DARTFORD
BOROUGH COUNCIL

Home Energy

Conservation Act (1995)

Dartford Home Energy and Fuel Poverty Action Plan

2015 – 2018

March 2015 Report

Contents:

Summary.

The economic and social benefits of reducing energy consumption is well documented and Dartford Council is committed to reducing energy consumption and improving energy efficiency in all residential properties in the Borough. In addition inadequate heating and insulation standards, low household incomes and high energy costs are all factors linked to fuel poverty

As community leaders, service providers and the local planning authority we can help tackle these issues across the services we provide. This plan covering the period from 2015 – 2018 is our response to these challenges and expectations.

The plan summarises the national and legislative context of the borough's energy efficiency work. It examines the current situation, our strategic commitment and our direct environmental impact. The plan looks at examples of how we are already helping the community to be energy efficiency, for example through grants for insulation and renewable energy schemes.

The document contains an analysis of the Council's greenhouse gas emissions and the current position around energy and fuel poverty.

The Plan sets out our vision for a more energy efficient Dartford. It contains a series of actions for delivery between 2015 and 2018. The plan concludes by explaining how we will measure progress and outlines some more detailed examples of how we are already putting our approach into action. We will develop a new Home Energy Conservation Report in 2017 which will provide an update on the actions contained in this report.

The actions within the Plan include some listed for reporting within the Climate Local Kent Commitment (see Cabinet Report 24 January 2013) and also the Kent Environment Strategy (see Cabinet Report 25 November 2010). The Kent Environment Strategy is currently being revised with the final strategy hopefully in place for Autumn 2015.

Why we need this plan.

The Council has a vital role to play in cutting energy consumption, tackling fuel poverty and reducing reliance on fossil fuels. Through our role as community leaders, service providers and as the local planning authority we can help to tackle these issues across the range of our activities. This plan is our response to these challenges and expectations.

The National Context.

Green Deal and Energy Company Obligation (ECO).

Since the last HECA report in 2013, we have seen the first operation years of the national Green Deal and Energy Company Obligation (ECO) initiatives. There have

also been several cashback initiatives such as the Green Deal Home Improvement Fund (GDHIF).

Green Deal has been a significant change from previous schemes offered and uses a market based approach to encourage householders to take up efficiency measures by taking out long term loans with interest to eliminate up front costs. The Green Deal scheme has three components, which require registered and accredited companies covering:

- An assessment.
- An optional finance plan.
- Installation.

The scheme centres on the 'Golden Rule' whereby the savings on what is install in year on are not outweighed by the cost of repayment when using the Green Deal Plan finance package.

The first phase of ECO ran until 31st March 2015, with ECO2 running for 2 years from April 2015.

ECO has three components:

- Carbon Emissions Reductions Obligation (CERO)
- Carbon Saving Community Obligation (CSCO)
- Home Heating Cost Reduction Obligation (HHCRO)

These originally deal with:

- hard to treat cavity and solid wall insulation for all households
- insulation measures in low income areas
- providing heating and insulation measures for those in receipt of certain means tested benefit or tax credits who own or privately rent their home.

However the targets were changes in April 2014 reducing the March 2015 target for the CERO element by 33% and allowed easier to install loft insulation measures to be counted. This reduced the amount of work on solid wall insulation which is an expensive and hard to treat measure. Other changes included new Affordable.

Warmth (HHCRO) criteria, an expansion to the CSCO qualifying areas and confirmation of the 2015 – 2017 ECO 2 targets.

The key difference for the Borough has been that these schemes are in contrast to the Carbon Emissions Reduction Target (CERT) which the Council had much more prominent local delivery and co-ordination role.

Fuel Poverty Strategy for England – Cutting the cost of Keeping Warm.

In March 2015 DECC launched a new Fuel Poverty Strategy with a focus on improving the energy efficiency of England's coldest homes. The strategy requires a

minimum standard of energy efficiency (Band C) for as many homes as practicable by 2030.

Other measures include

- Regulations that private landlords cannot rent out properties with Energy Performance ratings below E from April 2018
- £25m fund to help people living in off gas grid properties install central heating system for the first time
- Extending ECO to 2017 to treat a further 500,000 properties
- A £3m pot to finance pilot schemes which focus on priority areas

The new definition for fuel poverty has recent been defined as:
" A household will be defined as 'fuel poor' if its:

- Total income is below the poverty line (taking into account energy costs); and
- Energy costs are higher than typical."

Where are we now?

This part of the plan sets out the local context. It begins with a look at our strategic commitment. Is summarises our direct environmental impact and provides examples of how we are already helping the community to be more energy aware

The second half of this section examines the district's environmental footprint and provides an analysis of the current position for each of the themes

Where are we now …. As a Council?

Our Strategic Commitments.
The Corporate Plan 2014 – 2017 sets the strategic context for this plan. Three of the themes are relevant to this area of work:

- Health and well being.
- Environment and Sustainability.
- Housing and Stronger communities.

Within these themes:
Aim: To reduce overall health inequality in Dartford and to provide for a rich and varied quality of life.

Objective: HW2: reduce overall health inequalities in the Borough

Aim: To promote an environment which is attractive, adapted to climate change and which provides a realistic choice of travel options

Objective: ET1: reduce carbon emissions

Objective: ET2: ensure that development in Dartford is sustainable, with high standards of design, layout and energy efficiency

Council Performance Indicators: The number of households taking part in the Green Deal home energy efficiency improvement programme

Aim: to facilitate quality, choice and diversity in the housing market, to create strong and self-reliant communities and deliver high quality services to service users

Objective: HS1: to work towards meeting the housing needs of the Borough

Objective: HS2: to provide high quality housing services and increasing the percentage of private rented stock which meets the Decent Homes Standard

Kent and Medway Sustainable Energy Partnership (KMSEP).

This partnership was previously known as the Kent and Medway Green Deal Partnership. It is an executive level group providing overall direction to the establishment of a co-ordinated programme of energy efficiency and sustainability retrofitting for Kent and Medway. Its overarching purpose is to support opportunities that can be developed in partnership to agreed shared priorities and to identify and resolve risks and barriers that could jeopardise the best ECO, Green Deal and other funding offers being obtained by Kent and Medway residents and businesses.

Kent Environment Strategy.

On 25 November 2010 Cabinet agreed to support the development and implementation of the Kent Environment Strategy insofar as it is consistent with Dartford's corporate priorities and to the extent that resources will allow. The Kent Environment Strategy is currently being revised with the new Strategy planned for Autumn 2015.

The Kent Environment Strategy will be divided into the three section listed below:

1. Overview of Kent: looking at why our environment is important, and what the key impacts are that affect it and our way of life.
2. Natural system impacts: focussing on the changes we see in the quality and status of our climate, water and biodiversity.
3. Built environment and people: focussing on the changes we see in our built environment and resource management, health and well being.

