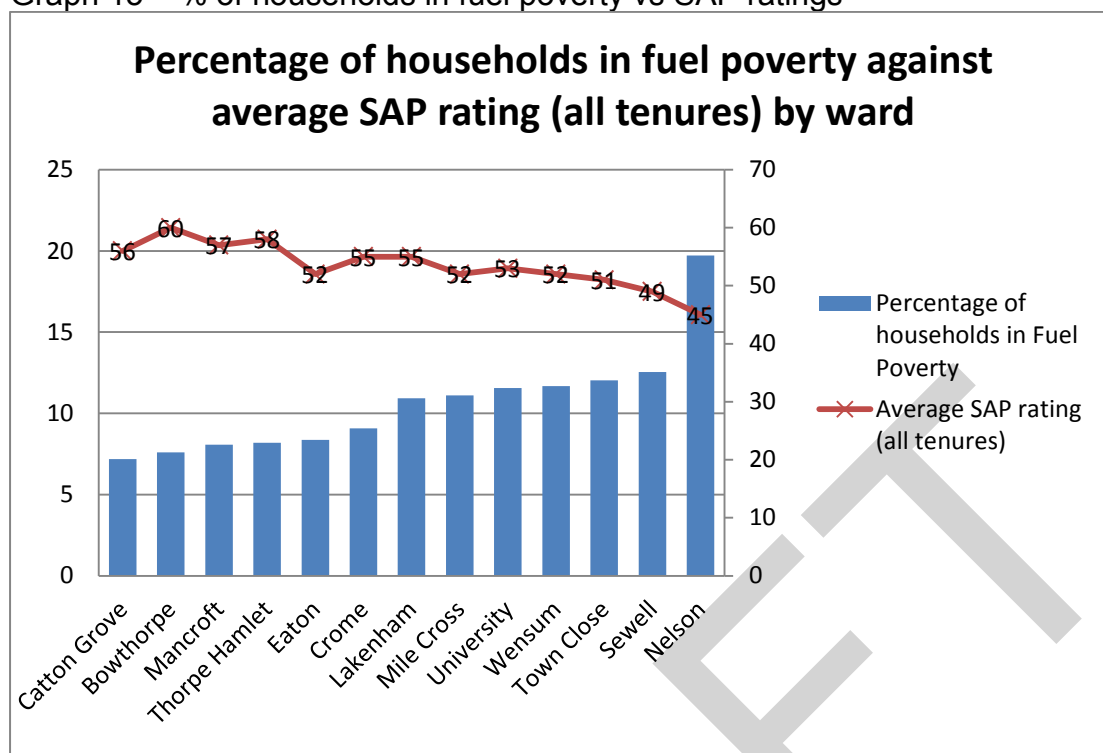
What does it show? Surprisingly this data shows that Nelson has the second highest median level income in across all the wards, second only to Eaton ward. At ward level at least, it would appear that income levels are higher than average in Nelson ward.

Another measure to consider is the Standard Assessment Procedure (SAP) rating. The SAP works by assessing how much energy a dwelling will consume, when delivering a defined level of comfort and service provision. The assessment is based on standardised assumptions for occupancy and behaviour. This enables a like-for-like comparison of dwelling performance. Related factors, such as fuel costs and emissions of carbon dioxide (CO₂), can be determined from the assessment. This gives an indicator of the energy efficiency of a property.⁹ Following assessment a SAP calculation is given from 1 to 100+ for the annual energy cost. The higher the score the lower the energy running costs, with 100 representing zero energy cost. Dwellings with a rating in excess of 100 are net exporters of energy.

Graph 15 shows the percentage of fuel poor households against the average SAP rating in each ward across all tenures: owner occupied, private rented and social housing.

⁹ <https://www.gov.uk/guidance/standard-assessment-procedure>

Graph 15 – % of households in fuel poverty vs SAP ratings



Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016)/BRE Stock Condition Survey (2014)

What does it show? Generally speaking, Graph 15 shows that as the SAP rating decreases that the percentage of households in fuel poverty increases. However, this is across all tenure types. SAP ratings vary widely across tenure type. Historically SAP ratings have been lower in the private rented sector. Figures suggest that at a national level 21% of private rented properties are in fuel poverty compared to 8.5% in the owner occupied category¹⁰.

With housing costs continuing to rise and wages not keeping pace the private rented sector looks set to continue to grow. Since 2001 the number of private rental properties in the UK has doubled from 2.1 million to 4.2 million in 2012¹¹.

Fuel poor households privately renting a G EPC rated home would need, on average, to spend over £1,200 more on energy to heat their homes properly, and those renting EPC band F homes would need to spend over £700 more. This compares to less than £370 for those in bands E and above¹².

The energy efficiency of housing is measured using a SAP rating and when houses are sold they are awarded an Energy Performance Certificate (EPC) rating. The table below shows how these two property energy efficiency ratings compare:

¹⁰ Private Rented Sector Energy Efficiency Regulations (Domestic) (England and Wales) (July 2014) p.12

¹¹ DCLG – 2011-12 English Housing Survey

¹² Private Rented Sector Energy Efficiency Regulations (Domestic) (England and Wales) (July 2014) p.23

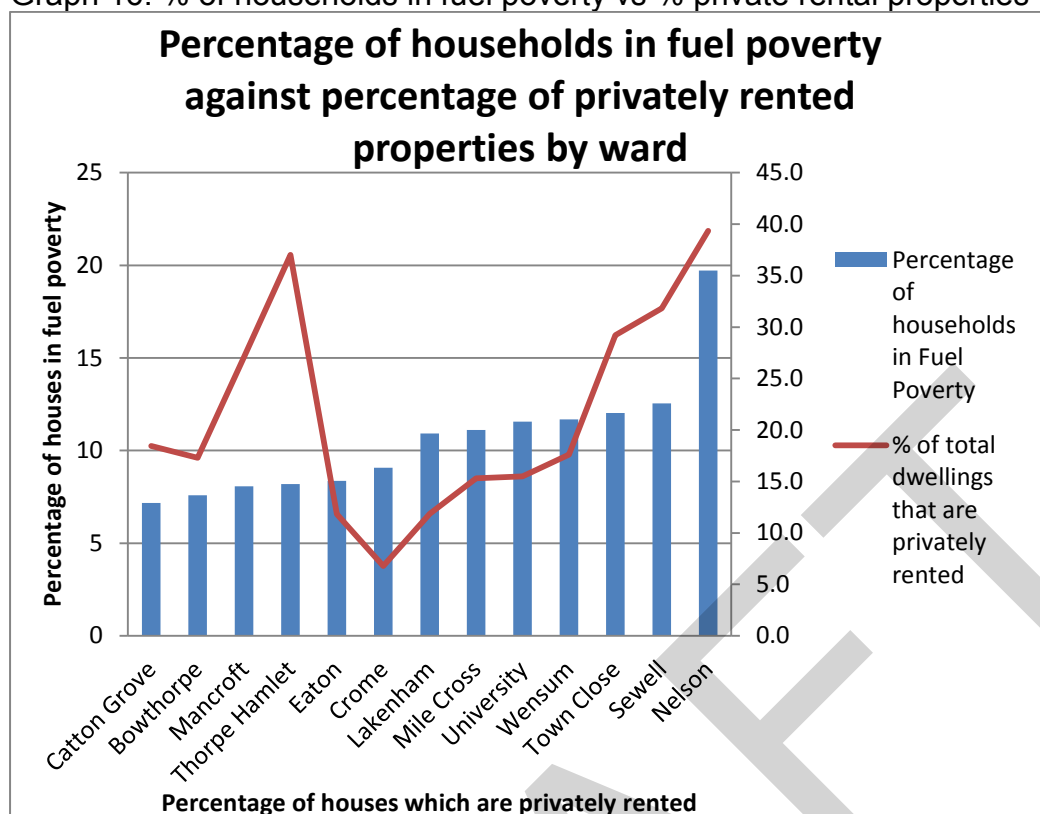
Table 2: EPC and SAP ratings – a comparison:

EPC band	SAP rating Points
A	92-100 SAP points (Most efficient)
B	81-91 SAP points
C	69-80 SAP points
D	55-68 SAP points
E	39-54 SAP points
F	21-38 SAP points
G	1-20 SAP points (Least efficient)

From the 1st April 2018 there will be a requirement for any properties rented out in the private rented sector to achieve a minimum energy performance rating of E on an Energy Performance Certificate (EPC). The regulations will come into force for new lets and renewals of tenancies with effect from 1st April 2018 and for all existing tenancies on 1st April 2020. It will be unlawful to rent a property which breaches the requirement for a minimum E rating, unless there is an applicable exemption. A civil penalty of up to £4,000 will be imposed for breaches.

This should have the effect of raising energy efficiency of these properties and so helping to lower fuel poverty in the Private Rented Sector. In 2014 2171 (or 16%) of Norwich houses had an F and G band EPC rating the forthcoming legislation could have the potential to have a beneficial effect on many cold households. However, when the legislation was written it was expected that the Green Deal would be a tool to ensure that landlords were not faced with high upfront expenses and that through the Green Deal tenants would pay for the cost of energy efficiency installations through their energy bills. Now that the Green Deal has been scrapped the rented sector awaits an update on what impact this will have on the implementation of this legislation.

Graph 16: % of households in fuel poverty vs % private rental properties

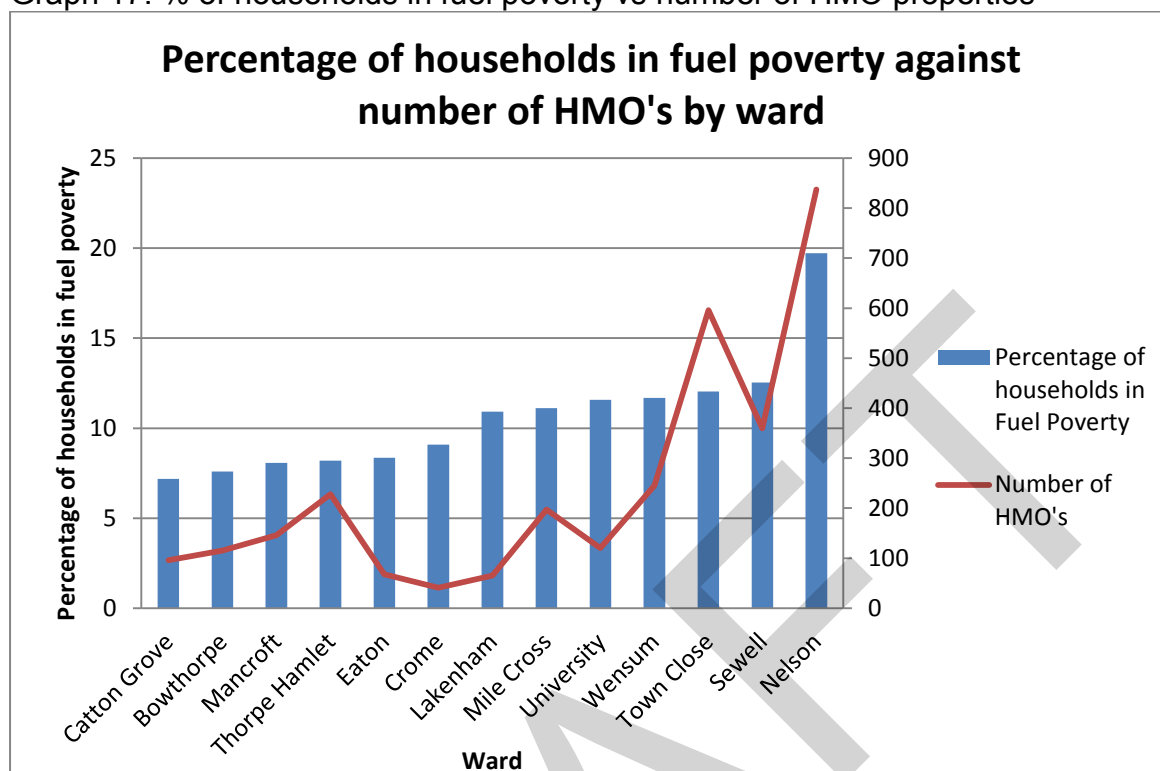


Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016)/ BRE Stock Condition Survey (2014)

What does it show? Graph 16 above shows the percentage of households in fuel poverty against the percentage of privately rented properties by ward. Again there is no unequivocal relationship across all wards, but in the wards where there is the greatest fuel poverty, to the right hand side of the graph, it would appear there is an increase in the number of privately rented properties, with Thorpe Hamlet being an anomaly under this measure.

