THE ENGLISH ENERGY CONSERVATION AUTHORITIES ISSUED PURSUANT TO THE HOME ENERGY CONSERVATION ACT 1995:

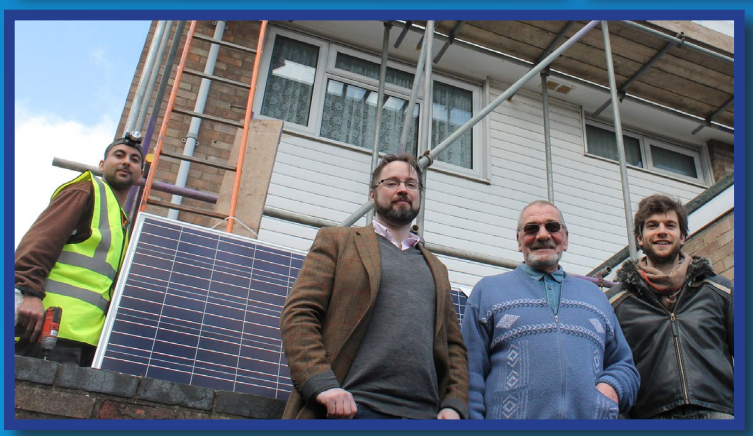
www.oxford.gov.uk

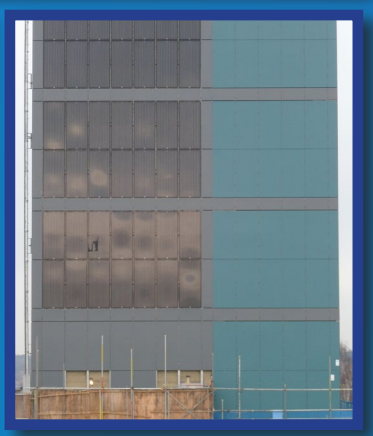
OXFORD CITY COUNCIL

REPORT ON FURTHER PROGRESS

for OXFORD CITY COUNCIL

31 MARCH 2017





This page has been left intentionally blank

Contents

EXECUTIVE SUMMARY

SETTING THE SCENE

Whilst generally perceived as an affluent city, Oxford has a high proportion of private rented properties and also ten of the most deprived areas in the country. With high housing costs, Oxford is often named the least affordable UK city. Unsurprisingly then, in 2014, 6840 Oxford households (11.9%) were estimated to be in fuel poverty, which is above both the national average (10%) and the figure for the Southeast (8.3%).

The City Council has a long history of reducing carbon emissions (and energy) in its own estate and operations. Also core funded and coordinated by the Council is Low Carbon Oxford, a network of over 40 diverse organisations based in Oxford all working together to reduce carbon emissions in Oxford towards the city target by 40% by 2020.

FUEL POVERTY TARGETING AND DATA WORK

Concerns about the appropriateness of the government's fuel poverty indicator for Oxford resulted in an 'Oxford composite indicator'. This increased internal knowledge of the data related issues but didn't find a failsafe methodology for targeting Oxford's fuel poor.

Therefore, Oxford City Council joined the EDIS research project in 2016, working with Ricardo on an data platform that integrated a range of different Council held data and Council licensed data such as Energy Performance Certificates (EPCs). This is shortly due to provide two shortlists of properties at risk of fuel poverty and highly likely to be eligible for the Energy Company Obligation (ECO) funding out in April 2017.

UTILISING GOVERNMENT GRANTS AND FUNDING FOR ENERGY EFFICIENCY

From the early years of Green Deal funding, the Council has tried to access government and other funding as appropriate for energy efficiency and energy generation projects. Over the past four years, the Council has accessed £761,918 worth of funding through a variety of projects, £397,918 of which is Green Deal or ECO related. These include Warming Barton (free external wall insulation for 18 homes in a deprived area), and insulation programmes on its own housing stock. Ongoing are heating and insulation measures for vulnerable homeowners, and the Council continues to engage with energy suppliers to improve the situation for the fuel poor of Oxford.

Oxford numbers of Feed in Tariffs properties are generally lower than comparator areas, however, the subsidy is welcome and has been utilised by the Council for a range of domestic and non domestic PV projects including around 100 installations on our housing stock.

IMPROVING THE PRIVATE RENTED SECTOR AND THE LINKS WITH HEALTH

As recommended in the National Institute for Clinical Excellence (NICE) guidance, agencies such as our Affordable Warmth Network offer a single point of contact for people worried about energy bills. The Better Housing Better Health project, coordinated by the National Energy Foundation, took health referrals for respiratory and cardiovascular patients to improve their homes and is an illustration of a joint project to tackle the links between cold, damp housing and health. The current Local Energy Advice Project (LEAP) project builds on the referral links built by offering an holistic home visit, small repairs, income maximisation and energy efficiency measures to improve homes for the ill and vulnerable The Council's Home Improvement Agency manage a number of energy efficiency related grants and installer routes for vulnerable clients.

By using the Housing Health and Safety Rating System (HHSRS) and Houses in Multiple Occupation (HMO) licensing system, the Council checks rented properties rated F or G on their energy performance certificates (EPC), and requires landlords to make improvements where necessary. This has improved around 100 properties so far. Other work to improve the private rented sector includes regular events and communication on the Energy Act requirement for private rented properties to be E and above in their EPCs from April 2018) and the promotion of grants including the Council's own (Ebico funded) Private Rented Energy Efficiency Grant. Thermal imaging has also been offered to landlords to understand their heat loss over the past three winters.

THE COUNCIL'S OWN HOUSING STOCK

A range of work including domestic solar PV, external wall insulation and large scale cavity wall insulation, was carried out in the Council's housing stock prior to the government's policy changes when budgets for this work had to be reduced. Current projects include large scale tower block retrofits (improving the thermal envelope of the buildings as well as windows and ventilation). Standard work programmes include loft insulation, and new boilers programmes to replace existing old gas boilers and for tenants currently on electric heating.

Offering advice on energy bills and tariffs, energy efficiency in the building and also simple energy saving behaviours, the Council's energy advice officers have visited 1538 properties (and attempted to visit another 1380). Tenants will have saved around £113,000 and additionally 57 have benefitted from the detailed financial advice and debt support after referral to the Citizens' Advice Bureau. General support on energy issues via training sessions for frontline workers has also been rolled out to ensure energy is considered and understood across the teams dealing with our tenants and our housing stock.

INTRODUCTION

BACKGROUND

Under the Home Energy Conservation Act 1995, local authorities are required to consider measures to improve the energy efficiency of all residential accommodation in their areas, although they are not required to implement any measures. The new reporting requirement in 2013, under the revived HECA, recognises local authorities' unique role and their ability to assess the needs of their areas and local residents. The resulting ability to instigate improvements in the energy efficiency of all residential accommodation is required to be summarised in a series of biennial "further reports", the first of which Oxford completed for the end of March 2013. This report is the third in the series, reporting on activity since end March 2015 and completed for the end of March 2017.

THE NATURE OF OXFORD AND HOW THIS FOCUSES THE COUNCIL'S APPROACH

Whilst Oxford can broadly be perceived as a healthy, relatively wealthy part of the country, this report will illustrate the issues and deprivation found at a more localised level. Oxford has 13 areas which are among the 25% most deprived areas in England. Four of these areas are in the 15% most deprived and one area in Rose Hill and one area in Northfield Brook are among the 10% most deprived. Aligned with this are geographical inequalities in life expectancy - men from the least deprived areas can expect to live 9.7 years longer than those in the most deprived areas, women 3.3 years longer (2012-2014).

In 2015 the average (median) house price in Oxford was £350,100, a rise of £35,100 since 2014. The median price for a detached house was £705,000, for a semi-detached house £382,500, for a terraced house £365,500 and for a flat £262,000. At the lower end of the market, house prices are more than ten times earnings. As a result Oxford is often named the least affordable UK city for housing. The percentage of households who own their home is relatively low in Oxford – 47% compared to 63% in England.

Although rental prices are still high, house sale prices and the high prevalence of a transient population means that Oxford has a very high proportion of private sector rented homes – 28% compared with 17% in England.

Both deprivation and private sector rented housing are aligned with a high frequency of poor energy efficiency, fuel poverty and poor health outcomes, so they are therefore key targets of the Oxford HECA approach, amongst broader aims and projects.

[1] https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015

[2] www.oxford.gov.uk/oxfordstats

1. LOCAL ENERGY EFFICIENCY AMBITIONS AND PRIORITIES

Oxford City has committed to Climate Local and has also signed up to the Local Authority Fuel Poverty Commitment.

Oxford City Council has successfully implemented Carbon Management Plans for its own estate and operations since 2008/09, implementing measures calculated to reduce CO2 emissions by over 5000 TCO_2 per year by 2015/16. The current Plan continues with the 5%/year minimum carbon reduction target through implemented measures and using its control and influence over the 5 years to end 2021/22.

In terms of city wide carbon targets, Oxford City Council committed to a reduction in carbon emissions from 2005 to 2020 of 40%. We also signed up to the Covenant of Mayors representing a 2020 reduction by 20% and 40% by 2030 from 2005. Back in 2005, Oxford had over 1 million TCO2 and 140,000 residents. However, carbon emissions have reduced to 700,000 TCO_2 in 2014 despite a large increase in population – the city had 158,000 residents in 2016 as illustrated in Figure 1.

Figure 1: 2016 Population growth, students and ethnic minorities

To achieve this, Oxford City Council core funds and coordinates Low Carbon Oxford, a network of over 40 diverse organisations all working together to reduce carbon emissions in Oxford by 40% by 2020. A Steering Group which includes representatives from five Pathfinder organisations meets several times a year. Low Carbon Oxford brings together organisations from the private, public and not for profit sectors to transform Oxford into a sustainable and inclusive low carbon economy. Members achieve this by managing their own carbon footprint, sharing best practice, hosting events on the latest developments and opportunities for smart and sustainable cities, and working together on city-wide projects to reduce carbon emissions beyond their own estate.