Climate Local Kent.

The Council endorsed the Climate Local Kent Commitment at Cabinet on 24 January 2013. Climate Local consists of a Climate Local Commitment which local authorities can sign up to. Climate Local Kent is based on targets and actions set out in the Kent Environment Strategy.

Our Environmental Performance.

In 2008/09 the Council took part in the Carbon Trust Local Authority Carbon Management Plan Programme. A Carbon Management Plan was produced with an

agreed target for the Council to reduce its carbon emissions from its activities by 35% from the 2007 baseline by 2012.

Greenhouse Gas Emissions.

The Department of Energy and Climate Change (DECC) now require Local Authorities to measure and report their greenhouse gas emissions from their own estate and operations. We have used the Department for Environment Food and Rural Affairs (DEFRA) web based tool to obtain the conversion factors. The table below relates to the period 1 April 2008 to 31 March 2014 and shows a significant reduction in emissions over the reported period. These are reported in tonnes of carbon dioxide equivalents (CO2e) and have been worked out using the Ricardo-AEA UK Government Conversion Factors for company reporting.
The following tables use a standard template:

	Dartford Borough Council GHG emissions data for period 1 April 2008 to 31 March 2014 Tonnes of CO2e					
	2013/14	2012/13	2011/12	2010/11	2009/10	2008/09
Scope 1 *	1261	1403	866	1056	1175	1468
Scope 2 **	944	1049	1002	782	1468	1261
Scope 3 ***	113	118	721	718	884	851
Total gross emissions	2318	2570	2502	2556	3527	3580
Carbon offset	0	0	0	0	0	0
Green tariffs	0	0	0	0	0	0
Total annual emissions	2318	2570	2502	2556	3527	3580

Breakdown	2013/14	2012/13	2011/12	2010/11	2009/10	2008/09
Scope 1						
Gas	872	940	836	1023	1142	1434
Fleet vehicles	28	31	30	33	33	34
Emissions from outsources activities or leased assets	361	432				
Scope 2						
Electricity	944	1049	1002	782	1468	1261
Scope 3						
Business travel/staff mileage	35	36	48			
Transport emissions from fuel use			87			
Emissions associated with the production of electricity	78	82	85			
Emissions from outsourced activities or leased assets			501			

- * 2013/14 and 2012/13 figure includes fuel used from contractors waste and recycling figures – 2011/12 this had been included in Scope 3.
- ** figures have been updated to reflect a change to the UK electricity generation conversion 2008 – 2012 inclusive.
- *** figures incorporate emissions from UK electricity transmission and distribution and for years 2008 – 2012 inclusive had included waste and recycling contractor figures.

Changes in Emissions.

The gas consumption figures have been analysed and the properties showing unusual data queried. Some of these properties are still under query and it was clarified that for one property the consumption figure had only been for part year previously. The Council has made great strides to reduce its electricity consumption of the recent years. In addition solar PV systems have been fitted to the communal supply in some sheltered housing units and all the lights have been upgraded to low energy fittings with sensors. As standard the Council now fits LED external lights. Employee numbers continue to fall and there has been a gradual decrease in mileage claims by members of staff.

The Council continues to use the Systemslink software for gas and electricity billing.

OUR LEADERSHIP ROLE.

As a service provider and community leader we do a wide range of things to encourage and help residents and businesses.
These include:

- Promoting Collective Switching Schemes/Energy Deal for residents
- Promoting home energy efficiency measures.
- We have been promoting various energy efficiency measure schemes by adopting supplementary planning documents this encourages development that incorporates sustainable design techniques such as energy efficiency, renewable energy and water conservation.

WHERE ARE WE NOW … AS A DISTRICT

Local Authority Level Tenure Summary

Local Authority Level Tenure Summary March 2011				
		Dartford	South East Region	England Country
All Households	Count	40081	3555463	22063368
Owned; Owned Outright	Count	11012	1156081	6745584
Owned; Owned Outright	Percentage	27.5	32.5	30.6
Owned; Owned with a Mortgage or Loan	Count	15807	1248436	7229440

Owned; Owned with a Mortgage or Loan	Percentage	39.4	35.1	32.8
Shared Ownership (Part Owned and Part Rented)	Count	537	39280	173760
Shared Ownership (Part Owned and Part Rented)	Percentage	1.3	1.1	0.8
Social Rented; Rented from Council (Local Authority)	Count	4338	206431	2079778
Social Rented; Rented from Council (Local Authority)	Percentage	10.8	5.8	9.4
Social Rented; Other	Count	1609	281042	1823772
Social Rented; Other	Percentage	4	7.9	8.3
Private Rented; Private Landlord or Letting Agency	Count	6003	521479	3401675
Private Rented; Private Landlord or Letting Agency	Percentage	15	14.7	15.4
Private Rented; Other	Count	382	57113	314249
Private Rented; Other	Percentage	1	1.6	1.4
Living Rent Free	Count	393	45601	295110
Living Rent Free	Percentage	1	1.3	1.3

Source: Office for National Statistics Tenure 2011

http://www.neighbourhood.statistics.gov.uk/dissemination/LeadDatasetList.do?a=7&b=6275075&c=dartford&d=13&g=6436544&i=1001x1003&m=0&r=1&s=1428480815201&enc=1&domainId=7&nsjs=true&nsck=false&nssvg=false&nswid=989

Energy Consumption.

Energy Statistics – By 2009 Local Authority

Gas and Electricity Usage Data kWh per customer

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Electricity	4500	4450	4410	4240	4140	4150	4070	4040	3940
Gas	17910	17310	16690	16060	14710	14580	13540	13540	13190

http://tools.decc.gov.uk/en/content/cms/statistics/local_auth/interactive/domestic_ge/index.html

Cutting the Cost of Keeping Warm – Fuel Poverty Strategy for England. March 2015.

Fuel Poverty.

Under the new definition of fuel poverty, Low Income High Cost, a household is considered to be fuel poor where:

- They have required fuel costs that are above average (the national median level)
- Were they to spend that amount, they would be left with a residual income below the official poverty line.

It is stated in the Fuel Poverty Strategy for England that the key challenges are;

- Improving energy efficiency standards in fuel poor homes
- Working together to help the fuel poor through partnership and learning
- Increasing effective targeting of fuel poor households
- Improving the support to certain high cost homes –i.e non-gas or park homes
- Improving the reach of support to certain low income households – such as those who have health conditions linked to living in a cold home
- Tacking the financial burden of energy bills for those on low incomes
- Ensuring the fuel poor are able to get maximum benefit from a fair and functioning energy market
- Enhancing and improving understanding of fuel poverty

As of 5 December 2014 successive Governments are bound by the following statutory fuel poverty target:
The fuel poverty target to ensure that as many fuel poor homes as is reasonably practicable achieve a minimum energy efficiency rating of Band C by 2030.