Norwich is a university town and as such has a disproportionately high number of Houses of Multiple Occupation (HMO's) which are often in the private rented sector, with rooms being let out on an individual basis. The graph below shows the percentage of households in fuel poverty against the number of HMO's in that ward. It is interesting to note that Nelson, Town Close and Sewell wards have some of the highest number of HMO's in the city and the highest percentage of fuel poor households.

Graph 17: % of households in fuel poverty vs number of HMO properties

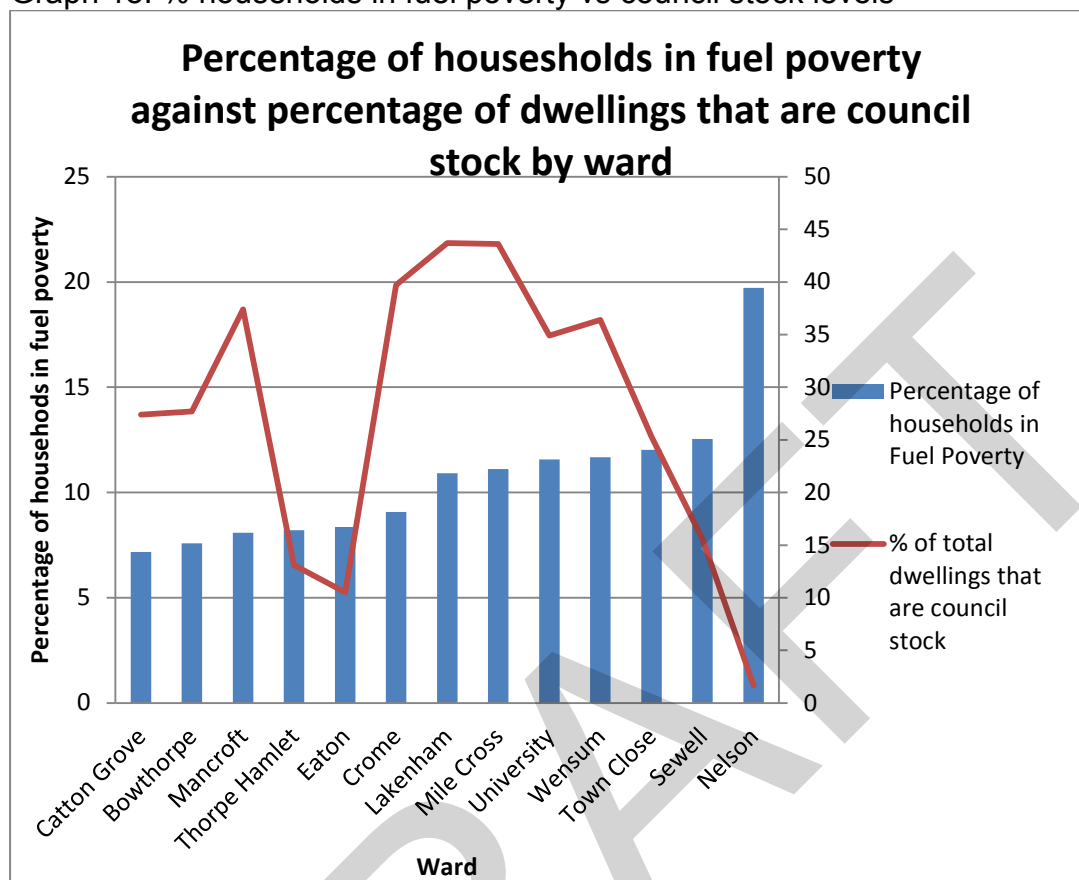


Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016)/ BRE Stock Condition Survey (2014)

What does it show? As with the previous graph, Graph 17 shows no unequivocal relationship between HMO's and fuel poverty at a ward level. But, once again, it is interesting to note that the higher levels of HMO's fall in Town Close, Sewell and Nelson wards where the highest percentage of fuel poor households lie, many of which will be in the private rented sector.

Finally, Norwich City Council has retained its housing stock of approximately 16,000 properties. Local Authorities are required to maintain their properties to a good living standard and as such the average SAP rating across the council housing stock is high at 70.8, or a mid-range C EPC rating. These higher levels of energy efficiency will be helpful in staving off fuel poverty amongst some of the most vulnerable of the city's residents. The graph below shows fuel poverty against levels of council housing stock at a ward level.

Graph 18: % households in fuel poverty vs council stock levels



Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016)/ BRE Stock Condition Survey (2014)

What does it show? The highest levels of council stock dwellings fall in Lakenham and Mile Cross wards where some of the lowest median levels of income are experienced. This is not surprising given the purpose of the council stock to support some of the most vulnerable residents. Equally some of the lower levels of council stock are found in Eaton ward, which experiences the highest median level of income in the city. However, it is interesting to note that (excluding Eaton ward) that both Sewell and Nelson ward have the lowest levels of council housing in the city at (15.6% and 1.65% of households respectively) and experience the highest levels of fuel poverty in the city.

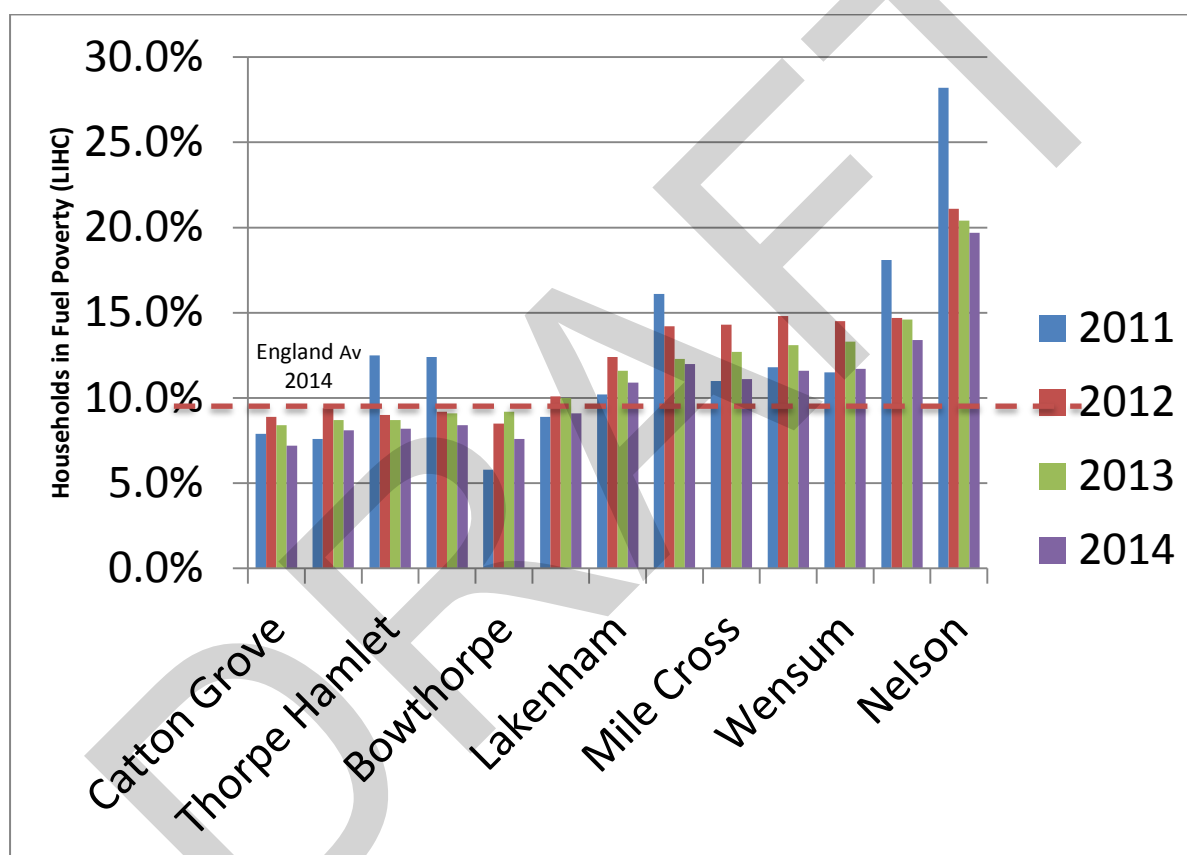
The data would suggest that the high SAP ratings experienced in council owned properties is in fact supporting areas of low income which might be forced into fuel poverty if the fabric of their homes was not of such a high standard. Where there low council stock levels the resulting fuel poverty is quite stark, despite higher income levels.

We believe that the data supports the council's decision to retain our housing stock at a time when many other local authorities chose not to. The average SAP rating of Norwich's 15,000+ council homes is 70.8 which is significantly higher than the

private sector at 52. The standard of the council stock is assisting to underpin the SAP rating across all tenures of property in the city and without the decision to retain this important social asset we believe that the number of homes experiencing fuel poverty in Norwich would be considerably increased

Fuel poverty is a shifting picture and should be considered over time. The previous graphs only consider the most recently released fuel poverty data relating to fuel poverty levels in 2014. However, it is also important to look at the fuel poverty journey which shows some promising trends for the city. Graph 19 (below) shows the fuel poverty over time (2011-2014) using the LIHC indicator.

Graph 19: % of Norwich households in Fuel Poverty over time (LIHC indicator):



Source: DBEIS: 2014 sub-regional fuel poverty data: low income high costs indicator (2016, 2015, 2014, 2013)

What does it show? The graph above shows the fuel poverty picture across the city over a 4 year period. In 2014 7 of the 13 wards fuel poverty levels have decreased to the lowest level over the LIHC reporting period, with Nelson ward making the most striking reductions. 6 out of 13 wards are below the England national average for fuel poverty. Although there has been some increase in some wards over the period of time, no ward was at its highest recorded level in 2014. However, we are not complacent and we will continue to work to try to understand the individual fuel poverty picture in each ward, the factors that contribute to that picture and how we can best work to alleviate fuel poverty wherever we can.

Fuel poverty – conclusions:

Fuel Poverty is a complex problem and there is no single simple solution or quick fix. This was acknowledged by the Department of Climate Change and Energy (DECC) in 2013, “For households that live in a property that is difficult to heat – and who have limited scope to improve their property – the primary cause is having higher than typical energy costs. For others, who may live in more efficient dwellings with lower energy costs, the primary cause of this pressure is having a low income.”¹³

The graphs contained in this section are an overview of *some* of the factors which can influence whether a ward is in fuel poverty or not. The number of residents in a ward ranges from approximately 8700 to 11600, so ward level data is wide ranging and can mask hidden pockets of data. Each ward breaks down into several Lower Super Output Areas (LSOA), of approximately 1250 residents per LSOA. In order to consider fuel poverty in greater detail, attempt to unpick the underlying factors and to establish the statistical significance of the data, some consideration of LSOA data is required, where it is available.