2. BACKGROUND DATA ANALYSIS

2.1 CO2 EMISSIONS

Carbon emissions per capita are relatively high in Oxford compared to its comparator areas, the South East and the UK (see Figure 2)

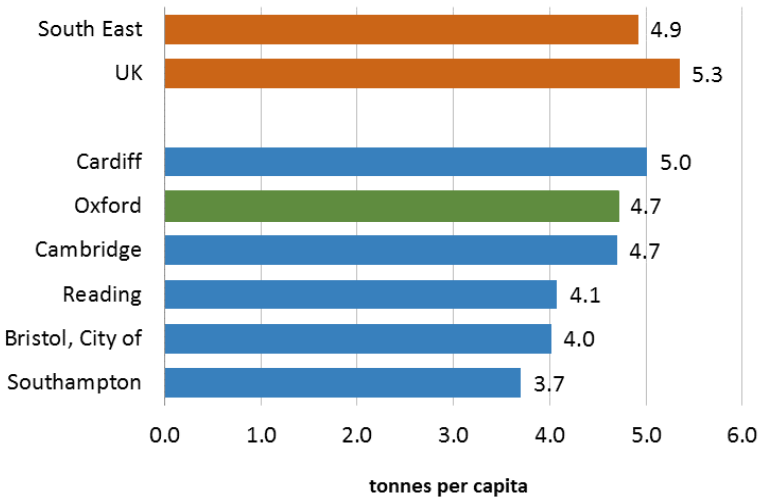


Figure 2: Total carbon emissions – tonnes per capita 2014

This is due to the high per capita industrial and commercial emissions as illustrated in Figure 3 below.

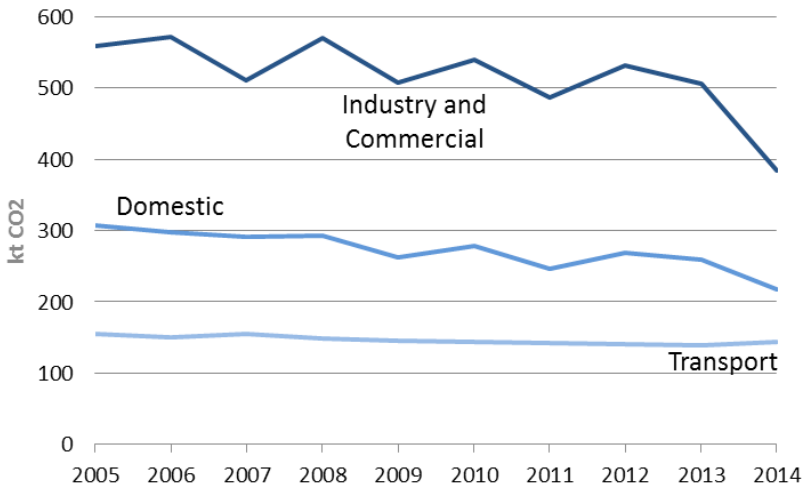


Figure 3: Oxford's total CO2 emissions split into key categories, 2005-2014

However, carbon emissions from domestic households in Oxford are lower per capita than the national average, and similar to its comparator areas. From a starting point of 307 kt Co2 for all Oxford homes in 2005, they have fallen to 217 kt in 2014, representing a reduction of around 30%.

This is illustrated in Figure 4.

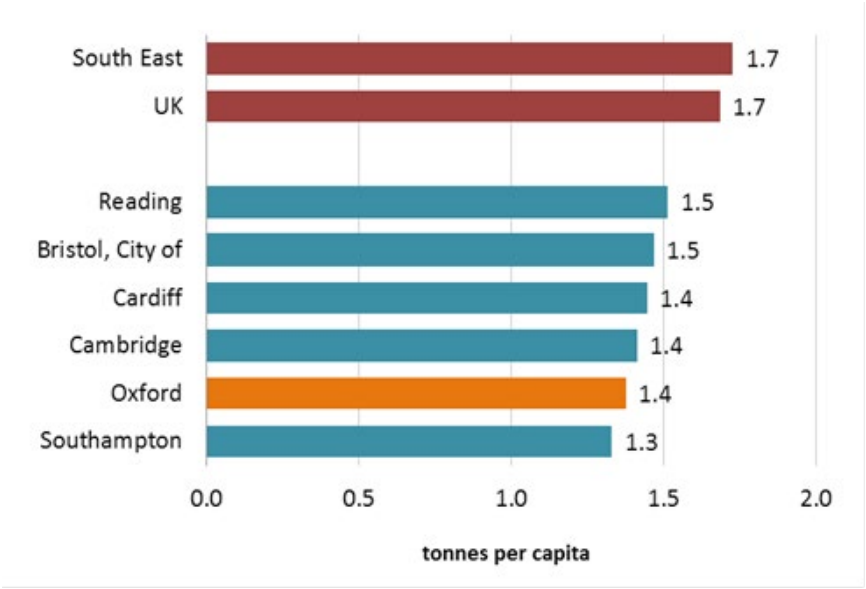


Figure 4: Oxford's domestic CO2 emissions 2014

2.2 ENERGY DATA

Electricity

Domestic electricity consumption per consumer has declined since 2005, as it has across Great Britain. For most of this period domestic electricity consumption in Oxford has been below the national average, but in 2015 it was just above. Oxford is at the high end compared to other comparator areas, but the difference between the areas is relatively small, as figure 5 shows: -

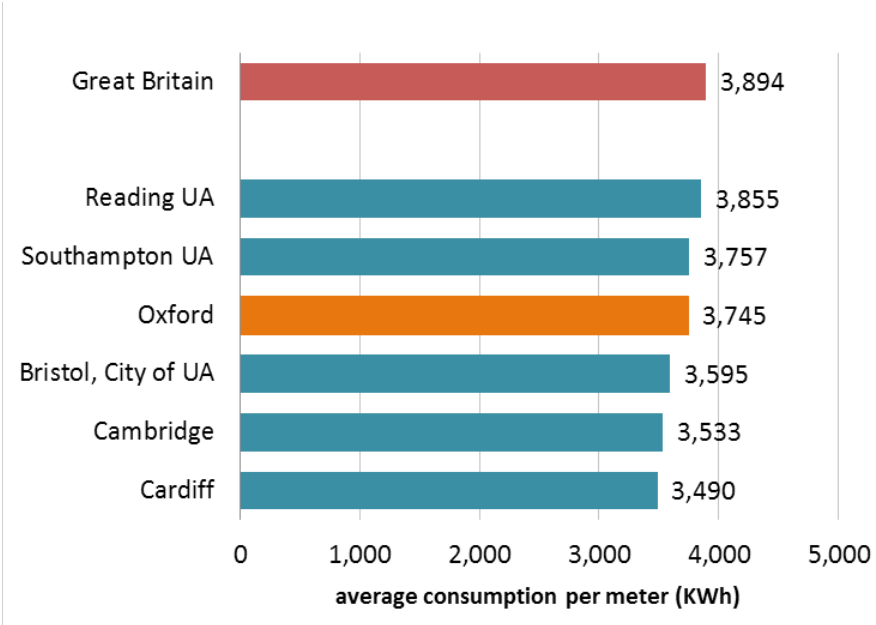


Figure 5: Domestic Electricity Sales per Consumer (KWh) 2013

Average domestic electricity consumption varies significantly across different areas of the city.

In 2015 the highest average consumption was 5,559 KWh per meter in the St Margaret's area of North Oxford, compared to the lowest average consumption of 2,922 KWh per meter in the St Clement's area of East Oxford. The highest consumption areas tend to be in the North of the city around the Banbury and Woodstock Roads illustrated in the map below (Figure 6).

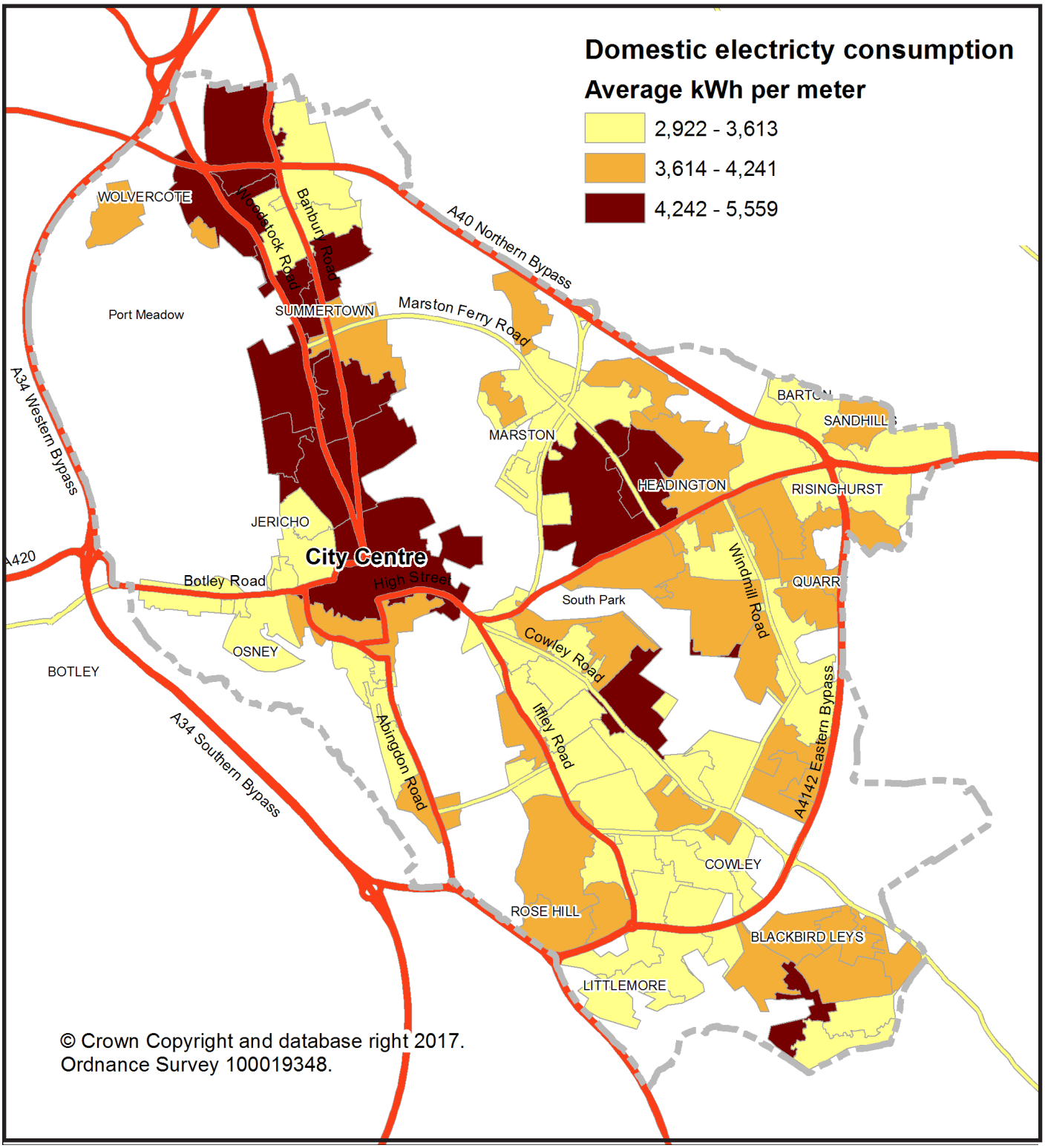


Figure 6 Mapped domestic electricity consumption 2015 – average kWh per meter

Gas

Domestic gas consumption is very similar to the national average, which has fallen over the period 2005-2015 as shown in Figure 7.