There are 2 interim milestones which have been adopted.

a) As many fuel poor homes as is reasonably practicable to Band E by 2020
b) As many fuel poor homes as is reasonably practicable to Band D by 2025

The table below shows Dartford Domestic EPC Data – Number of Lodgements by Environmental Impact Rating based on CO2 emissions (data to 21/1/15)

Year	No of lodgements	Total floor area (m2)	A	B	C	D	E	F	G	Not recorded
2008	2917	164874	0	581	580	845	755	148	7	1

2009	3141	220670	0	459	781	1008	732	145	16	0
2010	2601	197113	0	371	623	855	623	122	7	0
2011	2490	186908	0	476	599	769	522	112	12	0
2012	2548	208405	23	509	593	801	519	94	9	0
2013	2585	210079	14	402	629	851	584	88	17	0
2014	3312	279656	5	699	560	1082	843	112	11	0
2015	197	16023	0	11	19	91	62	14	0	0
total	19791	1483729	42	3508	4384	6302	4640	835	79	1

source: www.gov.uk/government/collections/fuel-poverty-statistics

In addition the Council has purchased EPC data from Landmark and is in discussion with DECC to continue to obtain the data. This enables the Council to analyse individual property data against benefit data

Non Gas Homes.

The Fuel Poverty Strategy has a focus on tackling fuel poverty in Non Gas Homes too as evidence has highlighted that the risk of being in fuel poverty and severity of fuel poverty is higher in homes that do not use gas as their main heating fuel.

The table below shows the information relating to Dartford from the test map produced from files supplied by the main gas network operators. **The table only shows Lower Super Output Areas (LSOA) with over 10% non gas households there are other Dartford Areas that have lower**

DARTFORD.

Dartford	Lower Super Output Area	Annual 2013 electricity kwh per meter	Annual 2013 gas kwh per meter	Number of households	2013 % non gas households
003a	E101024180	3828	11320	673	14%
006d	E101024172	4392	12564	980	42%
005c	E101024162	4802	12766	818	56%
005a	E101024156	3660	10611	784	27%
010b	E101024151	4202	16695	625	18%
011d	E101024189	4106	15603	685	16%
013a	E101024157	5249	17287	674	10%
002a	E101024140	3364	10814	1175	10%
004a	E101024142	3764	11184	1249	30%
002d	E101024179	3634	9901	1214	11%
008b	E101024136	4265	14952	679	26%

Source: DECC per cent non gas households

www.google.com/fusiontables/embedviz?q=select+col3%3E%3E0+from+1Pc8zUyy63Y7GiBOHlQW0_i5YMsuQxgWe-Y0F_9u4&viz=MAP&h=false&lat=51.046086328970496&lng=-1.0156940307617787&t=1&z=11&l=col3%3E%3E0&y=2&tmplt=2&hml=GEOCODABLE

A map showing the Lower Super Output Areas (LSOA) is included in this Report at Appendix 1

Fuel Poverty.

A new legal framework to monitor fuel poverty in England has been developed using the Low Income High Costs Indicator (LIHC). This new measure of fuel poverty was first proposed in Professor Hills 'review of Fuel Poverty' . The LIHC definition considers a household to be fuel poor if:

They have required fuel costs that are above average (the national median level). Were they to spend that amount, they would be left with a residual income below the official poverty line.

Unemployed households have the highest rates of fuel poverty across all economic activity groups. Of all the different tenure groups, households living in privately rented accommodation have continued to have the highest fuel poverty rates, whilst the owner occupied households have had lowest rates of fuel poverty. This pattern has been consistent since 2003.

Measuring Fuel Poverty.

The key elements in determining whether a household is fuel poor are:

- Income
- Fuel bills
- Energy consumption (dependent on dwelling characteristics and the lifestyle of householders)

The average SAP rating by tenure, compares owner occupied housing with private and social rented housing. This indicates that social housing is generally the most energy efficient, with SAP ratings around 7 points higher than the other two groups.

Average SAP 09 rating by tenure 2010 – 2012

Tenure	2010	2011	2012
Social	61.4	63	64.6
Private rented	54.1	55.8	57.7
Owner occupied	53.6	55.4	57.4

The winter months falling in 2012 (that is the end of 2011/12 winter and the start of the 2012/13 one) were cooler than the previous year, thereby resulting in an increase in overall higher heating degree days of around 20%. As a result of the cooler winter, average annual household energy consumption was also higher than in 2011.

DARTFORD	2012 10% DEFINITION	2012 LOW INCOME HIGH COST
Estimated Number of Households in the Borough	40040	40040
Estimated number of households in fuel poverty	3057	2824
% fuel poor	7.6%	7.1%

KENT	2012 10% DEFINITION	2012 LOW INCOME HIGH COST
Estimated Number of Households in the Borough	605140	605140
Estimated number of households in fuel poverty	60821	51183
% fuel poor	10.1%	8.5%

SOUTH EAST	2012 10% DEFINITION	2012 LOW INCOME HIGH COST
% fuel poor	8.9%	7.8%

As at 2012, Dartford is below both the Kent and South East average of % fuel poor

Source: DECC Fuel Poverty Statistics 2012 – data under 10% indicator and data under LIHC Indicator

https://www.gov.uk/government/statistics/fuel-poverty-subregional-data-under-10-indicator

https://www.gov.uk/government/statistics/2012-sub-regional-fuel-poverty-data-low-income-high-costs-indicator

Energy Statistics Households % in Fuel Poverty 2006 - 2011.

DARTFORD	2006	2007	2008	2009	2010	2011
% fuel poor	62%	No data	9%	11.8%	11.2%	8.8%
Households in fuel poverty	2330	No data	3400	4530	4310	3460

http://tools.decc.gov.uk/en/content/cms/statistics/local_auth/interactive/fuelpoverty/index.html

DECC publishes annual statistics on the number and properties of households that are fuel poor in Local Authority and Lower Super Output areas (LSOA).