That is not the purpose of this report, but it would enable the council to be better informed as to where we could most effectively apply our resources in future. For example the high levels of fuel poverty reported in Nelson ward are confusing when set against the high median income levels. However, when considered at LSOA level it becomes clearer that Nelson ward is quite polarised with pockets of older terraced housing is energy inefficient and much of which is under HMO occupancy. The higher level median household incomes in these pockets can be comprised of students living together in HMO's where individual student loans are totalled to provide an overall household income, thus artificially inflating income levels in this ward. This type of detail cannot always be found within ward level data and therefore requires a greater depth of research at LSOA where possible.

What is apparent is that fuel poverty levels are decreasing in Norwich due to a number of factors, including the work of the council, and despite an extended period of austerity. As shown in Graphs 10 and 11 Norwich is bucking the national trend of an increase in Fuel Poverty levels and has, in fact, experienced a reduction of fuel poverty from 12.3% to 10.5% of city households in fuel poverty, being the only local authority in Norfolk to reduce fuel poverty levels in 2014.

At a national level the government is projecting a decrease in fuel poverty for 2015, followed by an increase in 2016¹⁴, and we will need to wait to see how this plays out in Norwich. In the meantime we continue to work to reduce fuel poverty at every opportunity and to further reduce the figure of 10.5% of Norwich households (6,500 homes) living in fuel poverty.

The next section of this report give further details of the initiatives we have implemented to date to help lower energy costs, increase energy efficiency and support those most in need.

¹³ DECC – Fuel Poverty – A framework for future action (July 2013)

¹⁴ DECC – Annual Fuel Poverty Statistics report – England (June 2016) p.5

Section 7 – Council initiatives – what are we doing?

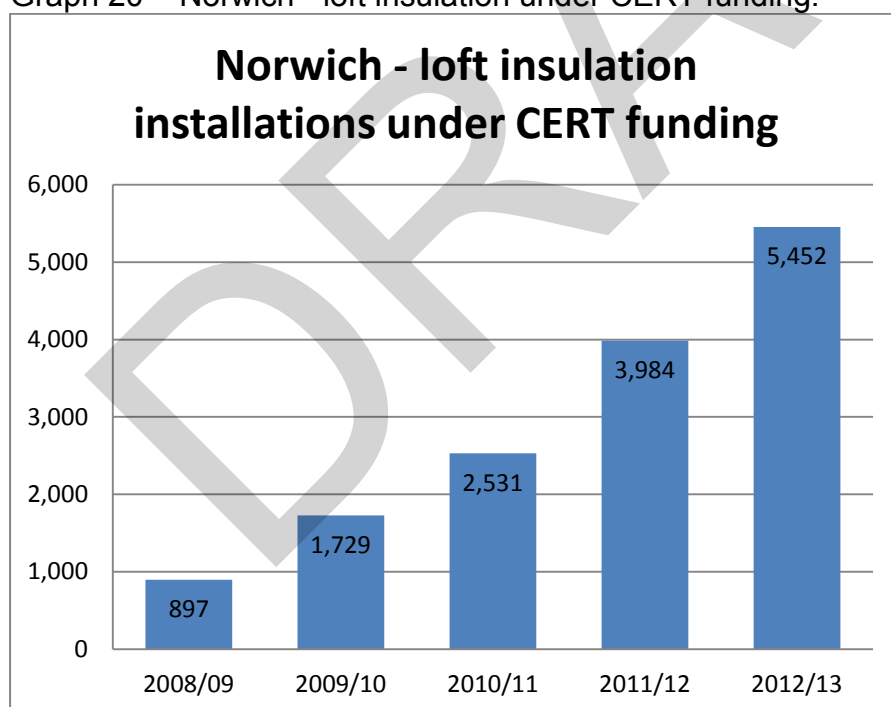
Energy efficiency measures:

As well as the effect of rising energy prices, some of the drop in domestic energy use over the period can be attributed to an increase in energy efficiency in properties. Whilst figures in Norwich are steadily increasing the city is well below the national mean figure for both cavity wall and loft insulation installations (Graphs 20 and 21 below).

Of the two measures loft insulation has been a more popular measure, but this may be indicative of the fact that not all properties have cavity walls in the city, with a great many Victorian terraces across the city, built before cavity walls became popular in the UK from the 1920's onwards. Cavity wall insulation also requires specialist equipment to install, so unlike Loft Insulation, is not a job for the diy-er.

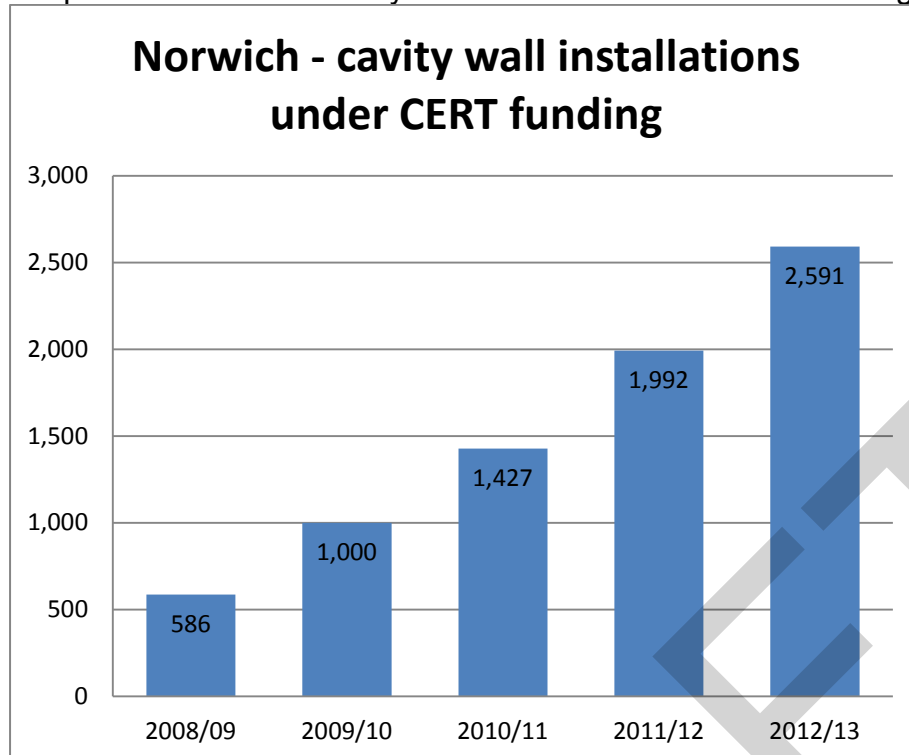
In addition, within the private sector a significant proportion of properties are rental properties, which can restrict the take-up of home improvement measures since the landlord may be reluctant to pay to improve the thermal efficiency of the property when they will not benefit directly from a decrease in fuel bills, paid by their tenant. Take up of loft insulation can also be impeded due to residents storing belongings in their loft space, which restricts the necessary access.

Graph 20 – Norwich - loft insulation under CERT funding:



Source: DECC: Interactive maps

Graph 21 – Norwich - cavity wall insulation under CERT funding:



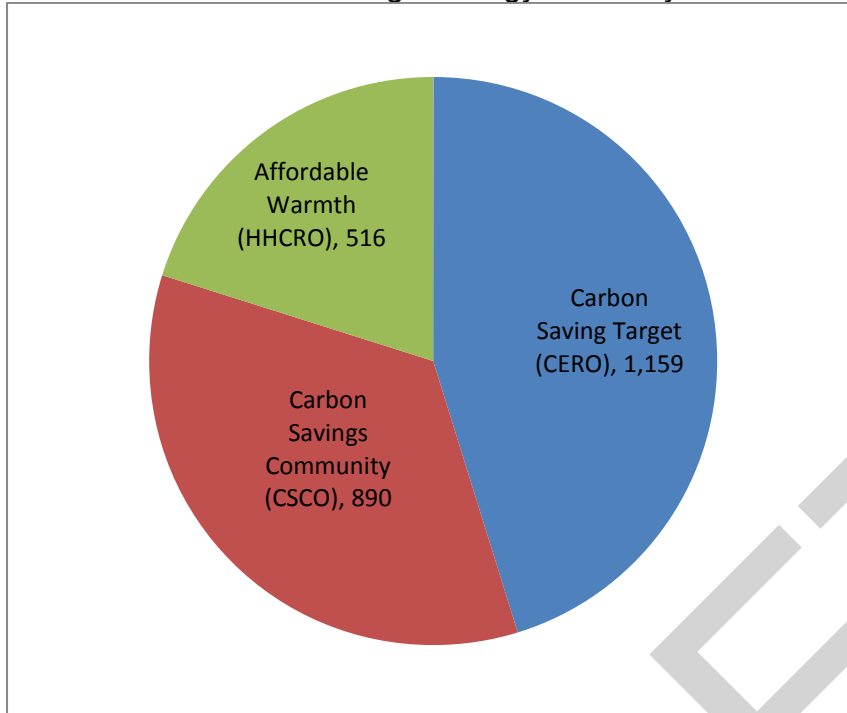
Source: DECC: Interactive maps

In 2013 CERT/CESP funding was scrapped and replaced with the Green Deal and Energy Company Obligation (ECO) funding. The Green Deal was a loan against the property which paid back directly from the savings made on energy bills. In principle it seemed advantageous to home owners who could not afford the initial up front capital to undertake energy efficiency works. However, in reality, loan rates were relatively high for homeowners when compared to the cost of mortgage-related borrowing and the Green Deal scheme has subsequently been scrapped too. There is however, some discussion of a resurgence for the Green Deal.

ECO funding has three elements to it, CSCO, CERO and HHCO funded installations. Loosely speaking, the three elements fund different types of installations – HHCO generally funds replacement Boilers in privately owned households, CERO generally funds Loft Insulation and Cavity Wall Insulation in privately owned properties and CSCO funds Solid Wall, Cavity Wall and Loft Insulation on social housing. Norwich City Council employs a dedicated Fuel Poverty and Energy Officer who is able to act as a lynch-pin between residents in fuel poverty and accessing the relevant funding for dependent on their needs and situation. The Fuel Poverty and Energy Officer works closely with the Private Sector Housing team and in particular the Home Improvement team, sharing information and providing assistance to vulnerable residents.

The Chart 1 (below) shows the figures to date for these types of installations fitted in Norwich.