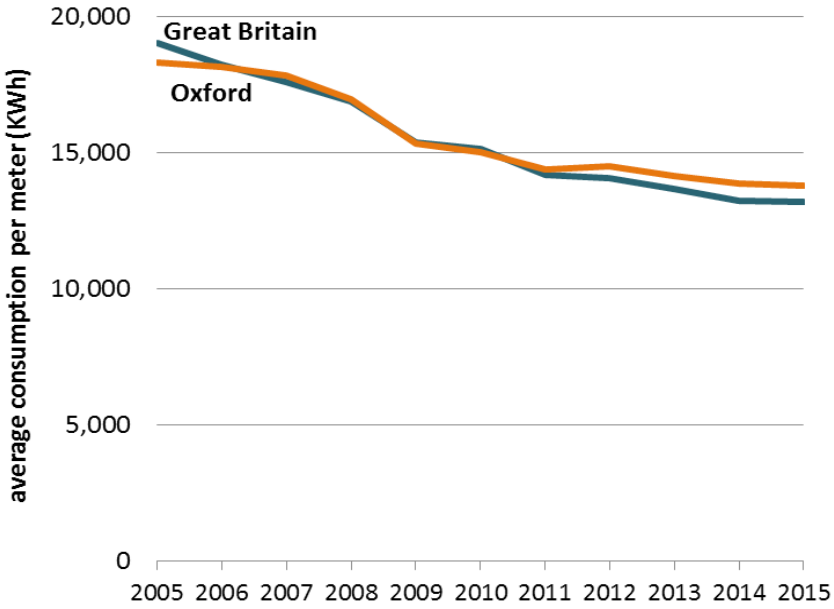


Figure 7 - Domestic Gas Sales per Consumer (KWh) 2005-2015

Figure 8 illustrates that domestic gas sales per consumer in Oxford are higher than all other comparator areas. This could be due to differences in household size and type.

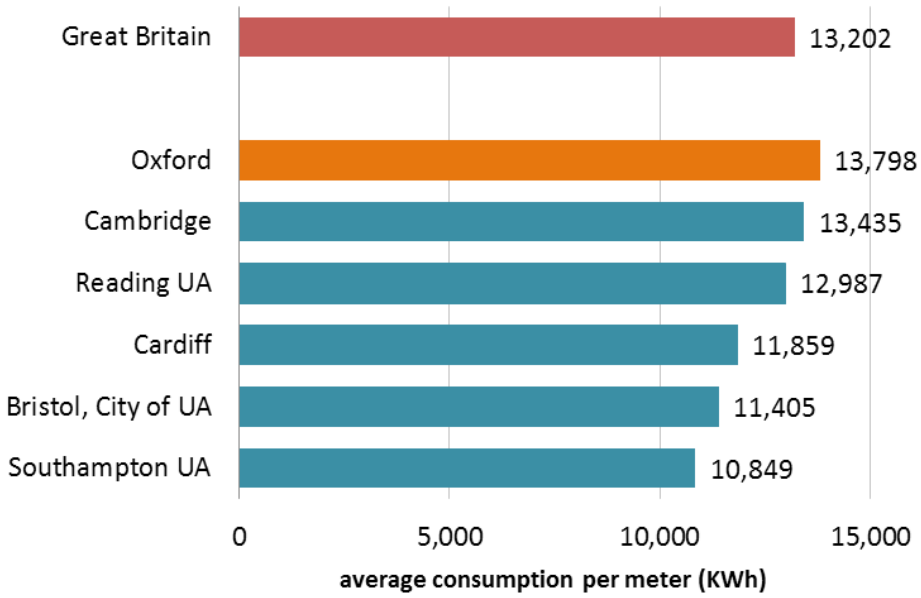


Figure 8: Domestic Gas Sales per Consumer (KWh) 2015

Domestic gas consumption is also taken from actual meter readings and also varies significantly across different areas of the city with high and low areas being similar to those for electricity. In 2015 the highest average consumption was 24,993 KWh per meter in the same St Margaret's area of North Oxford, whereas the lowest average consumption was just 8,933 KWh per meter in the Greater Leys area of the city. (See Figure 9 overleaf).

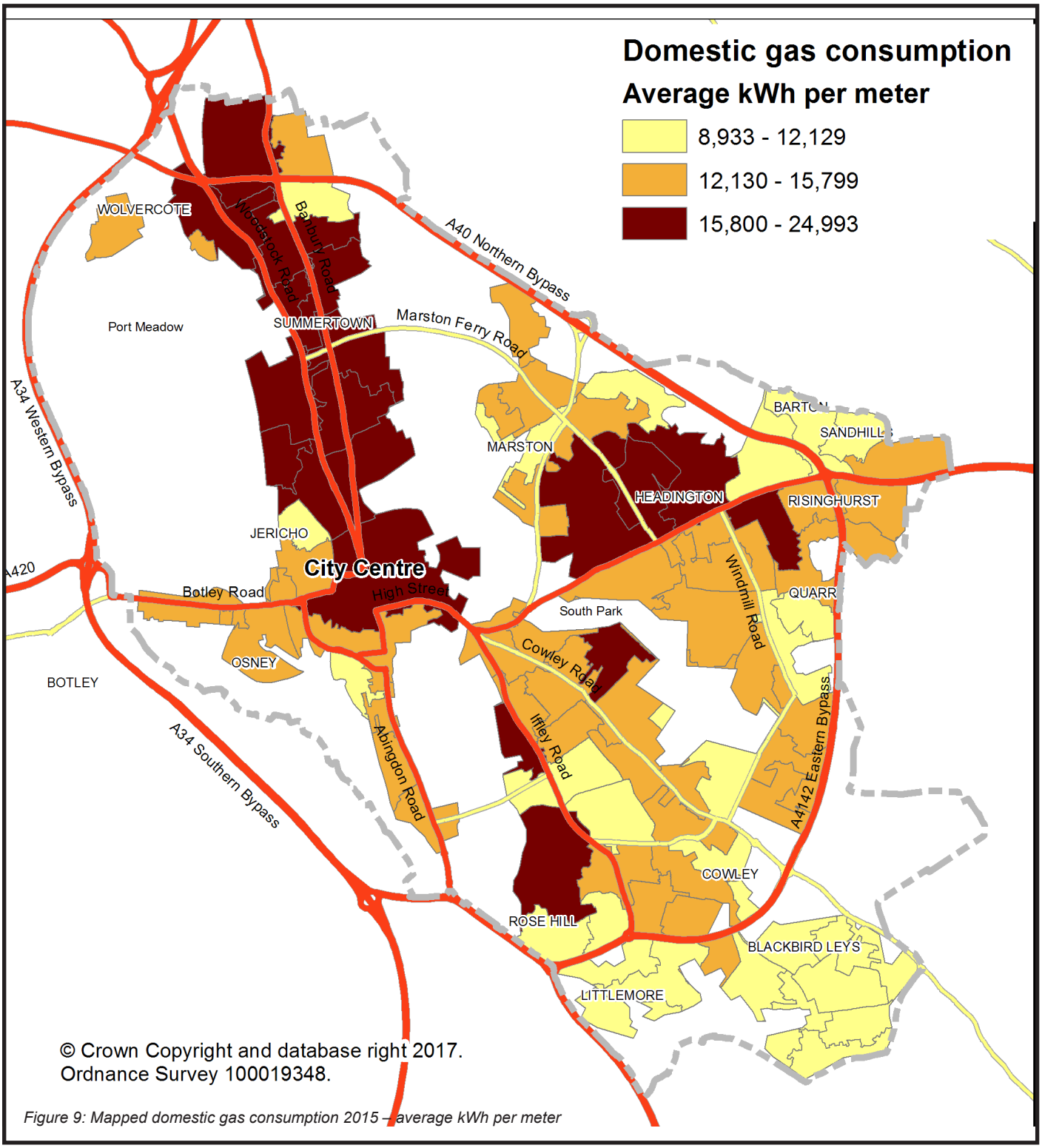


Figure 9: Mapped domestic gas consumption 2015 – average kWh per meter

2.3 CONTEXT OF FUEL POVERTY WORK

2.3.1 Pockets of deprivation and mortality

Oxford has ten lower super output areas which are among the 20% most deprived areas in England. Of these, two are in Rose Hill and Iffley, three in Northfield Brook, three in Blackbird Leys and two in Barton and Sandhills. Two of these areas, Rose Hill and Iffley and Northfield Brook are in the 10% most deprived. Aligned with this are geographical inequalities in life expectancy - men from the least deprived areas can expect to live 9.7 years longer than those in the most deprived areas, women 3.3 years longer (2012-2014).

This highlights an issue for Oxford – whilst overall averages are often good, there are a number of severely deprived areas where the life and health outcomes are very different. The below map (Fig 10) indicates this by showing a range of deprivation levels across the city.