The table below shows the total figures for Dartford and the areas that above average fuel poverty for both definitions, data for the other areas is shown in

appendix B. These are the areas we will target over the coming years. A map showing the Lower Super Output Areas (LSOA) is included in this Report at Appendix 1

DARTFORD		LIHC INDICATOR		10% Definition	
	Estimated number of households	Estimated number of fuel poor households	Percentage of households fuel poor	Estimated number of fuel poor households	Percentage of households fuel poor
Dartford total	40,040	2,824	7.1%	3,057	7.6%
LSOA Code					
E01024135	541	68	12.6%	58	10.7%
E01024166	620	74	11.9%	50	8.1%
E01024164	798	90	11.3%	90	11.3%
E01024165	674	76	11.3%	55	8.2%
E01024179	1,211	131	10.8%	128	10.6%
E01024161	799	80	10.0%	83	10.4%
E01024183	521	50	9.6%	56	10.7%
E01024168	488	46	9.4%	39	8.0%
E01024170	666	62	9.3%	52	7.8%
E01024181	498	45	9.0%	47	9.4%
E01024146	538	48	8.9%	54	10.0%
E01024167	773	68	8.8%	71	9.2%
E01024137	552	48	8.7%	53	9.6%
E01024144	544	46	8.5%	49	9.0%
E01024136	678	56	8.3%	54	8.0%
E01024145	594	46	7.7%	56	9.4%
E01024184	771	58	7.5%	75	9.7%
E01024147	652	49	7.5%	57	8.7%
E01024176	787	59	7.5%	61	7.8%
E01024163	728	54	7.4%	63	8.7%
E01024186	513	38	7.4%	52	10.1%
E01024157	674	48	7.1%	62	9.2%

https://www.gov.uk/government/statistics/2012-sub-regional-fuel-poverty-data-low-income-high-costs-indicator

https://www.gov.uk/government/statistics/fuel-poverty-subregional-data-under-10-indicator

Cavity Wall and Loft Insulation.

Over the years different Government schemes have been offered to residents in the Borough to encourage energy efficiency measures with an emphasis on cavity wall and loft insulation. From data provided through DECC the figures for installations in Dartford over recent years are reports in the table below:

Energy Statistics at Local Authority Level – Cavity Wall Insulation/Loft Insulation - Cumulative Figures.

DARTFORD	Cavity wall insulation	Number of installs in period	Loft insulation	Number of installs in period
2008/09	565		780	
2009/10	943	378	1776	996
2010/11	1325	382	2681	905
2011/12	1776	451	3604	923
2012/13	2191	415	4560	956

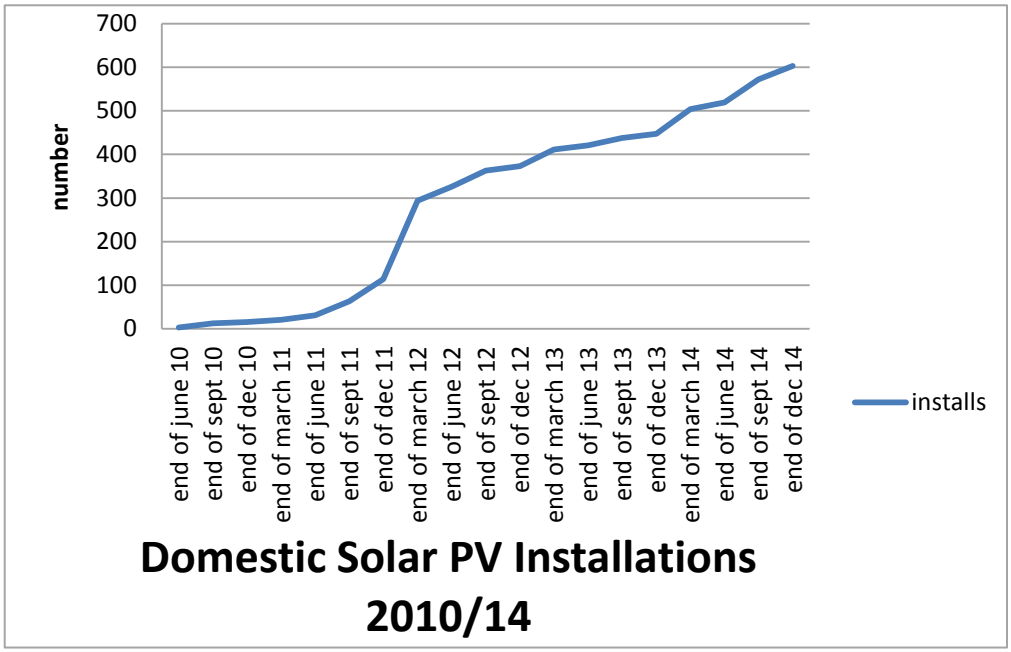
http://tools.decc.gov.uk/en/content/cms/statistics/local_auth/interactive/insulation/index.html

Renewable Energy

In 1 April 2010 the Government introduced the Feed in Tariff (FIT), whereby any electricity produced over and above the electricity usage level of the property to which the Solar PV is fitted can be sold back to the national grid at a level set by the Government. The figure received for electricity generation which is set by the Government and paid per kilowatt and has changed a number of times since FITs commenced. Once your system has been registered, the tariff levels are guaranteed for the period of the tariff (up to 20 years) and are index-linked. The Council has installed a number of Solar PV system on Council properties in the borough – both corporate and on its own housing stock. More information can be found in the EXAMPLES section of this report. The aim of the Solar PV is to reduce the energy expenditure of the affected tenants and positively impact on their fuel poverty, and to contribute towards meeting the Government targets.

Energy Statistics at Local Authority Level Domestic Solar PV Installations 2010/14 - Cumulative Figures.

DARTFORD	installs
end of june 10	3
end of sept 10	13
end of dec 10	16
end of march 11	21
end of june 11	31
end of sept 11	63
end of dec 11	114
end of march 12	294
end of june 12	326
end of sept 12	363
end of dec 12	373
end of march 13	411
end of june 13	421
end of sept 13	438
end of dec 13	447
end of march 14	504



end of june 14	519
end of sept 14	572
end of dec 14	603

Source: DECC Energy Statistics 2009 by LA District

http://tools.decc.gov.uk/en/content/cms/statistics/local_auth/interactive/domestic_solar/index.html

EXCESS WINTER DEATHS.

Excess winter deaths occurs mostly in older populations and can be attributed to a combination of factors namely, pre-existing medical condition, cold home environment, poor uptake of flu vaccination etc.,

England has higher rates of excess winter deaths than some countries with much more severe winters, such as Finland and the Netherlands. The UK also performs poorly in relation to other Western European countries for fuel poverty, homes in a poor state or repair and poor insulation

Excess Winter Deaths 2013-14

An estimated 18,200 excess winter deaths occurred in England and Wales during the winter period of 2013/14, the lowest number since records began in 1950/51. Temperatures during January and February for this period were also 2° lower than the average for this time of year.

Kent also showed a reduction from 933 excess winter deaths in 2012/13 to 655 in 2014/15. In contrast to national figures, the reduction was not as significant as past years, in particular the winter periods of 2006/7 and 2007/8 (473 and 454 respectively).