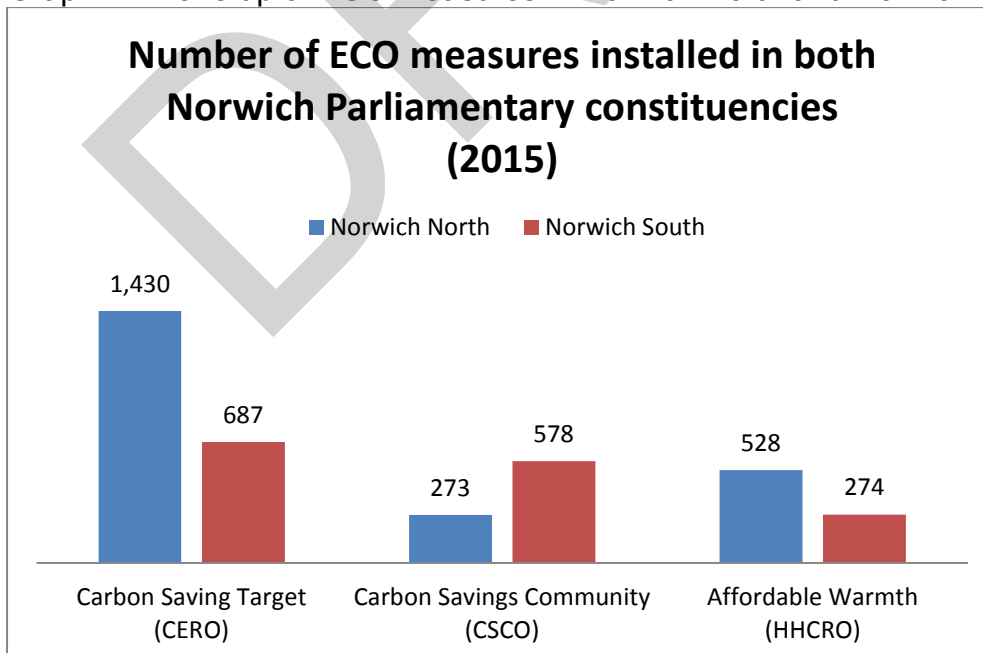
Chart 1: Post CERT funding – energy efficiency measures installed:



Source: DBEIS Household energy efficiency national statistics headline release (December 2016)

To date the majority of the ECO funding utilised has been from the CERO fund, predominantly funding loft and cavity wall insulation. The reasons for this are twofold, firstly this is the cheapest type of insulation and easiest to access. Many pre-1920's properties in Norwich do not have a cavity wall, so external solid wall insulation is the only alternative, which is far more costly than cavity wall insulation, running into the thousands of pounds per installation, rather than the hundreds.

Graph 22: Take up of ECO measures in Norwich North and Norwich South:



Source: DECC: Household Energy Efficiency National Statistics, detailed HEE tables (March 2016)

Graph 22 (above) shows that take-up of CERO funding has been far greater in the Norwich North as compared to Norwich South, whereas CSCO funding has been more predominant in Norwich South.

The new ECO:

The new Department of Business Energy and Industrial Strategy (DBEIS) “ECO2t - Help to Heat” response proposes to extend ECO with reforms for 18 months from the start of April 2017. There are certain key reforms that could help reduce fuel poverty in the city:

- These reforms will focus more on fuel poverty. The affordable warmth obligation (also known as HHCRO) will increase from 36% of the funding to 70%. This should be beneficial to areas in Norwich that have very high levels of inefficient housing and high levels of fuel poverty.
- CSCO (Carbon Saving Communities Obligation) will no longer be available.
- In addition to this, the Affordable Warmth Obligation will be extended to social housing E, F and G.
- Local authorities will be able to determine eligible homes under the new “flexible eligibility” mechanism. Suppliers will be able to use this voluntarily for up to 10% of their Affordable Warmth Obligation. This could be specifically targeted to areas in the city that have high levels of fuel poverty. Also there is potential to target infills.
- The government has decided that, under flexibility eligibility, local authorities will be able to facilitate the installation of solid wall insulation. This is beneficial for Norwich as there are high levels of solid walled terrace housing contributing to citywide pockets of fuel poverty.
- The requirement to deliver a minimum level of solid wall insulation will be increased from the proposed equivalent of 17,000 measures per year. However this is only being increased by 25% making the minimum 32,000 installs.
- The scheme has been simplified with the introduction of deemed scores and removal of GDARs.

However, the council does have some concerns regarding the new reforms:

- Gas boiler replacements will be limited to 25,000 a year. This will affect the elderly and families in urgent heating need in the winter who at the moment are eligible for a grant towards their boiler replacement from the energy companies if they are on eligible benefits. This dramatic decrease will mean that it is very unlikely that they will be able to receive this grant. However, Norwich City Council does offer financial assistance to residents with no heating via a loan. In addition to this, there are energy provider charitable trusts who may help with heating grants to the most vulnerable.

- The funding will be reduced to £620 million per annum nationwide from the current £840 million per annum. This will ultimately mean that fewer measures are installed. This does not take into account expected inflation increases nor for the fact that solid wall insulation is more expensive than boiler replacement.

Norwich's Cosy City project:



The Cosy City Project:

Following the launch of the Cosy City project, in Summer 2014, Norwich City Council was successful in gaining over £400,000 of the DECC Greener Communities Funding as part of the wider bid with Broadland and South Norfolk district councils to provide incentives and grants to improve energy efficiency in the private sector.

As part of the bid Norwich City Council, with its partners Fosters Property Maintenance and Aran Services Ltd, have delivered the following measures during the scheme:

Measures delivered via Cosy City project:

GDAR and EPC assessments	347
SWI	67
Boiler replacements	72
Cavity wall and Loft	112
Heating Upgrades	9
Boiler repairs	8
Small insulation measures	73
Total	688

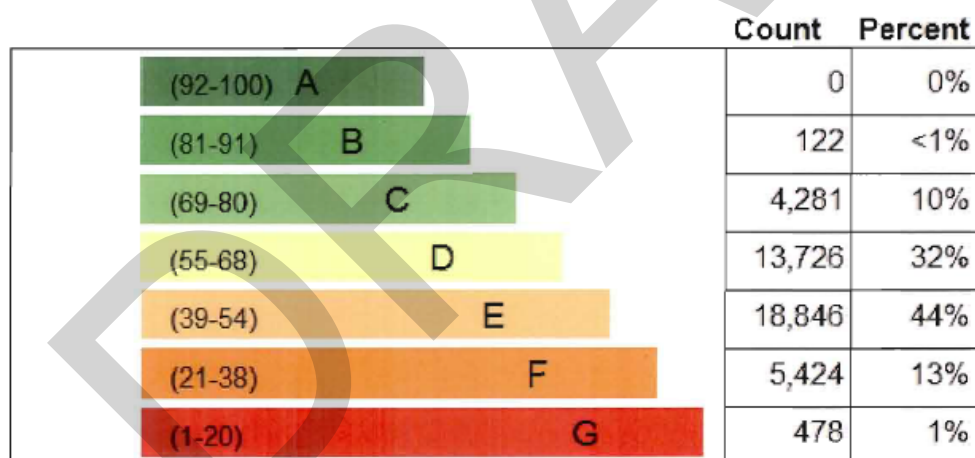
There is a high level of pre-1920's housing in Norwich with many rows of red-brick Victorian terraced houses. Unfortunately housing of this age does not have a cavity wall and the only way to provide effective insulation is via Solid Wall Insulation (SWI). SWI is an expensive means of insulating a property when compared to loft and cavity wall insulation and requires a specialist contractor. As part of the Cosy City project we helped to fund 67 properties to install SWI, providing grants of £5,800 towards the cost. In total £390,000 of funding was provided during 2015/16.

The take up of SWI was particularly high in Mile Cross ward where owner-occupiers of ex-Local Authority housing were keen to install SWI having witnessed the benefits felt by council tenants in neighbouring properties. Over £133,000 of the available grant funding was taken up in Mile Cross ward alone.

In addition, Cosy City has provided help to 40 residents to access funding for boiler replacements. The majority of these residents are amongst the most fuel poor and vulnerable residents in Norwich. Cosy City has also provided help to insulate lofts and cavity walls in over 100 properties, regardless of income.

Over time we hope to see SAP rating improvements within the private housing sector. Chart 2 below shows old data showing the poor efficiency of Norwich's housing stock.

Chart 2: Energy Efficiency Rating (Based on SAP) private sector stock in Norwich



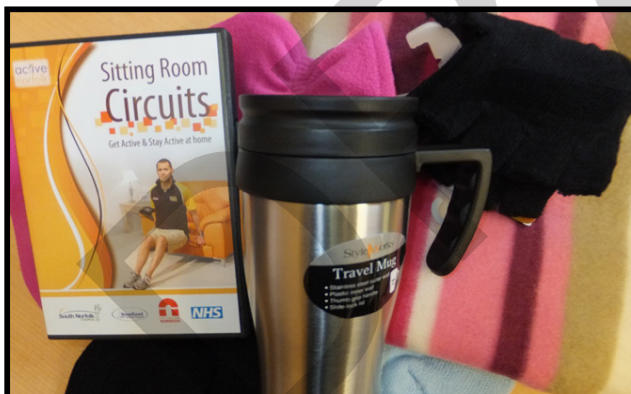
Regretfully 2016/17 has been a particularly barren year for domestic energy efficiency funding with the removal of the Green Deal Finance Company and the Green Deal Home Improvement Fund and this does not look set to change. The 2015/2017 Energy Company Obligation, funded by the big six energy companies, is still available. However, this has been reduced by 34% as most of its obligations have already been fulfilled. There is still ECO funding available for smaller measures such as cavity wall and loft insulations for residents, regardless of income, and part-funded boiler replacements for the most vulnerable residents and we continue to work to help residents to access this funding.

The Cosy City programme continues to work with third sector organisations to access funding as and when it becomes available on an ad hoc basis. Most recently we have partnered with Community Action Norfolk who have been awarded £40,000 for the Norwich District area to fund boiler replacements, central heating and small heating upgrades. To date we have helped deliver boiler replacements to 20 city households during recent Winter months. In order to qualify for this funding the recipients need to have had a health problem which is exacerbated by cold conditions.

For example, we helped to replace boilers for a young couple on child tax credit with a child under five who had asthma which was aggravated by the cold conditions resulting in chest infections; an elderly lady with atrial fibrillation and an elderly gentleman with emphysema. Following the successful installation of new energy efficient boilers these families now have heating and hot water and their standard of living and quality of life has increased considerably, with reduced risk of falling ill due to cold and damp living conditions.

Warm and Well:

The Norwich Tradesmen's Benevolent Fund is a small pot of funding which the council has been fortunate to have been awarded in recent years. The funding has been used to help the most vulnerable Norwich residents to weather the cold winter months. It is used for urgent heating need, winter packs and repairing heating breakdowns. Combined with the switch and save revenue it has helped many residents in desperate heating need.



Example Warm and Well pack

Most recently, during Winter 2016/17, we have supported 15 residents with urgent heating need. These residents are so vulnerable they have to make the choice of whether to eat or heat. This funding stream helps to support them to be able to both heat and eat during the worst of the Winter weather.

In addition to this, the fund is used for small energy efficiency measures such as draught proofing and radiator foil, which help reduce the resident's fuel bills by 5%. In 2015/16 we provided this low-level insulation to 200 residents.

Advice and Support:

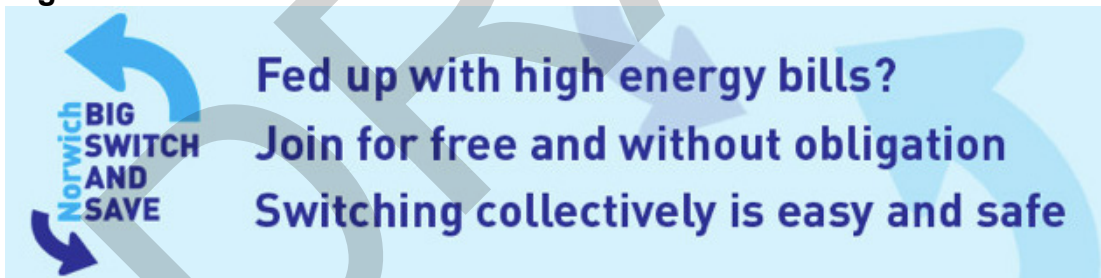
In addition to the above projects the council continues to support residents with fuel poverty advice. This includes the annual Winter Wellbeing event that brings together affordable warmth groups to promote their services to residents and stakeholders.