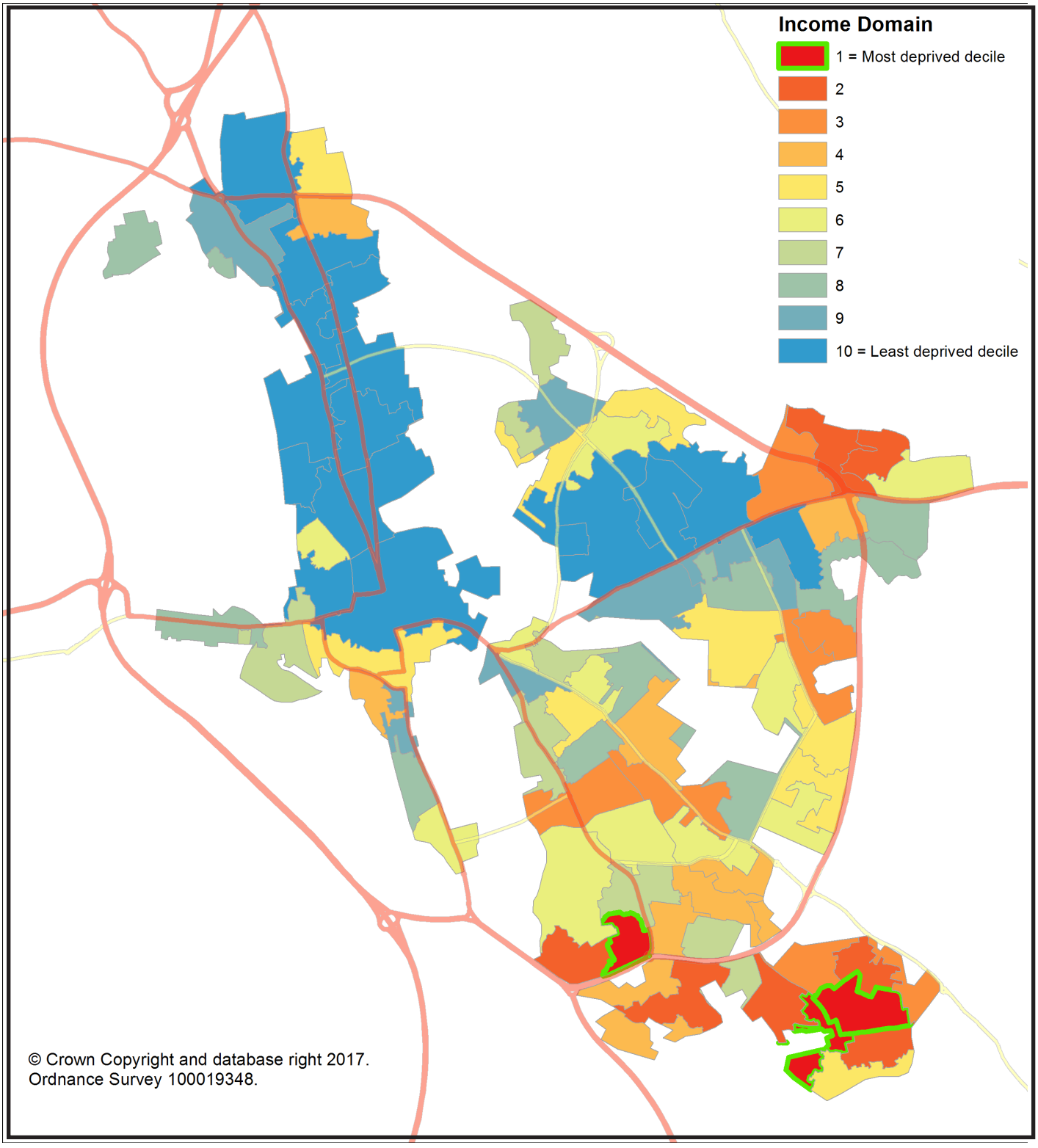


Figure 10: English Indices of Deprivation (2015), Income Deprivation Domain

2.4 PAST AND CURRENT FUEL POVERTY WORK

2.4.1 Fuel poverty data and indicators

Under the new Hills definition of fuel poverty (the Low Income High Costs), a household is considered to be fuel poor if:

- they have required fuel costs that are above the national median (high fuel costs), and
- were they to spend that amount, they would be left with a residual income below the official poverty line, equivalised and after housing costs (low income).

According to the latest 2014 estimates, 6840 Oxford households live in fuel poverty based on the LIHC definition. This represents 11.9% of households across Oxford, which is above the national average (10%) and the figure for the Southeast (8.3%). The proportion of households living in fuel poverty by the new LIHC definition fell slightly between 2011 and 2012 as shown in Table 1 below:

	Number of households in fuel poverty				Percentage of households in fuel poverty			
	2011	**2012**	**2013**	**2014**	**2011**	**2012**	**2013**	**2014**
Low Income High Cost	7,616	6,851	6,804	6,840	13.3%	12.4%	11.9%	11.9%

Table 1: Oxford households living in fuel poverty 2011 - 14

The LIHC Fuel Poverty picture in Oxford reveals a wide variation in incidence at the Lower Super Output Area level with a maximum of 29.1% (part of St Mary's) and minimum of 2.1%. (2014). Figure 11 below also maps this against the IMD low income data showing a disparity between low income and fuel poverty areas.

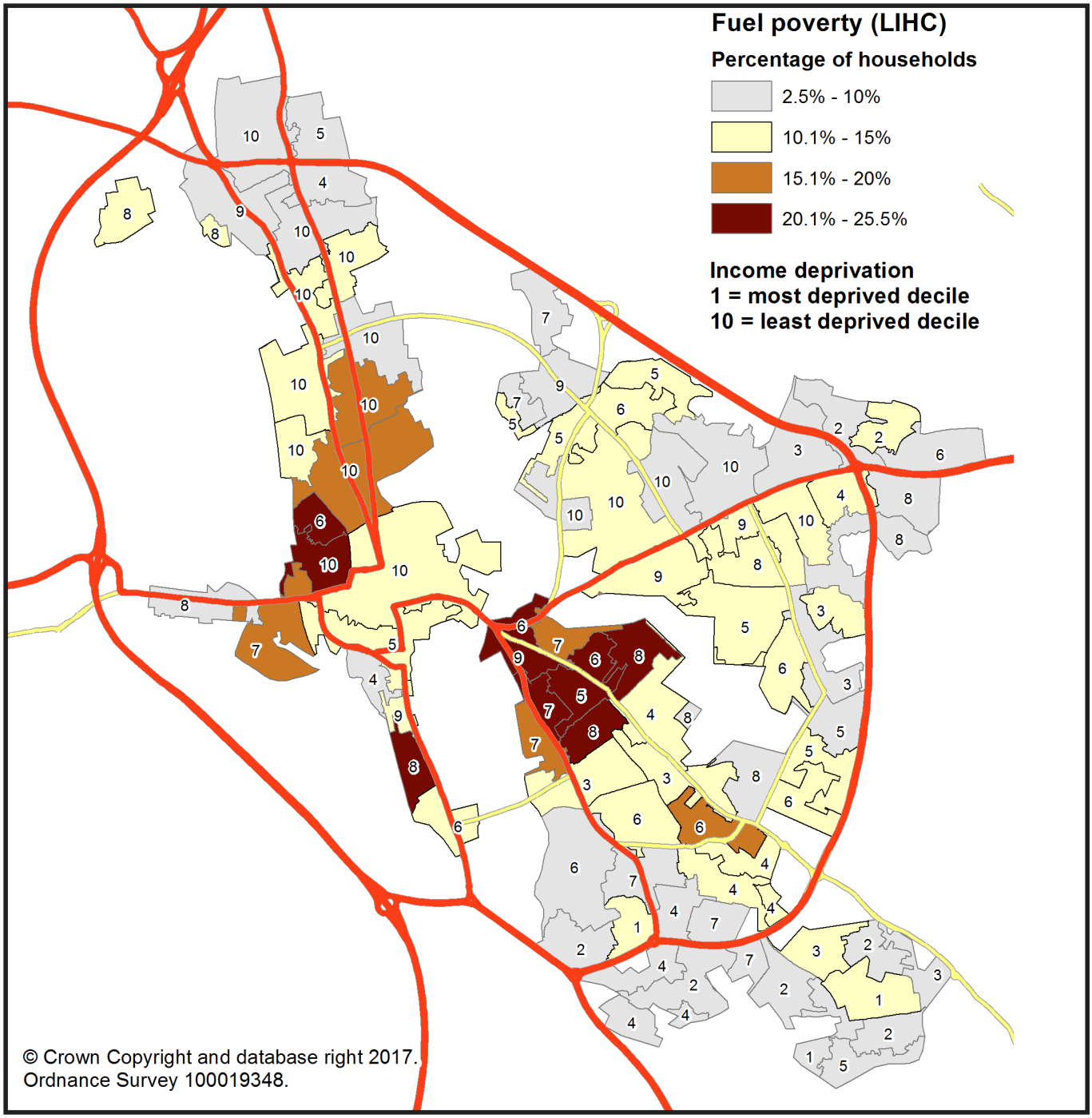


Figure 11: Proportion of households in fuel poverty by LIHC definition mapped against IMD deprivation decile, Oxford 2014

2.4.2 Oxford's composite fuel poverty indicator

For a number of years DECC/BEIS has published estimates of fuel poverty at LSOA level to support the targeting of area-based interventions. Concerns about the appropriateness of these for Oxford's specific circumstances, such as the fact that one quarter of Oxford's adult population are students and there is the highest proportion of private rented homes in the country, resulted in us drafting our own indicator.

This work on this indicator in 2013, takes into account the Low Income High Cost indicator, census data and actual gas use data in determining the make-up of the 'Oxford Fuel Poverty Composite indicator'.

However, due to the imminent release of a more updated EPC data set and planned discussions with BEIS, the Council excluded energy efficiency, concentrating instead on energy (gas) use. Whilst a useful exercise, there was little confidence in this indicator.

2.4.3 Energy Data Integration Service (EDIS)

Therefore, addditional analysis and development was needed before the Council could feel confident enough to target fuel poverty at a geographical level. Oxford City Council joined the EDIS project which is Innovate UK funded and managed and developed by Ricardo.

This project involves the producation of a data platform that integrated a range of different Council held data and Council licensed data. It includes property, benefits and council tax data from councils, Ordnance Survey data, and Energy Performance Certificate data. Property addresses eligible for ECO3 Flexible Eligibility and General Funds will be targeted via the filtering within this data platform. Two shortlists will be produced, one for ECO3 general and one for ECO Flexible Eligibility funding streams, using different filters to identify sub-groups of properties where the occupants may be experiencing fuel poverty or may be vulnerable to the effects of a cold home.

This data used can help target households who are on low income who have high energy costs in their home, as guided by the government's fuel poverty strategy and funding requirements for both Flexible Eligibility and General ECO funding streams. The hope is to also include some Energy Company data.