The highest ratio of excess winter deaths between the winter periods of 2002/3 to 2013/14 occurred in Canterbury ((22.6%), followed by Maidstone (18.9%) and Thanet (18.5%).

Excess Winter Deaths, ratios, annual Local Authority												
LA's	2002-04	2003-05	2004-06	2005-07	2006-08	2007-09	2008-10	2009-11	2010-12	2011-13	Period ratio	Kent
Dartford	16.7	14.4	17.4	9.2	13.2	17.0	17.9	15.1	20.1	21.8	16.5	17.5
Kent County	17.7	18.6	17.3	14.1	16.6	18.8	20.8	16.3	17.6	17.5	17.5	

Districts agreed to hold budgets for this scheme with funding from Public Health. Allocations of the £150,000 budget were based on the average number of excess winter deaths in each district over the most recent three year period.

District	Allocation
Dartford	£11270.13

Winter 2014-15 programme outline.

The programme for winter of 2014-15 commenced on 1st December, 2014 and HIAs pro-actively visited clients. Numbers have not been confirmed yet, but it is likely to be approximately 90 visits per district.

Criteria.

The criteria is slightly broader for 2014-15 and now includes those over 65 living in a cold home with a confirmed diagnosis of:

- Cardiovascular
- Respiratory
- Pulmonary
- Mental health
- Disability
- Multiple long term conditions

WHERE WE WANT TO BE BY 2018 – Dartford Home Energy and Fuel Poverty Action Plan 2015 – 2018

This section of the plant sets out our ambitions for where we want to be in relation to energy efficiency by 2018. We have committed to working towards Climate Local Kent and have also been working towards the target in the Kent Environment Strategy (KES) through which we committed to:

Work towards a 34% reduction in emissions by 2020 (2.6% reduction per year). This will include the domestic and industry/commerce sectors

Our aims are to:

- Increase the amount of energy generated in the District from renewable sources
- Reduce the number of households in fuel poverty
- Monitor and report on the measures installed and carbon saving enabled through Green Deal and the Energy Company Obligation and other projects

HOW WE WILL GET THERE

This part of the plan contains a series of actions for delivery between 2015 and 2018. We have chosen actions that are in our sphere of control or influence and grouped them under the same headings used previously in the Dartford Sustainable Home Energy Strategy and Action Plan 2005 – 2008 and also the Dartford Home Energy and Fuel Poverty Action Plan 2012 – 2015.

Local Energy Efficiency Ambitions and Priorities

The Climate Local Kent Commitment was endorsed at Cabinet 24 January 2013 and included the following targets:

- We will work towards a 34% reduction in emissions by 2020 (2.6% reduction per year)
- We will support the retrofit of 1000 homes across Kent through the work of the Kent and Medway Green Deal Partnership

In addition the Council prepares an annual Greenhouse Gas Emissions Report which is reported to Cabinet and can be downloaded from the Council website.

Actions to Improve Energy Efficiency in Residential Properties in the Borough 2015 – 2018.

A RAISING AWARENESS		
NUMBER	**TARGET**	**DATE**
A1	Provide information and presentations to Landlords including Landlord Forum and Landlord events	Ongoing to 2018
A2	Promote government and other grants and discounts for the installation of renewable energy systems	Ongoing to 2018
A3	Encourage Dartford Borough Council (DBC) officers when visiting homes to provide information on energy efficiency and grants if appropriate	Ongoing to 2018
A4	Provide information to Members to keep them informed around energy efficiency projects	As necessary
A5	Complete presentations with external groups on request	As necessary
A6	Promote Smart Metering in the borough	2015-2017
B Schools and Education		
B1	Identify groups to liaise with to promote the importance of energy efficiency	Ongoing to 2018
C Gathering Information		
C1	Continue to collect and analyse information from Energy Performance Certificates (EPC) to provide a focus for additional energy efficiency works and map potential areas for energy efficiency measures	2015 onwards
C2	Develop and use systems that enable the targeting of measures for vulnerable residents	2015 onwards
C3	Investigate the energy rating of all dwellings in the council stock and develop systems for keeping this data up to date following improvements	2015 onwards
C4	Carry out a stock condition survey for private sector to identify areas where energy efficiency activity is required	2015/2016
D Providing Information		
D1	Devise plan to enable measures to be developed and introduced	2015/2016

D2	Provide residents with information about energy efficiency measures and grants using media opportunities	2015 onwards
D3	Raise awareness to changes in EPC criteria for landlords	2015 onwards
D4	Run a series of features on our website to raise the profile and increase understanding of energy efficiency and renewable technologies and put processes in place to ensure information is kept up to date	ongoing
E Improving the Housing Stock		
E1	Encourage landlords to participate in the private sector landlords leasing scheme	Ongoing to 2018
E2	Continue to look at the feasibility of energy efficiency measures in Sheltered Housing Accommodation	Ongoing to 2018
E3	Continue the programme of planned works in the Council's housing stock linking with funds available.	Ongoing to 2018
E4	Continue to investigate new energy efficiency products being introduced and undertake trials where appropriate.	Ongoing to 2018
E5	Work in partnership with Kent and Medway Sustainable Energy Partnership to deliver energy efficiency measures and reduce their energy consumption within Kent including Energy Company Obligation (ECO)2, Home Heating Cost Reduction Obligation (HHCRO) and Winter Warmth Continue to work in partnership with Framework providers involved in the Kent and Medway Sustainable Energy Partnership	Ongoing to 2018
E6	Analyse the outcomes of the Warmer Streets, Winter Warmth and Warm Homes	2015/2016
E7	Ensure that various funding assistance is available to increase energy efficiency measures in the home	Ongoing to 2018
F Engaging with Partners		
F1	Investigate input from external agencies from health and care organisations in the different activities being planned	2015-2017
F2	Be members of Kent wide partnerships for energy efficiency, affordable warmth and climate change	ongoing
F3	Work alongside other agencies to develop new projects for example through the public health framework and Clinical Commissioning Groups (CCG)	2015 onwards
F4	Work with Kent County Council (along with other local authorities and agencies) to deliver Green Deal/ECO activities	ongoing

G Renewable Energy		
G1	Promote renewable energy, feed in tariff and other renewable heating incentives	ongoing
G2	Support the installation of renewable energy in Council buildings and monitor installations	ongoing
H Fuel Poverty		
H1	Improve energy efficiency standards in fuel poor homes for example those who have health conditions linked to living in a cold home	2015 onwards
H2	Promote Collective Switching campaigns/Energy Deal to residents in the Borough.	Ongoing to 2018
H3	Work in partnership to identify as many fuel poor homes as is reasonably practicable by targeting F and G energy rated homes	Ongoing to 2018
H4	Work in partnership to reach and support certain high cost homes such as non-gas or park homes e.g. through the Help to Heat scheme	Ongoing to 2018
H5	Reduce fuel poverty in the Borough through raising awareness and ensuring take up measures under the ECO scheme	Ongoing to 2018
I Identify new resources		
I1	Identify existing funding available for energy efficiency work and where appropriate take action	Ongoing to 2018
J Plan and Monitor Activities		
J1	Report on and revise the action plan every two years	2017
J2	Review activities undertaken on behalf of Dartford Borough Council	Ongoing to 2018

HOW WE WILL MEASURE PROGRESS

Information will be published on the Council's website as required by the Department of Energy and Climate Change guidance.