Warm and Well stakeholder event 2016

The council advises residents to those in fuel poverty such as benefit advice and trust funds for fuel debt. As well as supporting any dispute the resident has with a supplier.

Big Switch and Save:



Norwich City Council was the second local authority in the UK to introduce collective energy switching in 2012 and since then we have promoted 11 tranches of this scheme. The scheme works to secure lower energy tariffs for switchers by harnessing the power of collective purchasing.

To date we have supported over 3,000 switches to cheaper energy tariffs, with average savings of over £200 per household per year. For each switch the council receives a small switching fee which is ring-fenced to affordable warmth work and enables us to support the most vulnerable households at times of extreme need.

Resident Switch and Save feedback:

“The Norwich Switch and Save has made me feel more confident when dealing with the energy company. Just knowing that there is support out there makes me feel reassured. I had never switched before and I was scared with dealing with my fuel bills but now I switch every year with the council. They have made it easier for me. I now feel more confident in my home when I use electricity and gas.”- **Mrs B**

Mr H, who is 76 saved a huge £432 a year. He said “I’m definitely less worried about my bills now. Switching with the council was easy because the work gets done for you. I’ve been inspired to switch with some of my other bills too”

Mr K, who is a retired technician and driver said “I couldn’t be more pleased with it. Something came through my door to tell me about it. I’d never switched my energy provider before but I thought I would give it a go. I haven’t got a computer so I rang up and someone helped me register I was surprised how easy it was. The 66 year old saved £80 a year on his energy bills. But on top of that I really like the new company I’m with. They were very good reading my meter and they are local and very friendly.

Smart Meters:

In addition to the Big Switch and Save Norwich city council has also been awarded £10,000 by Smart Meter GB to raise awareness of smart meters and to support some of our most vulnerable residents through the smart-meter rollout. The approach needed to be innovative and we have worked hard to deliver a varied programme including:

- Christmas-time energy advice roadshows promoting the benefits of smart meters to shoppers.
- Community events in wards which have been identified as having the greatest need through thorough interrogation of available data.
- Delivering workshops to partners and fellow stakeholders including charitable organisations, social housing associations and sheltered housing schemes. The workshops were tailored to the audiences needs and included fun engagement activities such as ‘Energy Efficient Bingo’ which helped to raise awareness of the amount of energy which a variety of household appliances use and the benefits of being better able to accurately monitor their energy use.
- Working in conjunction with the council’s Digital Inclusion community champions scheme to provide smart meter training to enable the community champions to assist their communities with the new smart meter rollout. Residents who have had a smart meter fitted are offered a home visit to provide extra support with the use of it, should they require it.

Working in partnership with the health sector:

Norwich City Council works with the Norwich Clinical Commissioning Group and Norfolk County Council's public health team through the Healthy Norwich partnership to target fuel poverty support at vulnerable households, particularly those where people are suffering from health conditions which make them more susceptible to the cold.

Through this partnership we have engaged a range of health professionals and voluntary and community organisations to promote the affordable warmth and wider healthy homes services that the council offers.

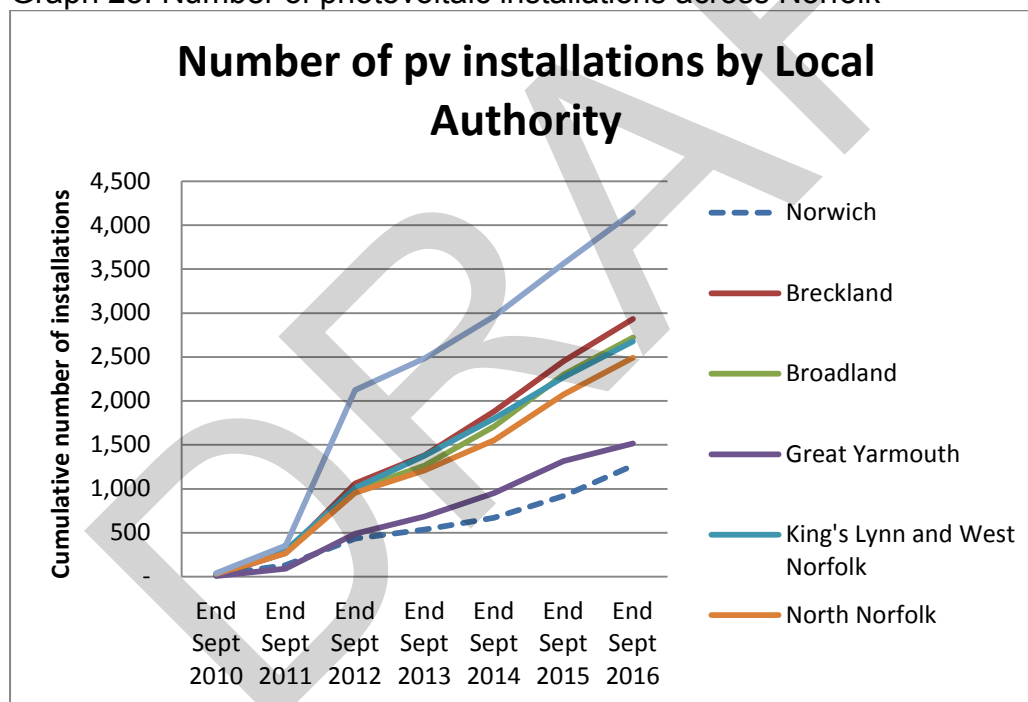
As part of this approach, we are currently running a 'social prescribing' project in Tuckswood GP surgery which refers people to a range of services, including around debt and energy advice. We are also trialling a number of ways of engaging target audiences, including by working with GPs to identify and contact older people in poor health and with community organisations in Excess Winter Deaths hotspots to raise awareness of services available.

Renewable energy:

In the city renewable energy on domestic properties largely takes the form of photovoltaic (pv), or solar panels on rooftops. There is some uptake of air source heat pumps and solar thermal panels for heating water, but these are the exception rather than the rule. Norwich is predominantly on the gas grid and therefore compared with the installation of either air source heat pumps or ground source heat pumps (which require sufficient land to lay the pipework) connecting to the gas grid, whilst not renewable, is comparatively cheap.

This is not the case in many rural local authorities in Norfolk, which are predominantly off-gas grid properties and must therefore source their heat via open fires, electrical heaters or oil-fuelled central heating. Those properties who rely on oil for their heating have seen oil prices spiral over recent years and it has begun to make better financial sense to invest in alternative technologies such as renewables. Consequently the uptake of renewables in rural local authorities has far outstripped the uptake in the city, this can be seen in Graph 23 which shows the uptake of pv cells across the county.

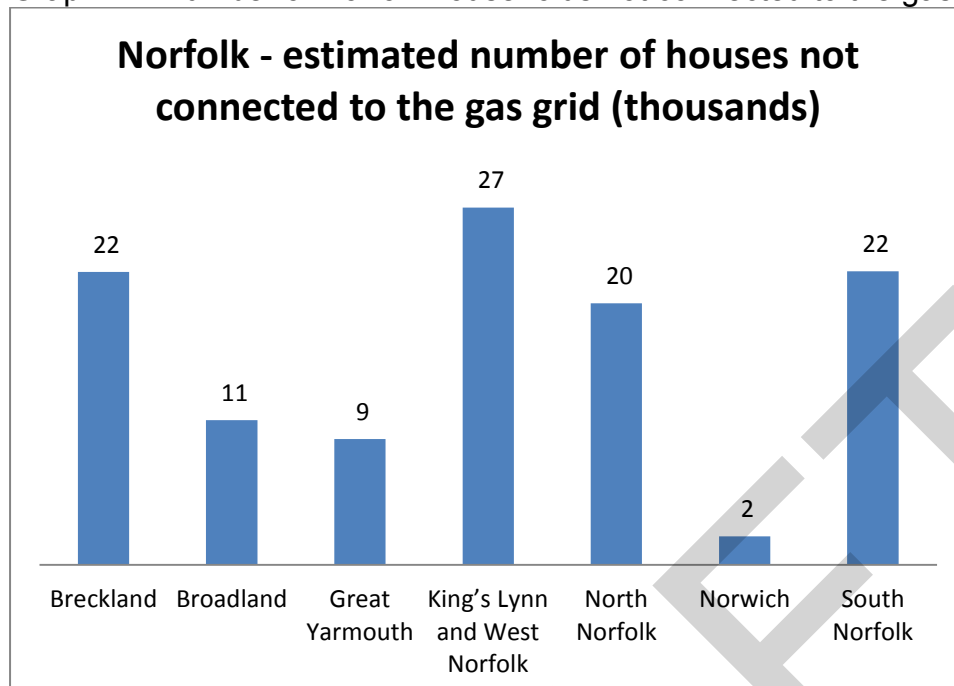
Graph 23: Number of photovoltaic installations across Norfolk



Source: DBEIS: Domestic Solar Photovoltaic Installations by Local Authorities (2017)

What does it show? Solar power has been slow to take up in the city for a number of reasons and we have fallen behind the rest of the county. Norwich is a historical city and some properties in conservation areas are not suitable for solar panels, in addition there are pockets of deprivation where the technology is prohibitively expensive and there is a high percentage of residents living in rented accommodation where pv installation is not an option.

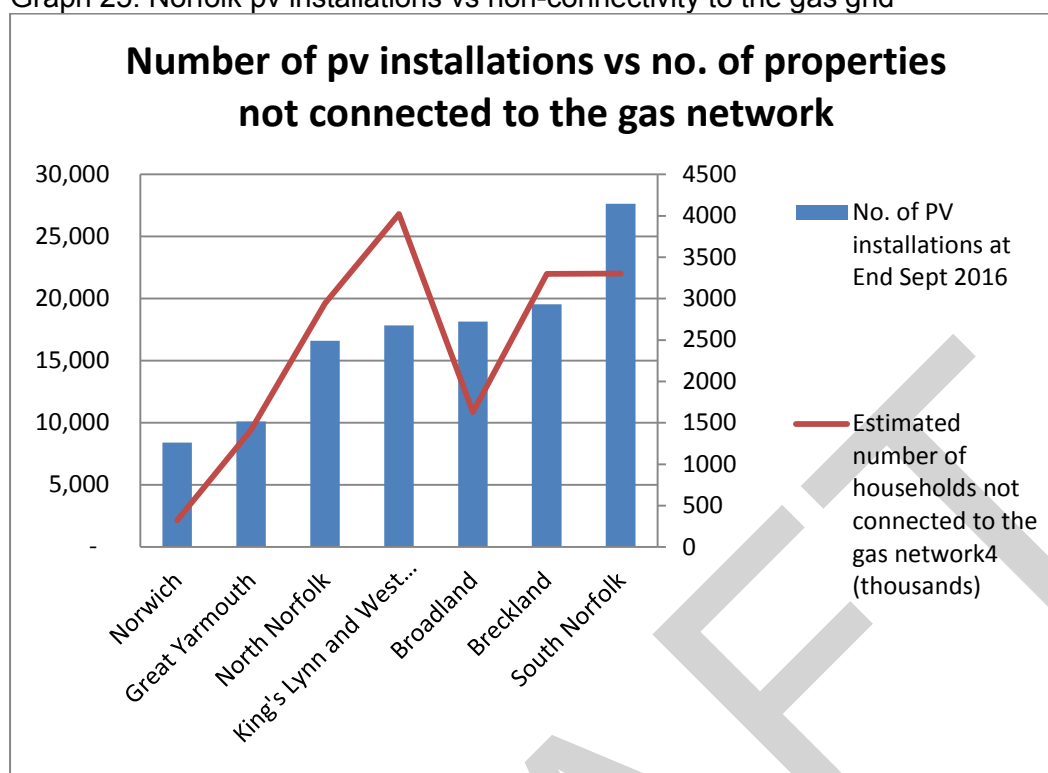
Graph 24: Number of Norfolk households not connected to the gas grid



Source: <https://www.gov.uk/government/statistics/sub-national-estimates-of-households-not-connected-to-the-gas-network>

What does it show? Norwich has significantly more gas-grid connectivity than any other local authority in the county, with both South Norfolk, Breckland and King's Lynn having large numbers of properties as yet unconnected. Graph 25 (below) shows both South Norfolk and Breckland have the highest levels of pv installations in the county, with King's Lynn and West Norfolk lying in 4th place, with significantly more pv installations than in Norwich.