2.4.4 Health data

Oxfordshire's Public Health Improvement Board have a outcome measure looking at fuel poverty indicator but also a number of building based interventions which have positive impact on addressing fuel poverty, including boilers installed and insulation. The most recent data can be found here and includes the work of the Private Sector Safety team and the Home Improvement Agency. For the most recent financial year, the figures are in Table 2 below:

Local Authority	Total
HHSRS excess cold resolved	65
HHSRS damp and mould resolved	64
HMO Licence conditions for EPC complied with	37
Boilers installed	12
More efficient heating system	2
Loft Insulation	5
Cavity wall insulation	1

Table 2: Work carried out by Oxford City Council 2016-17 and reported to HIB as of March 2017

The Council is also supporting colleagues in the County Council in providing information and guidance for the Members of the Health Improvement Board via a workshop to determine future strategic aims for the Affordable Warmth Network

[4] http://mycouncil.oxfordshire.gov.uk/documents/g4619/Public%20reports%20pack%20Monday%2002-Feb-2015%2013.00%20Health%20Improvement%20Partnership%20Board.pdf?T=10

2.4.5 Providing funding/signposting to funding to Oxford residents

Funding and advice via the Affordable Warmth Network

Along with all other Oxfordshire Councils, the Council funds the National Energy Foundation to run the Affordable Warmth Network. This service provides a central helpline, advice and referrals to funding for energy efficiency measures, advice on switching energy suppliers and energy saving, and outputs are in Table 3.

Work Streams	Measure installed/ pending*	Funding Criteria	Referrals for Measure	Role of the Council
Calls to hotline	Referrals to service, advice on energy bill realted issues	N/A	226 calls	Promotion
Cavity and loft insulation	Referrals to insulation provider	ECO	9 installed	Promotion
Boilers	6 installed	Certain benefits - HHCRO	6 installed	Promotion

Table 3: Energy efficiency measures accessed and referrals via Affordable Warmth Network for 1 year

A number of other financial incentives and grants (including all tranches of the Green Deal Home Improvement Fund and ECO) have been promoted to residents and landlords – information is promoted to community groups and residents and kept current on the website www.oxford.gov.uk/energygrants

The Environmental Development department is using the Housing Health Costs Calculator to build on existing work quantifying the savings to the NHS made from HHSRS inspections and enforcement.

2.4.6 Fuel poverty – Projects aimed at vulnerable people

The types of people most likely to suffer from negative health effects of fuel poverty are the elderly, infants, disabled people and those living with long health conditions.[5]

Home Improvement Agency (HIA)

The Council's HIA works with some of the most vulnerable residents in the city. They provide energy efficiency funding or loans under the subsidised Small Repairs Service (draught proofing, thermostatic radiator valves and hot water cylinder lagging etc), Essential Repair Grants and Flexible Home Improvement Loans schemes. For three years, they have administrated a small Council funded fuel poverty grant, checking eligibility and aligning with other available funds where possible for additional support on basic insulation and boiler repair and/or replacement measures. The aim is for the additional funding to help those struggling to stay warm to get the measures installed that will help them.

[5] https://www.gov.uk/government/publications/final-report-of-the-fuel-poverty-review

Over the last two years, the Council's £20K per annum fuel poverty grant has had a primary aim to maximise value by levering in external funding for energy efficiency and heating measures. This Winter Warmth grant offers £500 for energy efficient boilers, £250 for cavity wall insulation and £200 for loft insulation for vulnerable persons meeting certain income or age criteria in the private sector. Projects such as Better Housing Better Health and the British Gas boiler scheme enabled the Council to 'top up' funding to provide free measures to vulnerable tenants: Table 4 shows

Sector	Numbers of measures installed/ pending* (cavity wall/loft insulation, boilers/electric heating installs)	Council funding used (£)	Approximate funding levered in (£)
Home Owners	19 – 2016 /17	£13,990.22	£25,732.37
	22 – 2015 /16	£19,604.60	n/a

Table 4: OCC Fuel poverty grant measures installed and levered in funding for 2015/16 and the first 3 quarters of 2016/17

**All statistics are subject to final confirmation due to the timing of this report/end of the financial year- we will update this report in May 2017 with final figures*

Better Housing Better Health (BHBH)

Funded by energy company penalties and managed by National Energy Foundation (NEF), this 2016 project enabled councils in Oxfordshire to target residents at high risks of health impacts of cold homes - those with respiratory and cardiovascular illness. Councils provided HHSRS home visits, while £2500 per home funding for energy measures such as boiler installations, double glazing and insulation, and financial support (from the Citizens Advice Bureau (CAB)) was made available by the BHBH project. In most instances, the Council topped up the grant with the Winter Warmth grant to ensure full measures were installed, as illustrated in Table 5.

Full Heating System	Boiler/heating controls replacement	Mould removal, fans etc	Replacement doors/ glazing	Other	Referred to CAB	HHSRS visits
3	2	2	4	2	19	14

Table 5: Outputs from Better Housing Better Health project

This project was targeting health improvements. Overall (including Buckinghamshire and Oxfordshire), some of the relevant outputs are shown below:

Keeping Kids Cosy

Under the Affordable Warmth Network, National Energy Foundation (NEF) recently obtained funding for Keeping Kids Cosy, aimed at families with children under 5 and (in addition to calls to the helpline), resulting in:

- 10 Events—Around 250 residents given face to face advice
- 15 House-Warming Hampers (worth £100 including simple energy saving measures)
- 9 households referred to heating/insulation schemes

Local Energy Advice Project (LEAP) project

From January 2017, the Council is in partnership with Agility Eco to provide a comprehensive fuel poverty reduction service providing the following free of charge:

- home visit providing heating control training, installing simple measures, energy efficiency advice
- income maximisation advice
- insulation and other equivalent measures where funding is available
- referrals to other services relevant to health or other issues found.

Targeting some of the most vulnerable residents; those on low incomes, suffering from ill physical or mental health, this service is holistic and the aim is to support 60 residents by June 2017 with the intention of continuing for another five years.

More information is available at https://www.projectleap.org.uk/ and outputs so far are detailed in Table 6 below.

As of 17th of March 2017 -Totals	Totals	Jan	Feb	Mar
Referrals received	**29**	4	11	14
Eligibility phone calls completed	**28**	3	11	14
Applications cancelled	**4**	-	2	2
Home visits booked	**24**	-	9	12
Home Visits Basic completed	**17**	-	11	6
Home Visits extra time completed	**12**	-	7	5
IncomeMax referrals made	**8**	-	4	5
Heating controls installation	**-**	-	-	-
Draught excluders - windows	**1**	-	1	-
Draught excluders - doors	**-**	-	-	-
Draught excluders - letter box	**1**	-	-	1
Cylinder jackets	**-**	-	-	-
Pipe lagging	**-**	-	-	-
LED Lightbulbs	**45**	-	18	27
Shower aerators	**-**	-	-	-
Radiator Panels	**22**	-	18	4
TV Standby Plug	**8**	-	1	7

Table 6: LEAP project outputs as of 20 March 2017

2.4.7 A strategic approach to Fuel Poverty

Rather than having a fuel poverty strategy, the Council has incorporated its approach to fuel poverty into the Financial Inclusion Strategy to bring together building based actions with those that maximise income. The actions outlined in this HECA report are primarily reported and included in this document which is available online at

http://www.oxford.gov.uk/PageRender/decCD/Policies_and_Plans_occw.htm

Fuel poverty is also the key driver in the Council's draft Asset Management Strategy, under consultation. This incorporates the Council's own housing stock and states:

"Fuel poverty is the ability of residents to afford to heat their homes. Three major things have an impact on this: energy prices, the income of tenants and the energy efficiency of the home. In this strategy, the Council is prioritising the energy efficiency of its properties in order to increase resilience of tenants against the other two factors."

Under this an Energy Strategy has been produced. More detail is in the Council Housing Stock section of this report.

3. UTILISING GOVERNMENT FUNDING

3.1 GREEN DEAL AND ECO

3.1.3. Green Deal and ECO in Oxford and related work

The Warming Barton project trialled a community model for carrying out external wall insulation on a number of difficult system build properties in a deprived area, Barton. 18 properties have been insulated under this project. The overall project cost was £129,530 with £57,918 being accessed via ECO funding and £12,000 via the Green Deal Home Improvement Fund in addition to significant investment from Oxford City Council and the Low Carbon Hub. A lower number of properties were insulated than planned due to changes in the ECO funding half way through the project which had a devastating effect on project funding.

The OxFutures programme, led by Oxford City Council, Oxfordshire County Council and key delivery partner, social enterprise, Low Carbon Hub, was funded by a £850,000 grant from Intelligent Energy Europe to deliver around £18 million of investment into renewables and energy efficiency in Oxfordshire by 2017. At the end of the project:-

- 9 MW of renewable energy has been provided in Oxfordshire
- £14 million of renewable and energy efficiency projects have been directly delivered
- Another £12 million of projects are identified in the project pipeline.
- Savings made equate to 3500 tonnes of CO2 per year

Over years covered by this HECA report (i.e from 2015 to 2017), Table 7 shows what has been carried out by Oxford City Council.

Work and No. of Properties	Funding brought in	Funding Stream
Warming Barton - 18 External Wall insulations	£ 57,918 £ 12,000	ECO Green Deal HIF
External Wall insulation – 80 properties	£ 124,000	Green Deal HIF (capped) ECO
Cavity Wall insulation – 200 properties	£ 100,000	ECO, CSCO/CERO
Solar PV instalations -70	£ 172,500	Feed in tariff projected + tenant savings
Moixa battery and LED lighting - 30	Approx. £ 60,000	Innovate UK
Gas install to meter point	£ 84,000	Help to heat SGN
Free boiler installs	£ 20,000	HHCRO
Free energy monitors	£66, 500 equivalent	British Gas
Funding for private rented energy efficiency measures	£ 35,000 £ 30,000 (est.)	Ebico Charitable Trust Landlords Contribution
Total	£ 761, 918	

Table 7: Energy efficiency measures or products accessing funding

3.2 INSULATION SCHEMES ACROSS OXFORD

3.2.1 Energy Company Obligations (ECO) measures

Between January 2013 and September 2016, there have been a total of 2,113 ECO measures installed by ECO obligation in Oxford. More than half of the measures in Oxford have been under the CERO obligation. These are shown below in Table 8, with comparator areas and also in Figure 12.