We will use the following measures to assess progress towards our aims and the actions set out in the Action Plan 2015 – 2018.

- Dartford Greenhouse Gas Emissions report (published annually)
- Dartford Average domestic energy– Department of Energy and Climate Change data

- Dartford emissions by sector per capita CO2 emissions estimates (tonnes) - full Local CO2 emission estimates dataset - Department of Energy and Climate Change Local and Regional CO2 emissions per capita
- Fuel Poverty figures – Department of Energy and Climate Change (DECC) sub regional fuel poverty data includes lower super output areas
- Excess Winter Deaths – Public health Mortality File
- Domestic Solar Photovoltaics installations – DECC Domestic Solar Photovoltaic Installations by Local Authorities
- Green Deal and Eco measures installed – Kent Warm Homes Scheme, Warmer Streets
- Collective Switching figures including registrations, switchers and average annual savings - iChoosr
- Off Gas Data – DECC % Non-Gas Households
- Domestic EPCs – DECC Number of lodgements by Environmental Impact Rating based on CO2 emissions

DARTFORD HOME ENERGY CONSERVATION ACTION (1995)
MARCH 2015 PROGRESS REPORT .
EXAMPLES OF OUR SUCCESSES.

KENT WARM HOMES PROJECT PHASE 1
DARTFORD PILOT.

Over the years Dartford Borough council has worked in Partnership with a number of companies to offer insulation schemes to our residents of both our own Council housing stock and privately owned properties.

The Warm Homes project was originally intended to run continuously from October 2012 to March 2015, in line with the first phase of ECO funding, with the potential to continue to 2017 if the ECO programme was extended as expected.

In Phase 1 of the Warm Homes project Kent County Council on behalf of the Kent and Medway Green Deal Partnership (now the Kent and Medway Sustainable Energy Partnership – KMSEP) engaged an ECO funding provider to help facilitate the development of early pilot projects and provide an affordable warmth solution across Kent. Each of the pilots were to include approximately 200 dwellings and located in communities of around 4000 homes.

The nature of the procurement meant that engaging an ECO funding provider took longer than expected, but Enterprise Utility Services were appointed to the Framework in early May 2013.
This project included Dartford as a pilot area and was offered initially in the Swanscombe area of the Borough and then expanded to other parts of the borough. In September 2013 the project was advised by the ECO funding provider that they were unable to offer a solution for the Affordable Warmth (HHCRO Home Heat Cost Reduction Obligation) stream of funding. At this point after a review of HHCRO

offers available Aran Services (one of Enterprise's sub-contractors) were engaged to offer this provision.
In December 2013 it was announced that ECO would be reviewed as part of the autumn budget statement. At this point, rates of funding available for ECO dropped significantly and access to funding through both Aran and Enterprise was impacted, resulting in the Warm Homes programme being put on hold. In March 2014 Enterprise withdrew from the ECO funding provider framework at which point Warm Homes Phase 1 effectively ceased delivery. Aran continued to support outstanding HHCRO referrals and to deliver the Winter Warmth programme utilising public health funding.
As the first pilot to take part in the Kent Warm Homes Scheme in many cases Dartford was used to trial processes and systems. This did result in much time being spent sorting out monitoring processes, referral processes, applications for funding from the provider of the service and obtaining new suppliers for services not offered by Enterprise/Amey. In addition there was a changing landscape in relation to how the scheme developed nationally. This resulted in the number of measures installed as part of the Dartford pilot being limited compared with the rest of Kent.
It has to be noted that due to the level of energy efficiency works undertaken in the Borough and the property types available in Dartford requiring measures the blend of funding available for this project wasn't a particularly good fit.

Dartford	Dartford Private	Dartford Social	Dartford Total
CERO Measure	5	0	5
CSCO Measures	3	0	3
HHCRO Measures	11	0	11
Winter Warmth Measures	5	0	5
Measures			
Loft virgin	3	0	3
Loft top ups	0	0	0
CWI	4	0	4
HTTC CWI	0	0	0
HIT – EWI	1	0	1
heating	16		16
CO2 and £ savings from EST Estimated data			
YLY saving £'s	9849		
YLY CO2 (kg)	26204 kg		

Kent and Medway Total data – key figures

	CERO properties	CSCO properties	HHCRO properties	WW properties	Total properties	Total measures
Private	168	143	68	92	471	402

total						
Social total	683	232	0	0	915	930
Overall total	851	375	68	92	1386	1446
ECO value (£)						£1223596
Other funding						£388,388
Est lifetime £ saving						£6260,550
Est lifetime CO2 saving (kg)						24267843

Aran Services HECA report figures 2013 – 2015
Total Number of completed measures 29
Total Tonnes of Carbon saved 17,419

Description of measure	Number of measures	Average carbon saving	Total carbon saving
Loft insulation less than 100 mm	8	700	5600
Loft insulation more than 100 mm	0	70	0
Loft insulation top up (unspecified)	1	250	250
Cavity wall insulation	12	747	8964
Solid wall insulation	1	1100	1100
Boiler replacement (gas) from E rated	7	215	1505
Solar PV (4kW)	0	1850	0
Heat pumps	0	1000	0
Solar thermal (replacing gas)	0	270	0

WARMER STREETS

Warmer Streets is a £4m energy efficiency improvement programme led by Dartford Borough Council in partnership with Sevenoaks District Council and Kent County Council. The scheme is designed to support residents install heavily subsidised home improvements such as solid wall insulation and new heating systems. The aim is that residents will benefit from warmer, more energy efficient building and have more control over their energy bills. The aim of the project is to support 910 domestic homes and 90 non domestic buildings.

Residents can receive measures recommended by a Green Deal Assessment Report (GDAR) such as solid wall insulation, cavity wall insulation, loft insulation, heating controls, replacement boiler, draught proofing, glazing replacement, hot

water cylinder thermostat and hot water cylinder thermostat. The Green Deal Assessment is provided at no cost to the resident and no obligation; Warmer Streets use the GDAR to provide an offer to the resident detailing what the costs are for each measure and how Warmer Streets can contribute.