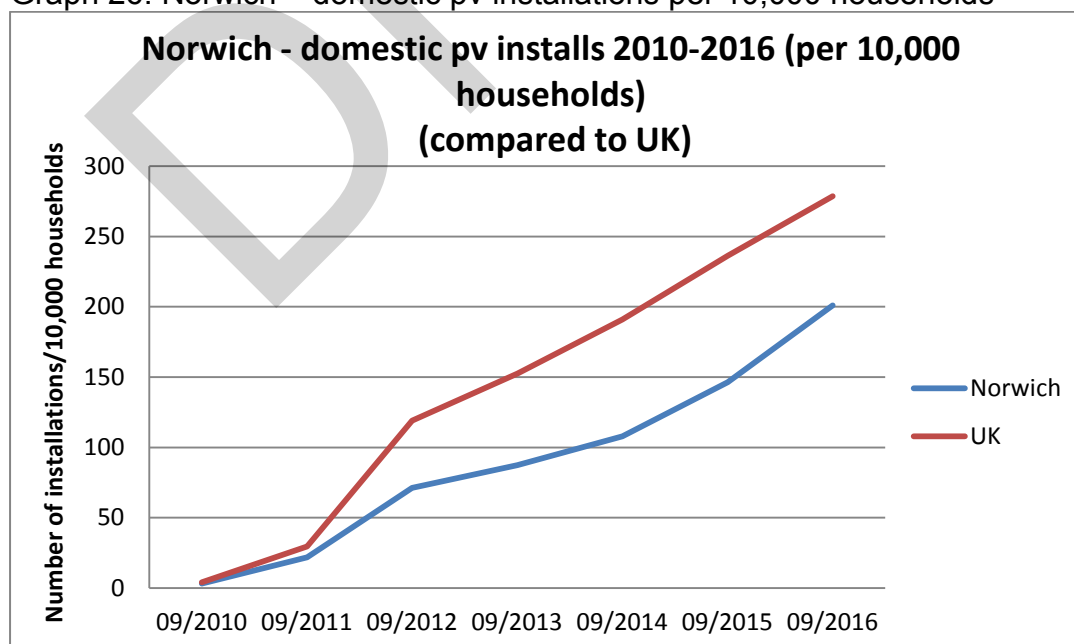
Graph 25: Norfolk pv installations vs non-connectivity to the gas grid



Source: DBEIS: Domestic Solar Photovoltaic Installations by Local Authority (2017)/
<https://www.gov.uk/government/statistics/sub-national-estimates-of-households-not-connected-to-the-gas-network>

In Norwich the number of domestic pv arrays has been steadily increasing over time, but it is still below the rest of the county or the UK average. Graph 26 shows the rate of uptake of pv cells in Norwich as compared to the UK average.


Graph 26: Norwich – domestic pv installations per 10,000 households



Source: DBEIS: Domestic Solar Photovoltaic Installations by Local Authority (2017)

What does it show? Norwich has fallen well behind the national average number of pv installations. We believe this may be due to a number of factors, including: the historically high cost of installations, the historical nature and conservation status of some of the buildings in the city, the high level of rental properties in the city and the high number of properties in the city already serviced by the gas grid. There is a slight upturn in pv installation numbers in the city in 2015/16. This may in part be influenced by the council's successful Solar Together project and the proposed decrease in the Feed in Tariff (FIT) as homeowners scramble to make the most of the higher rate.

Solar Together:



The graphic features the 'solar together NORFOLK Collective Solar Scheme' logo on the left, with a stylized sun icon. To the right is the 'iChoosr' logo. Below the logo, the text 'Great Solar Scheme Results' is followed by a paragraph stating that over 800 householders have accepted their personal offer, and all solar panels will be fitted on rooftops in the coming months. Below this, the text 'UK's first council-led collective solar scheme' is followed by a thank you message. On the right side, there are three buttons: 'Register for upcoming schemes!', 'Find out more about Solar Together', and 'Auction results'. At the bottom, there is an illustration of a town with houses, a church, and a modern building, with a sun and clouds in the background.

Great Solar Scheme Results

Solar Together Norfolk has been a huge success with over 800 householders accepting their personal offer of this council-led solar scheme. In the coming months all solar panels will be fitted on the rooftops of houses in Norfolk.

UK's first council-led collective solar scheme

Thank you for your interest and contribution to make Norfolk one of the 'greenest' counties.

Register for upcoming schemes!

Find out more about Solar Together

Auction results

In May 2015 Norwich City Council in partnership with Broadland, South Norfolk and North Norfolk local authorities, joined forces with iChoosr to run the UK's first ever collective solar scheme. A reverse auction process was held and Job Worth Doing were chosen as the successful contractor. Due to the competitive bidding process the prices secured on panels and installation was lower than the going market rate for the same work. Consequently 613 installations were completed by the end of 2015, with nearly 8,000 panels being fitted and a potential of 2MW of solar pv energy. Over 900 tonnes of CO₂ will be avoided annually due to this project.

Unfortunately, in August 2015 central government went out to consultation to reduce the (then) Feed in Tariff rate from 12.47pence/kWh to a proposed 4.39 pence/kWh rate. Whilst the scheme was successful for the 7 months in which it ran, it was felt that the severe cut to the FIT was such that the business model was no longer a viable one. We continue to keep in contact with iChoosr regarding this project in case there becomes a way to resurrect it. Graph 25 begins to show an upturn in the take up of pv installations around September 2015. This is likely due to a

combination of an increase in demand in the city due to the Solar Together scheme and as a result of the proposed decrease in the FIT rate.

The current FIT rate is 4.11 pence/kWh for new installations, and the number of installations in the city continues to increase slowly. The council will continue to monitor this situation and explore the possibility to support new solar projects in the future. The Solar Together model remains poised to pick-up if it becomes commercially viable once more.

DRAFT

CO₂ emissions from our own estate (National Indicator 185):

Norwich City Council has reduced carbon dioxide emissions across its operations and estate for the past 8 years through our carbon management programme. To date we have reduced our emissions by 39.5% against a 40% target. A copy of the 2015/16 Carbon Footprint report can be found here:

https://www.norwich.gov.uk/downloads/file/2642/carbon_footprint_report_2015-16

Our asset portfolio is wide and varied containing a brand new purpose built multi-storey car park where energy efficiency was built in to the design, to a 15th century Grade II Listed monastery (now used a premium event space), where we have needed to sensitively retro-fit energy efficient technologies.

This has been achieved through a variety of methods including:

- Voltage optimisation
- PC powerdown
- Server virtualisation
- Installation of variable speed drives
- LED lighting upgrades
- Boiler valve and pipework insulation
- Staff behaviour change campaign
- Photovoltaic arrays
- Community engagement

In 2015 we introduced the One Planet Norwich work-stream. The aim of One Planet Norwich is look further afield than the council's own estate and to actively engage with Norwich residents about ways they can make small changes to their lifestyles to reduce their carbon emissions through a variety of ways. One of these is through raising awareness of energy use and the savings that can be made through fitting energy efficiency measures to their housing and where funding might be available to help with this. The project aims to engage in a fun and accessible way. To date we have organised two One Planet Norwich festivals with a total attendance of over 18,000 visitors. The next festival is planned for May 2017.





Photo: Eco Snakes and Ladders – Having fun and challenging perceptions around resource use

CO₂ emissions from our Council housing stock

We strive to maintain the council's housing stock to levels which help to ensure that our tenants have warm and comfortable homes. As part of this drive we continue to look for opportunities to increase the energy efficiency of the housing stock. Table 3 (below) lists some of the technologies we have employed to date to assist this.

Table 3:

Applied Renewable Technologies	Total Installations to date	What the technology does
Photovoltaics	143	Free electrical power from the sun
Solar Thermal	8	Free hot water from the sun
Voltage Optimisation	363	Lowers domestic electrical consumption
Air source heat pump	2	Creates energy efficient central heating
Loft insulation	3571	Helps to stop warmth escaping through the loft
External Wall Insulation	489	Helps to stop warmth escaping through the walls of a house, where there is no cavity in pre 1920's houses
Gas condensing boilers	9745	Energy efficient gas fired central heating boilers
Thermal dynamic hot water systems	148	Provides very low cost, energy efficient 24 hour a day, every day, hot water.

143 photovoltaic arrays have been installed on council stock to date. The current scheme is similar to a 'rent a roof' scheme where our tenants receives the free, low-carbon electricity and the contractor receives the Feed in Tariff pay-back. Tenants benefit from free energy which help to 'cushion' against rising energy prices.



The current average SAP rating of the council's housing stock is 70.8 across over 15,000 homes. This equates to a solid C rating and compares favourably with the private sector SAP rating of 52, or a high level E EPC rating.

Since the removal of grant assisted funding regrettably less homes have been able to benefit from the installation of loft and cavity wall insulation, boilers and controls and external wall insulation (EWI).

The photos below show a property where EWI was installed in 2015.



Property before external wall insulation was installed, SAP rating Band D



Property after external wall insulation was installed, SAP rating Band C

Our BISF (British Iron and Steel Federation) properties continue to benefit from external wall insulation (EWI). These properties were previously under-insulated. The council has used a whole street approach and offered the works to private properties too (at a charge). Since the EWI has been installed these properties have benefitted from a warmer home and better air quality, they are cheaper to heat and have a greatly improved external appearance. One unexpected benefit from the installation of the EWI has been sound-reduction of outside noise, which according to tenants has been a great improvement in the quality of living. In these streets the whole street scene has been improved which empowers tenants and increases their pride in where they live. We will continue to roll-out EWI, prioritising the areas of greatest need.



Right to left – before and after EWI has been installed on BISF homes



Improved street-scene following the a whole street roll-out of EWI

The current average SAP rating for council stock is 70.8. Norwich city council report on their SAP rating quarterly, which allows us to capture all the renewable technologies which have been installed in that quarter. Current SAP analysis is generated within the Codeman system (asset database).

The Green Deal – the changing picture:

In 2015 the Green Deal was removed and ECO funding is scarce. Due to a lack of external funding opportunities the council has needed to re-focus some of our ambitions and use our limited resources as effectively as we can, identifying and prioritising the homes in greatest need.

Through the use of thermal heat mapping we are now able to identify and target council homes which are the most thermally inefficient. We have also invested in a thermal imaging camera which enables us to more accurately pinpoint areas of heat loss within a property, following a tenant enquiry.