Administrative Area	Carbon Saving Target (CERO)	Carbon Savings Community (CSCO)	Affordable Warmth (HHCRO)	ECO measures installed
Great Britain	**829,668**	**482,686**	**665,149**	**1,977,503**
Cardiff	4,807	3,005	5,170	12,982
Bristol	3,688	3,664	2,327	9,679
Southampton	4,409	2,695	1,099	8,203
Reading	2,059	502	550	3,111
Oxford	1,184	582	347	2,113
Cambridge	1,099	276	169	1,544

Table 8: Provisional number of ECO measures installed by administrative area up to end September 2016

The Council is currently working on using council data in the EDIS data platform to target future ECO measures across Oxford, and compiling its Flexible Eligibility Statement of Intent as well as targetting 'General' eligibility.

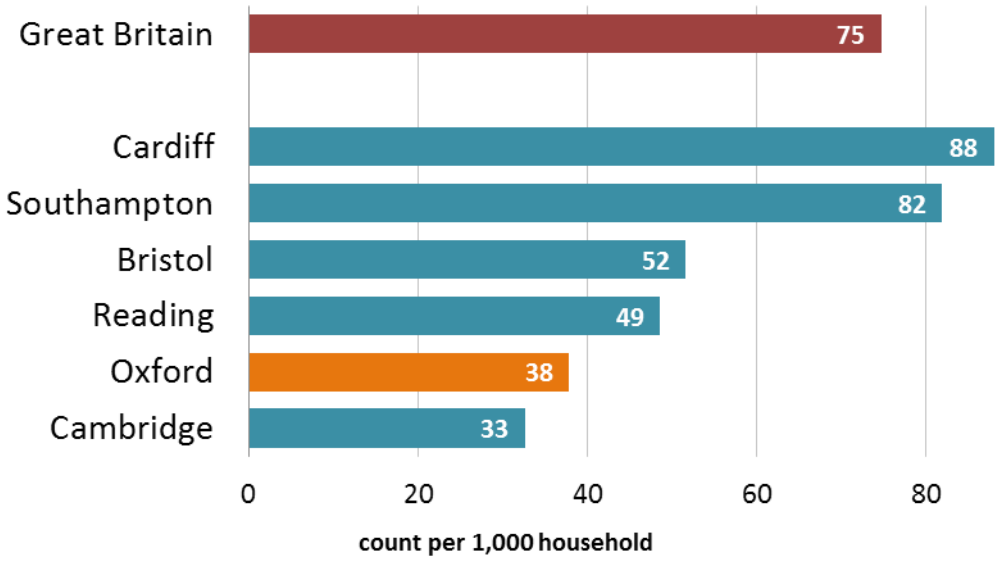


Figure 12: Provisional number of ECO measures installed per 1,000 households by administrative area up to end September 2016

3.3 FEED IN TARIFFS SCHEME (FITS)

FIT data relates to domestic solar photovoltaic installations which come under the Feed in Tariff Scheme which was introduced in April 2010. The cumulative number of installations per 10,000 households is 174, and the total installed capacity of 577 kW per 10,000 households (how much electricity is being generated). However, Table 9 below sets out the cumulative numbers of domestic and other PV installed on 31 December 2016[6].

Local Authority Name	Estimated number of households	PV Domestic	PV Total
Nottingham	130,341	5,650	5,726
Southampton	102,225	2,185	2,233
Reading	65,509	1,471	1,518
Cherwell	59,087	1,753	1,839
Ipswich	58,910	1,481	1,538
Swale	58,837	1,485	1,547
Reigate and Banstead	58,647	1,573	1,602
Oxford	58,615	1,017	1,055
St Albans	58,408	1,080	1,112
Preston	58,162	1,169	1,210
Cambridge	49,208	1,262	1,301

Table 9: Cumulative Domestic and Total PV numbers in Oxford in receipt of Feed in Tariffs as of 31 December 2016

3.4 RENEWABLE HEAT INCENTIVE (RHI) PAYMENTS

Table 10 shows there were 23 accredited installs under the domestic RHI between April 2014 and December 2016 (updated figure which negates conflicts with previous data). There were also 12 non domestic.

Area Name	No. of Non - Domestic accredited installations	Installed Capacity (MW)	No. of Domestic accredited installations
Nottingham	20	3.0	28
Southampton	#	#	18
Reading	#	#	23
Cherwell	43	10.6	158
Ipswich	14	1.0	14
Swale	11	1.9	114
Reigate and Banstead	#	#	41
Oxford	12	2.7	23
St Albans	6	2.3	54
Preston	20	4.3	45
Cambridge	11	3.2	34

Table 10: Selection of results from BEIS Sub-national Feed-in Tariff Statistics.

[6] Source: BEIS Sub-national Feed-in Tariff Statistics December 2016

https://www.gov.uk/government/statistical-data-sets/sub-regional-feed-in-tariffs-confirmed-on-the-cfr-statistics

3.5 ZERO CARBON HOMES

3.5.1 New Buildings

The Natural Resources Impact Analysis SPD (Supplementary Planning Document) is a local planning requirement that requires that a minimum of 20% of the energy requirement of new developments should be produced by on-site renewable or low carbon energy. The SPD applies to larger developments of 10 or more dwellings, or 2000m2 or more non-residential floorspace. Table 11 lists the developments that qualify for submitting an NRIA, and the renewable energy technologies that will be installed on each development. The table only shows those developments where planning permission was granted.

Financial Year	Application Reference and Site	NRIA Checklist Score	Proposed On-Site Renewable Energy Generation
2015/16	237 C3 residential dwellings (Phase 1 - reserved matters)	-	24% onsite renewable energy generation (PV Panels)
2015/16	20 C3 residential dwellings	6	20% onsite renewable energy generation (PV Panels and Low energy boilers)
2015/16	30 C3 residential dwellings	6	"At least 20% onsite renewable energy generation (PV Panels, Air Source Pumps and high efficiency boilers)"
2015/16	270 C3 residential dwellings	N/A	A full energy statement and NRIA checklist would only be possible at the reserved matter stage.
2015/16	Part demolition. Redevelopment to include A1 and A2/ A3 plus 133 student accommodation rooms.	9	"20% onsite renewable energy generation (Air Source Heat Pumps)"
2015/16	60 bed care home (Outline permission)	6	Fabric First Approach. Consideration given to PV Panels, Solar water heating and wind energy. TBC at reserved matters.
2015/16	Erection of Bioescalator /Amenities Building (Part reserved matters).	8	22.5% onsite renewable energy generation (PV Panels, CHP)
2015/16	Part demolition. Erection of annexe.	7	20% onsite renewable energy generation (Heat pumps, Solar water heating systems, PV Panels)
2015/16	140 C3 residential dwellings	7	20.2% onsite renewable energy generation (PV Panels, Flue Gas Heat Recovery)
2015/16	Student accommodation (30 Rooms)	TBC	Onsite renewable energy generation to be secured by condition (Consideration being given to CHP or air exchange unit)
2014/15	Demolition of existing building. Erection of 17 residential units.	7/11	20% on-site renewable energy generation. 12% from Solar PV, with the remaining generated by either Air Source Heat Pumps or Ground Source Heat Pumps).
2014/15	Demolition of existing retail store. Redevelopment of site with replacement retail store.	6/12	23% on-site renewable energy generation - regulated only from Solar PV30. Other technologies are not appropriate on this site for a number of reasons including the potential disturbance to neighbours, limited space, and the fact that the building is not operational 24 hours a day.
2014/15	Erection of medical research building (Big Data Institute).	8/11	20% on-site renewable energy generation through the use of high efficiency on-roof PV arrays and via CHP generators.
2014/15	Demolition of southern part of Westgate Centre, 1-14 Abbey Place and multi-storey car park, refurbishment and retail-led mixed use development.	8/11	At least 20% on-site renewable energy generation. Method(s) of on-site renewable energy generation to be confirmed.
2014/15	Erection of nine industrial units for B1C light Industrial, B2 general industrial and B8 storage and distribution use.	10/11	40% on-site renewable energy generation through Solar PV.
2014/15	Demolition of existing buildings (excluding the 1820s villa). Construction of new independent sixth form school.	8/11	35% on-site renewable energy generation through the use of a Combined Heat and Power system.
2014/15	Outline application (fixing access) for up to 140 residential units.	-	A full energy statement and NRIA checklist which demonstrates how the development would achieve the 20% target would only be possible at the reserved matters stage.
2014/15	Outline application (fixing access) for up to 140 residential units.	-	A full energy statement and NRIA checklist which demonstrates how the development would achieve the 20% target would only be possible at the reserved matters stage.
2014/15	Change of use from B1a office to C3 residential to provide 22 dwellings.	-	0% on-site renewable energy generation In 2013 the Government introduced temporary permitted development rights that allow changes of use from a B1a office to C3 residential without the need for full planning permission. Whilst developers must seek prior approval from the City Council to undertake the change of use, the only issues that can be considered are flooding, contamination, highways and transport. This means that these applications are not assessed against the full range of policies in Oxford's Local Plan and that compliance with Policies CS9 and HP11 cannot be sought.
2014/15	Change of use from B1a office to C3 residential to provide 16 dwellings.	-	
2014/15	Change of use from B1a office to C3 residential to provide 15 dwellings.	-	
2014/15	Change of use from B1a office to C3 residential to provide 12 dwellings.	-	