Details relating to the scheme as at week ending 6 March 2015.
Dartford – Domestic.

Subject	Comments	Cumulative
Number of events	Events attended by the Warmer Streets Engagement Team including event held by other organisations and agencies	60
Number of homes receiving information leaflet	Hand delivered leaflet by Engagement Team	11652
GDA	Number of assessments booked	767
GDA	Number of assessments carried out	622
GDA reports	Number of GDA reports received	573
GDA reports	Number discussed with residents	103
Technical Surveys	Number of technical surveys carried out	72
Plans	Number of plans discussed with residents	430
Energy Plan	Number of Energy Plans signed (measures agreed)	199
GD Finance Plans	Number of GDF plans signed (measures agreed)	11
Measures	Number of homes with measures installed	19

Works pending installation as at week ending 19 March 2015.

Works	Tree	East hill	West hill	Dartford wide	DBC	total
EWI	104	28	2	0	15	145

Boiler	40	12	2	4	0	58
Loft	45	35	1	2	52	135
CWI	11	9	0	1	6	27
Heating controls	18	8	2	0	0	28
Cylinder jacket	4	4	1	0	0	9
Cylinder thermostat	2	1	0	0	0	3
Glazing	3	1	0	0	0	4
Draught proofing	2	0	0	0	0	2

COLLECTIVE SWITCHING – ENERGY DEAL

A successful bid to the Department of Energy and Climate Change 'Cheaper Energy Together' fund provided £20,700 to support the 'start up' and promotion of the scheme across four authorities in Kent including Dartford.

The Collective Switching Scheme in Kent – Energy Deal, was launched in April 2013 by the Council and delivered in collaboration with the districts of Dover, Gravesham and Tunbridge Wells. Two campaigns have been run, the first from April 2013 to June 2013 and the second from December 2013 to February 2014. Dartford Council also recently offered a campaign to its residents with an auction date of 13 October 2014. This particular campaign has been promoted to link with the DECC funded Warmer Streets Scheme operating in parts of the Borough. Tonbridge and Malling Council subsequently joined Energy Deal in November 2014 and all the districts involved in Energy Deal have taken part in the most recent Big Community Switch scheme with the closing date on people accepting their offers of 16 March 2015. The latest auction gave very good savings and I Choosr who runs the campaign for Energy Deal have made contact with some people who had registered with the scheme when it first ran in 2013. We are currently waiting on final switching details.

Dartford Borough Council has promoted Energy Deal through a variety activities: presentations at Elders Forum, Healthy Living Centre, drop in sessions, use of social media, posters in public car parks, mail shots to targeted areas in the Borough, benefit recipients, council housing magazine, newspaper adverts and letter drop to areas with low EPC bands.

BCS2 (June 2013)	Total	Energy Deal	

	Energy Deal	Dartford	Dover	Gravesham	Tunbridge Wells	Tonbridge & Malling	BCS
Total Registrants	2130	686	501	473	470	-	23356
Total Complete Registrants	1915	605	451	428	431	-	21161
Switchers	**208**	**55**	**57**	**54**	**42**	**-**	**6%**
Average Saving £	93	91	93	92	97	-	94
Average Realised Saving £	127	1 17	119	128	151	-	133

BCS4 (Feb 2014)	Total Energy Deal	Energy Deal					
		Dartford	Dover	Gravesham	Tunbridge Wells	Tonbridge & Malling	BCS
Total Registrants	1399	300	589	230	280	-	27574
Total Complete Registrants	748	158	329	118	143	-	25483
Switchers	**383**	**85**	**148**	**73**	**77**	**-**	**24%**
Average Saving £	202	176	160	199	323	-	176
Average Realised Saving	202	228	195	182	208	-	211

BCS6 (Oct 2014)	Total Energy Deal	Energy Deal					
		Dartford	Dover	Gravesham	Tunbridge Wells	Tonbridge & Malling	BCS
Total Registrants	-	161	-	-	-	-	9628
Total Complete Registrants	-	139	-	-	-	-	8917
Switchers	**-**	**47**	**-**	**-**	**-**	**-**	**29%**
Average Saving £	-	187	-	-	-	-	170
Average Realised Saving £	-	222	-	-	-	-	202

BCS7 (Feb 2015)	Via Referral Link	

	Energy Deal	Dartford	Dover	Gravesham	Tunbridge Wells	Tonbridge & Malling	BCS
Total Registrants	575	44	145	34	16	33	16507
Total Complete Registrants	523	42	133	32	13	32	15130
Switchers	**103**	**8**	**45**	**7**	**6**	**8**	**23%**
Average Saving £	246	213	221	215	370	251	247
Average Realised Saving £	277	285	253	194	434	269	277

Via Council.
A combination of registrations via referral link and plus all 'energy deal' referral link registrations.

BCS7 (Feb 2015)	Energy Deal	Dartford	Dover	Gravesham	Tunbridge Wells	Tonbridge & Malling
Total Registrants	847	105	237	104	65	252
Total Complete Registrants	775	103	225	102	62	251
Average Saving £	241	219	225	227	294	251

SOLAR PHOTO VOLTAIC PANELS (Solar PV)

In 1 April 2010 the Government introduced the Feed in Tariff (FIT), whereby any electricity produced over and above the electricity usage level of the property to which the Solar PV is fitted can be sold back to the national grid at a level set by the Government. The figure received for electricity generation which is set by the Government and paid per kilowatt and has changed a number of times since FITs commenced. Once your system has been registered, the tariff levels are guaranteed for the period of the tariff (up to 20 years) and are index-linked.

The aim of the Solar PV is to reduce the energy expenditure of the affected tenants and positively impact on their fuel poverty, and to contribute towards meeting the Government targets.

The Council has installed a number of Solar PV systems on Council properties in the Borough:

PROPERTY NUMBERS			
Willow Road	73	Cedar Road	1
Elm Road	5	Chestnut Road	6
Hawthorn Road	7	Mead Road	2
Maple Road	2	Crusader Court	31
Laurel Close	5	Olive Avenue	8
Beech Road	3	The Homestead	

We have delivered a renewable energy programme to install solar PV on a number of Council properties both on domestic properties and sheltered housing units. The following table shows the solar PV figures for supported housing as reported in our last Greenhouse Gas Emission Report 2013/14

Address	Production	CO2/tonnes	Income
Mill Court	14053	7.37	£2671
Warren Court	26053	14.11	£5114
Lenderyou Court	17,860	9.37	£3,395
Wardona Court	23,270	12.21	£4,423
Thatcher Court	25,437	13.34	£4,835
The Homestead	11,407	5.98	£2,168

The Sheltered Accommodation electricity consumption has reduced during the year 2013/14. All solar PV Systems are monitored by a Contractor.