Renewable Heat Incentive and Feed in Tariff (FIT):

The council has installed 143 photovoltaic arrays across our housing stock. Where this has occurred the tenant benefits from the free electricity produced, whilst the contractor benefits from the FIT as payback for the works. The FIT has been significantly cut in the past year, making payback slower and this model less commercially attractive.

To date we have also installed 8 Solar Thermal Water heaters on our housing stock and 2 Air Source Heat pumps. This equates to 10 claims for the Renewable Heat Incentive payments.

Council Homes – new build:

Since 2015, we have completed 33 homes, all of which were delivered to Code for Sustainable Homes level 4. In addition, we currently have 115 Passivhaus dwellings under construction. All 115 properties will be let and managed by the council at social rent levels. Ten of these are on the site of the former Area Office at Hansard Close and are due for completion in April 2017. These will be the first residential Passivhaus buildings in the city.

The other 105 dwellings will be built at Goldsmith Street, the design for which has won a Housing Design Award. These are due for completion in summer 2018. The council has set up a wholly owned subsidiary to deliver private development. The subsidiary is called Norwich Regeneration Limited and is taking forward phase 2 of the Three Score development in Bowthorpe. This for 172 dwellings, of which 112 will be designed to the Passivhaus standard. Section 1 of phase 2 will comprise 79 dwellings, of which 18 will be council social rented and are all Passivhaus. We expect these properties to be complete by Spring 2019. Of the 250 target, we expect at least 166 (66% of our target) to be completed by Spring 2019.

Council Homes – adapting our stock:

The council is adapting to changing tenant needs and strives to maintain and improve our housing stock. As old energy-inefficient stock is sold, so new energy efficient stock is built or purchased. Family dynamics are changing over time with more smaller family units being required. To reflect this changing need we have converted some of our 3 bedroom terraces into flats, more suitable for this requirement. We are working to anticipate and accommodate the changing needs of

today's family groups using a housing stock predominantly built between 1930 and 1970 which contains a high percentage of 3 bedroom semi-detached properties.

Contractor responsibilities:

All contractors working on a contract over £300,000 are required to have a SWMP. This is a legal document and the company can incur large fines if there is not a SWMP in place on a contract. The contractor is also responsible for maintaining an audit trail of what percentage of waste is disposed and recycled. There are also Green Travel plans which enforce the need to use a minimal number of vehicles when on site and to use those vans most effectively to ensure there are enough materials contained within the vehicles to complete the jobs for the day in order to minimise the number of journeys. All our current contractors have SWMPs in place.

High-value contracts contractors are also required to report their carbon emissions to the council annually which are then reported into central government as part of the council's overall carbon footprint.

CO₂ emissions from Private Sector Housing

Private sector housing – enforcement work


Norwich City Council tackles excess cold in privately rented accommodation through enforcement. The private sector housing team comprises of three private sector housing officers (one of which is the team leader). The majority of cases are in response to complaints; however, the address-level information from our stock condition survey enables us to target this enforcement activity more effectively.

Proactive work includes:

- Rolling programme of inspections
- Area based inspections
- Property Registration Scheme inspections

Area based project - Prince of Wales Road We have recently begun a systematic inspection of the 75 properties on Prince of Wales Road which mainly consist of business premises (food), many of which have residential accommodation above them. Our first tranche of inspections has identified two properties requiring enforcement work including issues regarding excess cold. Our next tranche of inspections are due to begin in the spring.

Background: The property is a flat above a fast food take-away. It is occupied by seven individuals who share the kitchen and bathroom. There were numerous hazards and management regulations issues at the property, one hazard being excess cold. There is no EPC for the property (being an HMO it is not required to have one) so the SAP rating is unknown.


Excess cold	Photo	Work carried out under the improvement notice
The boiler was broken and there was no hot water or heating. The use of portable heating is inefficient and also contributes to the fire hazard.	 A photograph of a white, rectangular portable electric heater with a black base and a digital display on the front. It is sitting on a light-colored wooden floor. In the background, there are some pipes and a black bag. A timestamp '10 12 2014 17:52' is visible in the bottom right corner of the photo.	A new boiler has been installed and the HMO now has full gas central heating and hot water.

<p>The windows were in poor repair some did not shut and there was broken glazing.</p>		<p>All the windows are double glazes sealed units. They are all in good repair and open and shut.</p>
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This case was investigated by a private sector housing officer. An improvement notice was served and complied with before the winter of 2016.

Integrated enforcement

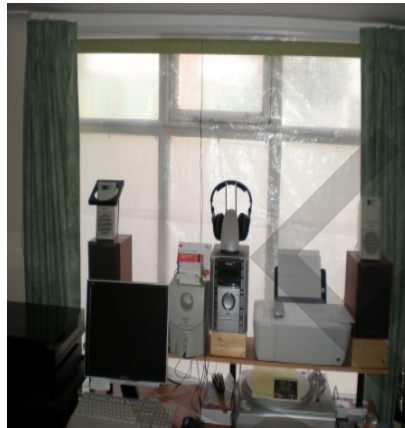
Background: The flat was converted from a shop without planning permission or building control involvement. There was a tenant living in the property. The private sector housing team was informed about the flat by the environmental strategy team in June 2016. The property had a SAP rating of 24 (F).

Excess cold	Photo	Work carried out under an improvement notice
<p>The property had only portable instantaneous electric heaters and no fixed heating system. The tenant reported that in the Winter the temperature was often under 15oC inside despite spending a lot of money on heating.</p> <p>The walls were solid brick and uninsulated.</p>		<p>Modern electric storage heaters were installed. The new heaters include charge control to allow them to be easily controlled. The heaters are more efficient than the portable ones and are also have a sufficient output to effectively heat the rooms.</p>

There was a large area of single glazing in the front of the flat as the property used to be a shop.

Without sufficient insulation and draught proofing, heat will be easily lost and severe condensation could become a serious problem for internal dampness.

The tenant used bubble wrap to insulate the windows. This photo was taken in the Summer. It is expected that this method of insulation would not be effective of the Winter.



A-rated secondary glazing was fitted to improve the efficiency of the windows.

This case was investigated by a private sector housing officer. There was a category 1 excess cold hazard. An improvement notice was served on the owner. The officer liaised with the Council's planning enforcement team who granted permission for the premises to be used as a flat. The work was finished before the winter of 2016.



Property Registration Scheme

In May 2016, the council launched its Property Registration Scheme which is a trust-based scheme aimed at private landlords and the letting/managing agents of privately rented homes (of which there are approximately 14,000) within our local authority area. The scheme aims to provide better regulation to the private rented sector in Norwich by recognising landlords providing accommodation of a good standard and enabling us to further target our resources on those who operate outside the law.

The scheme is designed to improve conditions for those living in the sector and enable tenants to make informed choices about where they want to live. By registering a property with the scheme, whether it's let as a single family dwelling or a non-licensable house in multiple occupation (HMO) landlords and letting/managing agents are expected to work within the guidance and principles of the national

[Private Rented Sector Code of Practice](#) and a small number of [local requirements](#), as well as complying with the applicable [legislation](#).

Registration details include information about the heating in the property and the EPC. The first tranche of property inspections will begin in the spring to verify how effective the scheme is. This focus on self-regulation is expected to help educate landlords and letting agents to help improve the standards of privately rented properties including reducing the number of properties with an excess cold hazard.

Home improvement team

In addition to the enforcement work of the private sector housing team, our home improvement team are also able to tackle excess cold. The team receive referrals from home owners, private tenants and housing association tenants, as well as health and social care providers, requiring disabled adaptations, our handyperson service, access to our hospital discharge grants and home improvement loans.

Our case workers and handyperson engineers carry out a home risk assessment to identify any other issues in the property, including inadequate heating, poor insulation etc. Through our financial assistance policy which offers a number of grants and loans, we are able to help clients to improve their property and remove excess cold hazards.

A client, Ms W, 67 years old contacted the home improvement team as her boiler had stopped working. We arranged for one of our approved contractors to visit and repair using our Safe at Home funding (grant of up to £2,500 for emergency repairs). Ms W suffers with asthma and said “Being on a limited income it was great that the council could help me stay warm. They even loaned me an electric heater whilst I waited for it to be fixed.”

Enforcing minimum standards

Further changes to legislation, with the Housing and Planning Act and extending the licensing of HMOs, will increase the council's powers to drive up standards. However, with our limited resources already stretched, we are always looking at ways to work with the sector to drive up standards to enable our limited resources to be targeted on those who operate outside the law.

The private rented sector working group was set up in 2012 and its members are organisations or individuals in Norwich that have an interest in the private rented sector and its role within the local housing market. The group has been set up based on the following role:

- To review new government policies, strategies and legislation with a link to the private rented sector and identify the impacts and possible solutions.
- To have input into new or revised council policies and strategies which affect the private rented sector, for example, HMO licensing.

- To have input into any new or revised private rented sector initiatives, for example, landlord accreditation.
- To facilitate the sharing of expertise, experience and other trends in relation to the private rented sector and the local housing market.

The private rented sector working group has been set up to primarily focus on the following:

- Look at what is happening in the private rented sector at a local level
- Look at recent changes that will affect the sector and associated impacts
- Look at ways to address private sector housing demand
- Identify ways that organisations can support the sector
- Identify ways to improve housing conditions within the sector and particularly to reduce hazards
- Identify areas of common interest across the sector and take a collaborative approach in addressing them
- Encourage improvements in energy efficiency

The group consists of members invited by the council. Current membership comprises of:

- ARLA – Association of Residential Letting Agents
- Arnolds Keys (letting agent)
- ELA – Eastern Landlords Association
- Martin & Co (letting agent)
- NLA - National Landlords Association
- Norwich City Council officers
- Shelter
- University of East Anglia's Student Union

Section 9 - What did we achieve?

Progress against 2013 and 2015 Action Plans:

Priority	Proposal	Timescale	2015 Update	2017 Update
Building relationships	Networking with the Big 6 Energy Providers	Ongoing	Investigating opportunity for tower block to be upgraded through funding via Big 6 energy company	Currently this has not come to fruition due to changing Eco targets. But we continue to monitor for opportunities and have ring-fenced £800,000 work on Normandie Tower flats.
	Working alongside Income Assistants to find tenants who may be in poverty		Improve links to other services that could benefit from this information too.	We continue to improve links across our services to ensure comprehensive support to those in most need.
	Assisting with reports and supplying data to the Environmental Strategy team	Ongoing	Continuing to work across council services and with major contractors to assimilate energy data	Continuing to work across council services and with major contractors to assimilate energy data
	Tenant involvement by producing documentation on energy saving, tenant fun days & liaising with tenants regarding their energy bills		Documentation completed and handed out at fun events. Continued liaising with tenants regarding energy saving measures.	Ongoing
New equipment	Replacement of our asset	2013/14	Database now using up to	Upgrade completed

Priority	Proposal	Timescale	2015 Update	2017 Update
	database and upgrade. Our current database runs RdSAP 2005. Upgrading will allow us to use RdSAP 9.91.		date RdSAP 2009 methodology, and in a position to easily update when required.	bringing additional benefits such as mobile data collection and opportunities for smarter working.
	Purchasing of additional thermal imaging camera and data loggers	2013/14	Data loggers bought. An additional thermal imaging camera has not been required.	Completed. Thermal imaging camera purchased to aid training and accurately identify heat leakages.
Trial projects	IWI – 8 properties to be involved in a trial		Assets and tenants benefitting from application of technology. Reviewing and planning for future installs.	Currently no budget available for this work. If this changes we will identify further opportunities.
	Damp Trial – 6 month trial to reduce spend and investigate alternative methods alleviate damp within our homes. The trailing out of new products such as single, whole house ventilation and continuous running extractor fans working with the market leaders.		C. 1.2 million saved through trial. Programmed works for 15/16 modified to accommodate measures found, such as 'french drains' and bin/meter cupboard insulation (to specific assets). New extract fans being installed with continuous then boost as required features.	The Materials Selection Group have selected the Cy-Fan and it has been installed where required. This solution will be fitted during responsive and planned works where appropriate.