Financial Year	Application Reference and Site	NRIA Checklist Score	Proposed On-Site Renewable Energy Generation
2013/14	Demolition of existing pavilion. Construction of new building to accommodate 3 indoor tennis courts plus 6 external courts, to replace existing.	7/11	23.7% of the site's energy needs to be met by ground source heat pumps and a solar thermal system.
2013/14	Demolition of existing sports hall, grandstand and ancillary buildings. Erection of new sports centre and Eton Fives' courts.	6/11	26% of the site's energy needs to be met by CHP (Combined Heat and Power) and solar hot water heating.
2013/14	Demolition of existing buildings. Erection of 3 storey sheltered accommodation comprising 49 flats with ancillary communal space and facilities.	8/11	Between 30-39% of the site's energy needs to be met by solar panels and PV.
2013/14	Erection of new buildings comprising 42 self-contained flats and 82 student study rooms.	9/11	20% of the site's energy needs to be met through a combined heat and power system.
2013/14	Construction of motor vehicle dealership.	8/11	21.5% of the site's energy needs to be met through a combination of heat pump technology and biofuel Combined Heat and Power.
2013/14	Erection of 4 storey building comprising community centre, retail and workshop unit on ground floor together with 40 "car-free" residential flats.	8/11	"At least 20% of the community centre and workshop unit's energy needs to be met by an air source heat pump. Solar panels on the roof of the building will not result in the flats generating 20% of their energy needs on site. Other methods of on-site energy generation were assessed and found to be inappropriate for a number of reasons. Whilst the Council's policy requirement is not quite met with respect to the residential element of the scheme, this is partially offset by the community centre and workshop elements which exceed the planning policy criteria."
2013/14	Demolition of existing buildings. Erection of 47 residential units and community centre.	10/11	"53% of the community centre's energy needs to be met by PV solar panels and air source heat pumps. 10% of the residential unit's energy needs to be met by a large solar PV array. Other renewable energy sources have been considered but were found to be technically and finically unviable. However, sustainable building methods will be used and the community building contributes significantly to the renewable energy provisions for the site overall."
2013/14	Demolition of existing building. Erection of 21 flats.	-	10% of the site's energy needs to be met by a large solar PV array. The Energy Strategy states that the alternative renewable energy options to achieve the 20% target are deemed to be technically and financially unfeasible and instead the strategy focuses on improving the fabric of the new building and using high efficiency systems.
2013/14	University School of Government	8/11	At least 20% of the site's energy needs to be met by a ground source heat pump system and PV array.
2013/14	Erection of 30 residential units	6/11	20% of the site's energy needs to be met by PV systems on a number of houses with suitably sized areas of south facing roofs.
2013/14	Erection of 22 residential units.	7/11	20% of the site's energy needs to be met by solar PV panels.
2013/14	Redevelopment of existing student accommodation and teaching site comprising the demolition of buildings and erection of 90 student study rooms, 3 Fellows/Staff residential rooms, teaching facilities, library archive and social space.	8/11	32% of the site's energy needs to be met by air source heat pumps and a solar thermal system.
2013/14	Erection of 3 units providing 3,509m2 of accommodation for Class B1 (Business), Class B2 (General Industrial) or Class B8 (Storage or Distribution) use.	8/11	20% of the site's energy needs to be met by PV panels.
2013/14	Demolition of existing sports pavilion. Erection of 2 storey community centre.	8/11	20% of the site's energy needs to be met by PV panels.

Table 11: 2013-16 developments meeting 20% energy from onsite renewables requirement

Table 11 shows that planning policies are effectively ensuring onsite renewable and low carbon energy generation on qualifying schemes. This suggests that the NRIA continues to provide a useful measure of the sustainability of new developments and that the targets remain both relevant and achievable.

3.5.2 Energy efficiency retrofit to buildings

In 2016, the Council produced a Technical Advice Note to advise and guide residents wishing to apply for external wall insulation. This can be found at https://www.oxford.gov.uk/info/20067/planning_policy/745/planning_policy_technical_advice_notes

This is supported by a standard recommended checklist approach to energy efficiency on buildings (particularly older buildings) based on the Heritage Energy Efficiency Tool which can be found here. An event is also arranged to further support residents on making their older homes more energy efficient during Oxford Green Week whilst meeting planning requirements (21 June 2017)

4. ENERGY PERFORMANCE CERTIFICATES (EPCS) AND MINIMUM STANDARDS IN THE PRIVATE SECTOR

4.1 BACKGROUND

As Oxford has a high proportion of renters and the private rented sector is proven to be poorer performing for energy, the Council has prioritised working with the private rented sector since the last HECA report.

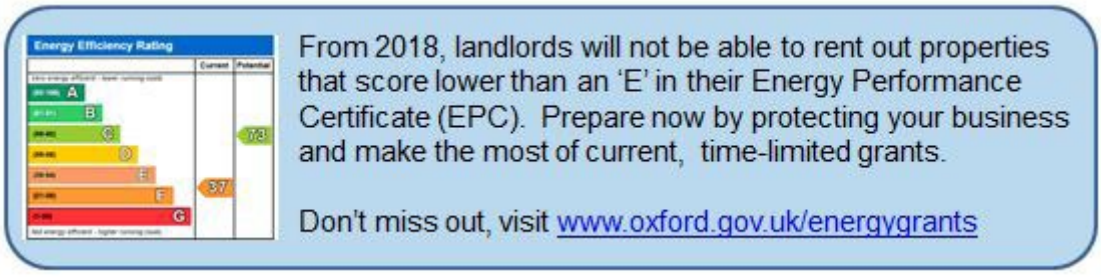
The Council has a number of statutory services that deal with the private sector including enforcement against Category 1 Excess Cold under the Housing Health and Safety Rating System (HHSRS) within the private rented sector and licensing of Houses of Multiple Occupancy (HMOs).

4.2 WORK WITH ENVIRONMENTAL HEALTH

4.2.1 Private sector safety and Houses in Multiple Occupation (HMOs)

As the average condition of housing stock in the private rented sector is generally poorer, the Council's proactive Private Sector Safety and HMO teams have taken a double faceted approach:

1. **Supportive** – running regular events for landlords and attending the landlord accreditation events and Landlord Information Exchange events. At these, the Energy Act requirements, the impact of fuel poverty on life and health and available funding are all highlighted and updated for landlords. This has been supported by newsletters, flyers and information on the website. All officers dealing with the private rented sector have been encouraged to use the signature below:



- the teams run a yearly project offering thermal imaging of rental properties to help landlords understand the need to improve their homes. The thermal imaging involved both the going out to take the photos and the production of useful reports for landlords highlighting issues with heat loss from their properties. Table 12 show that this has achieved the following outputs:

Year	Number of Properties Thermally imaged
2014	23
2015	36
2016	19

Table 12: Properties thermal imaged 2014 - 2016

A thermally imaged rental property

The thermal imaging team 2015

2. **Enforcement –** the Council has regularly purchased Energy Performance Certificate (EPC) spread sheet data from Landmark to try to target private rented homes for Excess Cold. EPC data has been used to target all known private rented residences that have F or G rated EPCs or no EPCs for assessment in the following ways:

   a) In accordance with the Housing Health & Safety Rating System, (HHSRS), Operating Guidance for Excess Cold. This is being rolled out as a programme of 'whole house' inspections by the Private Sector Safety Team, whereby following a survey, an assessment in accordance with the HHSRS is carried out and where excess cold is identified as a deficiency, works requiring the owner/landlord to improve energy efficiency through means of either working by agreement or through enforcement measures under Part 1 of the Housing Act 2004.

   59 properties have been inspected so far with works that have been requested/installed including:

   - New central heating system
   - Loft insulation
   - Wall insulation (mostly cavity wall but a few ones have installed internal wall insulation)
   - Upgraded night storage heaters.

   b) The production of Energy Performance Certificates is a HMO licensing requirement and the Council has earmarked 70 F and G rated properties with potential for E or above. Landlords of these are required to make improvements through a 'new condition' that will be attached to all licences with the aim of recommending changes within the EPC ratings where they have scored F or G. The condition requires improvements to improve this rating to be carried out over a period of 18 months (from the date when a new licence is issued with this condition).If these improvements are not implemented within the 18 month timescale or a new EPC is not provided to show an improvement in the rating then the Council may refuse to renew any future licences and/ or pursue legal action for failure to comply with licence conditions.

In one year, the Council has added 37 of the Condition in Figure 13 to HMO licences and 17 are in progress. The latter means that either the Council working on them or trusted Agents are taking the work forward as priority caseloads.

NEW ENERGY PERFORMANCE CERTIFICATE

Upon completion of the energy efficiency works detailed in your most recent Energy Performance Certificate (EPC), obtain and submit to the Council a NEW Energy Performance Certificate (EPC).

The person issuing the certificate must be an Approved Energy Assessor qualified to undertake such inspection and testing.

As a Licence Holder you have a duty to provide a thermally efficient property to your tenants. The Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015 implement the requirements of the Energy Act 2011, meaning:

- From April 2016 private residential landlords will be unable to refuse consent for a tenant's reasonable request for energy efficient improvements where Green Deal finance or subsidies are available.

- From April 2018 it will be unlawful to rent out a property that does not reach a minimum energy efficiency standard of an E-rating on an EPC.

COMPLETION:

This must be complied with from the date of the Licence.

A copy of the certificate must also be provided to all assured short hold tenants at the property whose tenancies began on or after 1st October 2015.

AUTHORITY:

Section 63(2) of the Housing Act 2004; European Directive on the Energy Performance of Buildings Article 7; The Energy Act 2011;

Section 38 of the Deregulation Act 2015

Figure 13: Condition put in HMO licences

Case Study: How can HMO licensing improve energy efficiency in a very 'hard to treat' property?

HMO licensing officers visited a property in a conservation area. It was a large building containing eleven individuals aged between 20 and 70+ years of age, in large bedsit rooms.

Initially:

- There was no source of fixed heating in the property and it had no gas supply
- It was fully single glazed with solid walls
- The last EPC scored a G showing it to be a cold, hard to heat home

Oxford City Council served an improvement notice requiring specified improvements. The landlord complied with the notice beyond the minimum requirements and carried out extensive works.

Now:

- Secondary glazing had been installed on all single glazed windows.
- A door at the rear of the property had been refitted with double glazing.
- Loft insulation is 250mm.
- A gas supply was established and full gas central heating was installed.
- A new EPC was carried out scoring it a D, showing a considerable improvement for both tenant comfort and energy efficiency.

4.2.2 Funding Energy Efficiency in the Private Rented Sector

3. In 2014/15, the Council contracted National Energy Foundation to manage Landlords grants for tenants on benefits. This was a trial to offer landlords £500 towards boiler installation, encouraging them to pay the rest. As a result, 12 boilers were installed.

4. Building on this, the Council has been funded by Ebico Charitable Trust to administer the Private Rented Energy Efficiency Grant fund (PREEG) offering free surveys and 50% off all works which are laid out in a work package for landlords. This involves installing simple energy efficiency work; including loft insulation, pipe and cylinder lagging, LED lighting, thermostatic radiator valves (TRVs) and radiator foil for landlords. The current outputs from this project are detailed in Table 12 below, and many more are in progress

Numbers of measures installed as 24 March 2017		Surveys carried out	Properties worked on	Landlords contribu-tions	Ebico funding utilised from total of £35k
Loft insulation	11	49	15 Complete	£ 3,614	£ 5,914
Loft Hatch insulation	4				
Draught Proofing	8				
Pipe Insulation	3				
LED installs	10				
Radiator Foil	46				
TRV's	38				

Table 12: PREEG Surveys and measures carried out

Heywood Hadfield, an Oxford landlord who was an early and happy recipient of the PREEG grant

5. SMART METERS

The Council would be keen to work with energy providers on installing SMART meters in Oxford over the next two years. In particular, the Council is keen to support installations that move Council tenants and Oxford residents away from the disadvantages of pre-payment meters.

Training on Smart meters for a range of staff is currently being planned.

6. THE COUNCIL'S OWN HOUSING STOCK

6.1 RECENT ACHIEVEMENTS OVER THE LAST FOUR YEARS

- Initial negotiations with funders for ECO funding for external wall insulation which were unfortunately unsuccessful due to changes in ECO funding regime. However the Council levered in £100,000 Green Deal Home Improvement Fund funding and £15,000 ECO funding for external wall insulation programme of 80 properties.

Oxford City Council home nearing completion of external wall insulation

- The Council utilised £100,000 of ECO funding for cavity wall insulation for 206 properties. All known cavity wall properties have been insulated, with the majority of this work being free, utilising ECO funding.

- The majority of houses that are solid wall or traditional build have been either externally insulated or investigated. Key issues for those outstanding include being in conservation areas, other planning issues or infringement on neighbours' properties that are unresolvable. In many cases, internal wall insulation was not a realistic option as kitchens and bathrooms would need removing and reinstalling.

- Trial pilot of five domestic solar PV installations, two with battery backup (research project)

- Solar PV, battery install (and 6 LED lighting installs) were carried out in an innovative community energy research project 'ERIC' supported by Innovate UK and in partnership with Moixa and Bioregional – 70 domestic homes in Rose Hill, one of the 25% most deprived areas in the UK. More details can be found here http://www.localisedenergy-eric.org.uk/ . 30 solar PV installs were also carried out in Barton but without the batteries.

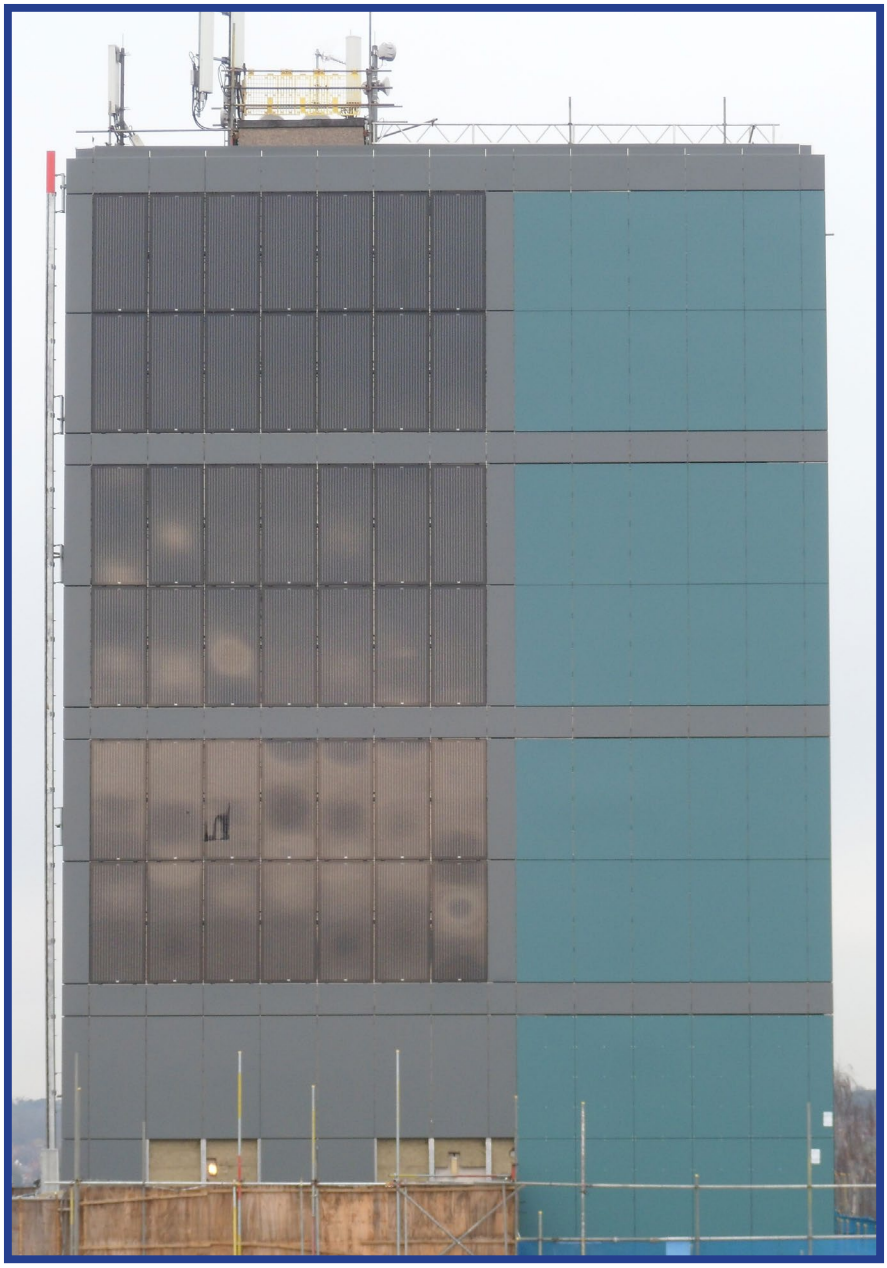
ERIC partners:

Chris Wright from Moixa and Andy Edwards from Bioregional with Oxford City Council resident, Mr Dillon

Tower blocks refurbishment

The refurbishment programme of five tower blocks refurbishment programme commenced in 2016 and are continuing well into 2017. They have the following key performance indicators and work areas with an overall aim of reducing resident's energy bills:

- A minimum target to improve on building regulations by 10% only applicable to building elements being refurbished based on the minimum u values for refurbished elements specified in the Building Regulations relevant to the refurbishment of domestic dwellings.
- Increase the average SAP rating of the flats by 15 points in ground floor, 20 points mid floor and 30 points for top floor flats
- 14.7 kWp Solar PV with electricity serving communal areas has been installed on Hockmore tower and LED lighting has been installed in communal areas in all tower blocks.
- Additional support from Energy Advice Officers to change tariffs and help with energy bills



Solar PV installed at Hockmore Tower as part of the Tower Blocks refurbishment project

6.2 CURRENT BUDGET AND WORK

6.2.1 Energy Efficiency Works

Policy changes announced by Central Government in 2015 – primarily the annual 1 % rent reduction and High Value Voids levy have undermined the Council's Housing Revenue Asset business plan, and has meant a significant reduction in investment funds. Recent drops in financial incentives for renewables such as the Feed In Tariff have also meant domestic solar PV is no longer feasible. However, ECO funding continues to be sought to invest in energy efficiency works on council housing projects as the Council has a legal as well as an ethical responsibility to ensure all properties are an 'E' or above.

The current works are detailed below:

- Sample EPC survey then prioritising all properties rated Energy Performance Certificate E, F and G for potential improvement measures according to available ECO3 funding from April 2017.

- Offering an upgrade of traditionally electrically heated properties to gas central heating to all tenants where this is feasible. Many tenants have refused this offer for a variety of reasons but over 100 installs are finished or in progress including one major block of 70 flats.

- Incorporating energy saving measures such as LED lighting, boiler upgrade and loft insulation into the voids process

- Rolling out a minimum standard of 270mm loft insulation to all appropriate properties

6.2.2 Supporting tenants

Resident involvement and support is vital and can be used to maximise efficiency of systems. This includes controls evaluation, understanding boilers, and maintenance. Key areas of affordable warmth/energy efficiency support for officers to provide include;

- Evaluating and improving building performance

- Energy behaviour and using energy using systems

- supporting those most vulnerable to the impacts of cold homes

- Dealing with financial issues (energy bills and beyond)

Building on this, a small 'understanding energy through our tenants' eyes' session was run with Council housing tenants as an initial guide to the 'supporting tenants' element of this work highlighting three points below:

- **Monitoring & controlling energy use:** Some of the tenants prefer to use prepaid electricity meters, so that they can more easily control their energy use. But these can make electricity pricier on a unit by unit basis.

- **Making personal contact:** People all have different personal circumstances, and someone with a family may have very different concerns about conserving energy than someone living by themselves and struggling with bills.

- **Spelling it out:** The tenants we spoke to told us that they don't just want information on how to save energy in the home - but more detail and, where possible, financial support.

In employing two Energy Advice Officers to visit the homes of tenants to advise on energy efficiency, heating systems and basic energy tariff issues, the Council has responded to these points. This work is carried out in conjunction with a part time Citizens' Advice Bureau worker who offers detailed support and guidance on debt issues and financial planning.

Case Study: Energy Advice in our Social Housing

Energy advice for a local tenant: Jackie Williams (left) is one of the Council's Energy Advice Officers

In 1 ¼ years, the energy advice officers have:

- Visited 1538 properties and attempted to visit another 1380
- Enabled 138 loft insulation installations and around 40 heating related upgrades or installs
- Made a total of 4,583 recommendations

This has resulted in savings to tenants of a minimum of:

- **£113,327.87** including savings from loft insulation (which will actually make more savings every year after)
- **£5,673** in additional estimated cost savings

In 1 ¼ years Citizens Advice Bureau (CAB) have:

- Received 78 referrals to the service and supported 57 tenants
- Advised 37 tenants face to face, 15 in the home and 5 by phone
- Advised on £167,406 total debt, £5,334 of which was energy related
- Saved tenants £1,602 in energy savings and £6,176 in other income gains
- Carried out a range of further work such as financial planning

The Energy Advice Officer service is to be evaluated in the near future as questionnaires have been sent to all service users.

Training and support to frontline staff

As concerns about energy bills increase in tenants, front facing staff's and Councillors' need of support and advice on issues related to energy efficiency also increases. A broader training programme is now in place for all front facing staff in housing, private rented and home owner sectors across the Council. Key areas of training include:

- Fuel poverty and basic energy efficiency
- Gas and electric heating systems – understanding and advising
- Energy bills, meter readings and other energy finance issues such as pre-payment meters and switching supplier
- Team based training for teams with specific needs such as Customer Services

For more information contact;

Debbie Haynes

dhaynes@oxford.gov.uk

01865 252 566


ENERGY ADVICE SERVICES