Priority	Proposal	Timescale	2015 Update	2017 Update
Trial projects cont/d...	Air source heat pumps – to carry out a trial		Applied where practicable.	Trialled 2 units. Research concluded that this technology was most efficient where gas connectivity was available and dependent on the tenants demand for heat during the day.
	Thermodynamic hot water – potential trial of this technology that can provide hot water 365 days of the year, using a local company.		Trialled x 4 units. Feedback 100%. Contracted to install an additional x 28 units 14/15 with nearly 100% satisfaction from tenants. Assigned budget for 15/16 for additional units and shall investigate economies of for even wider application for future programmes.	148 units installed to date and ongoing. Where homes too small for tank required some airing cupboard expansion has been carried out. Currently trialling loft-space system for smaller properties.
Projects	95 homes on district oil heating. Exploring and investigating renewable options.	Ongoing	Solution being investigated – no works currently planned.	Normandie Tower flats – £800,000 ring-fenced when opportunities for partnership funding become available.
	Upgrading of old pipework, underground	2013/14	This work was completed at one Sheltered	Seabrook Court Sheltered

Priority	Proposal	Timescale	2015 Update	2017 Update
	pipes from district boiler to be super insulated.		Housing bungalow scheme (2013) and is scheduled to go ahead at a second site in Spring 2015	Scheme also completed.
	PVT (photovoltaic thermal) – to install to c. 10 properties.	2013/14	Research concluded that technology is not currently reliable enough, plus cost prohibitive. Review in future.	Cost-prohibitive and new Thermal Dynamic technology now filling this need.
	Voltage Optimisation – to install c.500 units into our housing stock	2013/14	Completed with limited stock remaining. VO no longer traded. Investigation continue to find residential alternative.	363 installations completed. Unfortunately, supply chain has currently run-dry, but we await update.
Projects cont/d...	EWI – installation to c.82 properties with potential to deliver up to 200 properties by accessing ECO funding.	2013-18	Completed. Specification change to include relocation of gas meters has increased unit rates impacting future rates. Work set to proceed targeting poorest performing assets, or those in the areas of highest deprivation.	489 installations of EWI completed. The most energy inefficient homes are targeted at a rate of approximately 50 installations per year.
	IWI – following	2013-18	Ongoing	No funding

Priority	Proposal	Timescale	2015 Update	2017 Update
	the trial, investigate opportunities to complete the block using ECO funding		review of methodology before committing to programme.	available unfortunately.
Funding Streams – Green Deal/ ECO	<p>ECO - Investigating ECO funding opportunities to deliver EWI, IWI, new boilers, loft insulation and cavity wall insulation</p> <p>Green Deal - Investigate a wider whole city approach to Green Deal and the role the council should play</p>	<p>2013-18</p> <p>2013</p>	<p>None present.</p> <p>Cosy City launched Spring 2014. DECC Greener Communities bid successful Summer 2014. On target to deliver.</p>	<p>We continue to access ECO funding where individual households meet the criteria.</p> <p>The Green Deal was stopped in 2015. NCC successfully delivered 688 measures using the DECC Greener Communities funding.</p>
Collective Switching	Working to promote Norwich Big Switch & Save. Leaflets and advice given when carrying out stock surveys, visits etc. also assisting offline registrants by offering paper-based registration.	2013-18	1500+ residents have successfully switched so far with an average saving of £250. The most successful local authority in the country.	Over 3,000 residents have successfully switched to date with average savings of over £200.
Tackling Excess Cold	To identify privately-owned homes where an excess cold hazard exists and to take appropriate action to remove the hazard. This may include the	Affordable Warmth action plan (ongoing)	38 homes identified and 32 improvement notices served since 2013.	<p>27 improvement notices served and 12 cases resolved informally.</p> <p>(N.B. No council stock homes have</p>

Priority	Proposal	Timescale	2015 Update	2017 Update
	use of improvement notices in the case of privately-rented accommodation and financial assistance for vulnerable owner-occupiers.			failed the HHSRS due to excess cold.)
Private sector housing energy efficiency information	To commission private sector stock condition research to identify the extent and distribution of excess cold hazards, poor thermal efficiency and fuel poverty.	2013-14	Report and stock modelling database received in January 2014.	Completed. Still using BRE 2014 Stock modelling data.
New council homes to achieve high energy efficiency standards	To research and adopt an energy-efficiency design standard for all new council homes.	2013-14		<i>To be updated.</i>
Private sector housing renewals strategy	To introduce a new strategy, based on information provided by the stock condition research, which will address the problem of excess cold and poor thermal performance in owner-occupied and privately rented homes in the city.	2013-15	<p>A number of initiatives and policies have been implemented instead of an overarching strategy which include:</p> <p>Private sector financial assistance policy which has been extended to offer help to private landlords</p> <p>Empty homes</p>	<p>Our private sector financial assistance policy has been extended to offer help to private landlords.</p> <p>Private rented sector Property registration scheme launched (May 2016). Minimum standards are required including energy efficiency.</p>

Priority	Proposal	Timescale	2015 Update	2017 Update
			<p>policy.</p> <p>Private rented sector property registration scheme (launch due 2015) where minimum standards will be required including energy efficiency.</p>	<p>Continue to identify clients, through the council's Home Improvement Team, to help improve their properties.</p> <p>Participating in the corporate strategy team's Lakenham social project, prescribing pilot projects to help identify properties that can be improved.</p> <p>Working with health colleagues across the community and acute services to promote the help the council can offer people living in poorly heated homes.</p>
Building relationships/ changing behaviours	Working to identify opportunities for 'habit discontinuity' where tenants and residents can be encouraged to change their habitual behaviour	2015-16	n/a	Ongoing
	Once 'habit discontinuity' opportunities are	2015-16	n/a	Tenant packs produced. Switch and

Priority	Proposal	Timescale	2015 Update	2017 Update
	identified work to promote energy efficiency and sustainable lifestyle changes when people move home through the use of tenancy packs etc.			save packs produced. One Planet Norwich workstream created and public engagement activities planned and delivered using events and social media.
	To develop an open-homes online network to enable residents to learn from one another on how to improve their home's energy efficiency	2015-17	n/a	NCC became part of the CSE Open Homes network in Summer 2015.
	To raise awareness and encourage skills development in the local construction industry in the green deal and the installation energy savings measures through the council's Cosy City service and other activities	2015-17	n/a	To date 5 NVQ's fully funded with 'Building Futures' via the Cosy City Greener Communities project. The Green Deal is now finished and funding is not available, but we continue to look for future opportunities.
	To implement initiatives to raise awareness and create action at a local neighbourhood level about energy efficiency, managing	2015-17	n/a	The introduction of the One Planet Norwich brand has seen us engage with over 18,000 residents and visitors to Norwich at the

Priority	Proposal	Timescale	2015 Update	2017 Update
	energy use and the benefits of installing renewable energy by providing information, advice and education			first 2 One Planet Norwich festivals, on a range of sustainability issues. We are also promoting the rollout of the Smart Meters and are engaging with tenants at a range of community events in novel ways including 'Energy Efficiency Bingo'. Where budget allows we continue to seek new opportunities to engage with residents and tenants to increase awareness of energy use.
Research/ Projects	Investigating opportunities for heat from rivers via the DECC HNDU project	2015-17	n/a	We have researched this project and been successful in drawing down some funding allow for a scoping exercise to be carried out.
	Investigating the country's first Collective PV auction with switching partner iChoosr.	2015-16	n/a	Successfully delivered nearly 8,000 pv panels. Unfortunately due to reductions in the FIT this

Priority	Proposal	Timescale	2015 Update	2017 Update
				business model is now not commercially viable. We continue to monitor for opportunities and the project is ready to pick up again should the opportunity arise.
	To explore with partner organisations the potential for a district heating scheme for the City and other options for the development of renewable energy for the future	2015-17	n/a	A feasibility study for district heating was completed but it was found not to be viable so this project has been paused.
	To explore the development and delivery of a large scale PV scheme on council housing across the City in consultation with tenants and review other opportunities for micro-generation	2015-17	n/a	A pilot study has been completed. However, with the large cut to the FIT it is not felt to be financially viable. However, we continue to seek further opportunities.
	To ensure the council's private landlord accreditation scheme promotes energy efficiency	2015-16	n/a	
	To continue to lobby OFGEM for a standard for	2015-17	n/a	We continue to lobby.

Priority	Proposal	Timescale	2015 Update	2017 Update
	renewable energy tariffs so that this can be included within the council's switch and save scheme.			
New Homes	To explore the potential use of Passivhaus or Sustainable Homes level 4 for all new build	2015-17	n/a	Planning policy requires all new dwellings to meet CSH4 water and energy. We encourage all developers and Housing Associations to explore energy efficiency options where viable.
	To develop new homes for the City Council that conform to Sustainable Homes Level 4 or Passivhaus	2015-17	n/a	Ten dwellings at Hansard Close are all Passivhaus and due for completion April 2017. 105 dwellings at Goldsmith Street are all Passivhaus and due for completion Summer 2018.
	To ensure the Threescore phase 2 development is planned to provide 75% dwellings to Passivhaus standards			112 of the 172 dwellings at Three Score have been designed to Passivhaus which equates to 65% of the total. Taking into account orientation of the site and financial viability, this

Priority	Proposal	Timescale	2015 Update	2017 Update
				was the highest percentage possible for Passivhaus dwellings at this location
Affordable Warmth	To continue to deliver an affordable warmth strategy and programme to reduce fuel poverty and increase wellbeing	2015-17	Ongoing	Second Affordable Warmth Strategy published. Programme of fuel poverty reduction and warm and well work planned. 11 th tranche of the Big Switch and save completed with more tranches planned for the future.

Section 10: Future Actions:

We are proud of the progress we have made so far in reducing both Norwich's carbon emissions and the level of fuel poverty in the city and we are committed to continuing this valuable work in the future. However, we recognise that we need to be realistic and understand that we are operating in times of financial insecurity where future funding streams are not guaranteed. Whilst we continuously seek new opportunities we cannot be complacent that current funding streams will continue to be available to us. We therefore present our aspirations for the future, but are mindful that these may need to be adapted, in order to reflect future available resources.

Future Action	Timescale
Supporting the rollout of Smart Meters in the city	2017 onwards
Digital inclusion project – enabling residents to make use of lower energy tariffs and deals via online billing	2017 onwards
Council vehicle fleet refresh and reduction	2017 and reviewed regularly
Continue to utilise available ECO funding	Ongoing
Working with other local authorities to deliver collective energy switching across Norfolk	Ongoing
Investigating the feasibility of running a White Label energy company	2017 onwards
Working with vulnerable residents to assist them to get the best energy deals, even on pre-payment meters	Ongoing
Organising warm and well workshops with stakeholder professionals to discuss best practice	Ongoing
Seeking new ways to effectively engage with the public re: energy reduction	Ongoing
Seeking new funding opportunities for energy reduction projects	Ongoing
We're looking at opportunities to develop further sites ourselves or in partnership with developers and Housing Associations where we will encourage high levels of energy efficiency in new dwellings, where financially and geographically possible	Ongoing