GLOSSARY

Adaptation: Action that helps cope with the effects of climate change – for example construction of barriers to protect against rising sea levels, or conversion to crops capable of surviving high temperatures and drought

Carbon Emissions Reduction Target (CERT): This is a statutory obligation designed by the Government to compel energy suppliers and generators to reduce carbon emissions in homes. (The Government was committed to continuing CERT until December 2012).

Code for Sustainable Homes: The Code for Sustainable Homes is a government owned national standard for the sustainable design and construction of new homes. The Codes goes further than the current Building Regulations but is entirely voluntary. The Code measures the sustainability of a new home against nine criteria, rating the whole home as a complete package. It covers carbon dioxide

emissions, water, materials, surface water runoff, waste, pollution, health and well being, management and ecology.

Decent Homes Standard: The Decent Homes Standard is the minimum standard that all social housing should meet. A decent home will meet the follow four criteria:

- The current statutory minimum standard for housing
- It is in a reasonable state of repair
- It has reasonably modern facilities and services
- It provides a reasonable degree of thermal comfort

Energy Company Obligation: The Energy Company Obligation (ECO) will work alongside the Green Deal. Where the cost of energy improvements outweighs the savings, or people need extra financial help, energy companies will be able to step in to provide a top up loan under the ECO. The focus will be on vulnerable and low income households and those living in harder to treat properties, such as solid walled properties.

There are three elements of ECO funding:

- Carbon Emissions Reduction Obligation (CERO)
- Home Heating Cost Reduction Obligation (HHCRO)
- Carbon Savings Community Obligation (CSCO)
-

Feed-in Tariffs: Feed-in Tariffs (FiTs) are designed to encourage the installation of small scale low carbon electricity-generating technologies such as solar photovoltaics or wind turbines. For every unit of electricity generated, the owner receives a guaranteed payment (FiT) from their electricity supplier. They also receive a payment (export tariff) for any surplus electricity exported back to the grid.

Fuel Poverty: Households are considered by the Government to be in 'fuel poverty' if they would have to spend more than 10% of their household income on fuel to keep their home in a 'satisfactory' condition. It is thus a measure which compares income with what the fuel costs 'should be' rather than what they actually are. Whether a household is in fuel poverty or not is determined by the interaction of a number of factors including the cost of energy, the energy efficiency of the property (and therefore, the energy required to heat and power the home) and household income.

Green Deal: The government planned to launch the Green Deal in Autumn 2012. It is a national scheme to provide householders and businesses with upfront capital to carry out energy efficiency improvements to their properties. The costs of installing the measures will be repaid over time through a charge on the property's electricity bill, which must not be any higher than the expected savings. This is referred to as the 'golden rule principle.'

Fossil Fuels: Natural resources, such as coal, oil and natural gas, containing hydrocarbons. These fuels are formed in the Earth over millions of years and produce carbon dioxide when burnt. Registered Social Landlords: Registered Social Landlords (RSLs) are not for profit housing providers approved and regulated by the government through the Housing Corporation. The vast majority of RSLs are also known as housing associations.

Renewable Heat Incentive: The Renewable Heat Incentive is a government scheme designed to provide financial support to encourage individuals, communities and businesses to switch from using fossil fuel for heating to renewables such as ground source heat pumps and wood chip boilers.

Supplementary Planning Document: Supplementary Planning Documents (SPDs) provide guidance on local planning matters. They can take a number of forms but can generally be categorised into two broad types:

Area based SPDs – these include master plans and development briefs dealing with a specific parcel or parcels of land

Topic based SPDs – these provide additional information on a specific local issues, such as design guide

Carbon Dioxide (CO2): Carbon dioxide is a gas in the Earth's atmosphere. It occurs naturally and also a by-product of human activities such as burning fossil fuels. It is the principal greenhouse gas produced by human activity

Carbon Dioxide (CO2) equivalent: Six greenhouse gases are limited by the Kyoto Protocol and each has a different global warming potential. The overall warming effect of this cocktail of gases is often expressed in terms of carbon dioxide equivalent – the amount of CO2 that would cause the same amount of warming.

Greenhouse Gases (GHGs): The atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO2), methane (CH4) and nitrous oxide (N20). Less prevalent, but very powerful greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6). They absorb thermal infra-red radiation emitted by the Earth's surface, the atmosphere and clouds.

Kyoto Protocol: A protocol attached to the Un Framework Convention on Climate Change, which sets legally binding commitments on greenhouse gas emissions. Industrialised countries agreed to reduce their combined emissions to 5.2% below 1990 levels during the five year period 2008 – 2012. It was agreed by governments at a 1997 UN conference in Kyoto, Japan, but did not legally come into force until 2005.

Mitigation: Action that will reduce man made climate change. This includes action to reduce greenhouse gas emissions or absorb greenhouse gases in the atmosphere.

Renewable Energy: Renewable energy is energy created from sources that can be replenished in a short period of time. The five renewable sources used most often are: biomass (such as wood and biogas), the movement of water, geothermal (heat from within the earth), wind and solar.

Smart Meter: Smart meters are the next generation of gas and electricity meters and they can offer a range of intelligent functions. The Government is requiring energy companies to install 53 million gas and electricity meters at 30 million domestic and smaller non domestic properties. Most householders will have smart meters installed between 2014 and 2019, although some energy companies are starting to install smart meters now.

Energy Performance Certificates: Energy Performance Certificates (EPC) were introduced as part of the Home Information Pack in 2007. The requirement for a full Home Information Pack was suspended in May 2010, but the Energy Performance Certificate is still required. The Energy Performance Certificate contains details of a property's energy efficiency and uses a scale from A to G for this and the impact of the property on the environment through carbon emissions.

The areas assessed include the insulation within the property, whether double glazing has been fitted, whether energy saving light bulbs are used the type of heating system. The Energy Performance Certificate then gives the ratings and offers advice on improving energy efficiency within the property. The average property in the UK currently rates between D and E for energy efficiency and environmental impact with A being the highest rating. An EPC is now needed in order to access the Green Deal.

Solar Photovoltaic (PV): the effect that certain materials generate electricity upon exposure to light. Photovoltaic technology is used in solar panels on your roof that generate electricity for your home

kWh (kilo watt hours): Measure of electricity as generated by the solar system. Defined as power (watt) used for a period of time (hours). All the domestic appliances use a certain power for a certain time. They all use electricity. Solar system outputs are measured on a yearly basis, and a 1 kwp system can generate around 800 kwh per year.

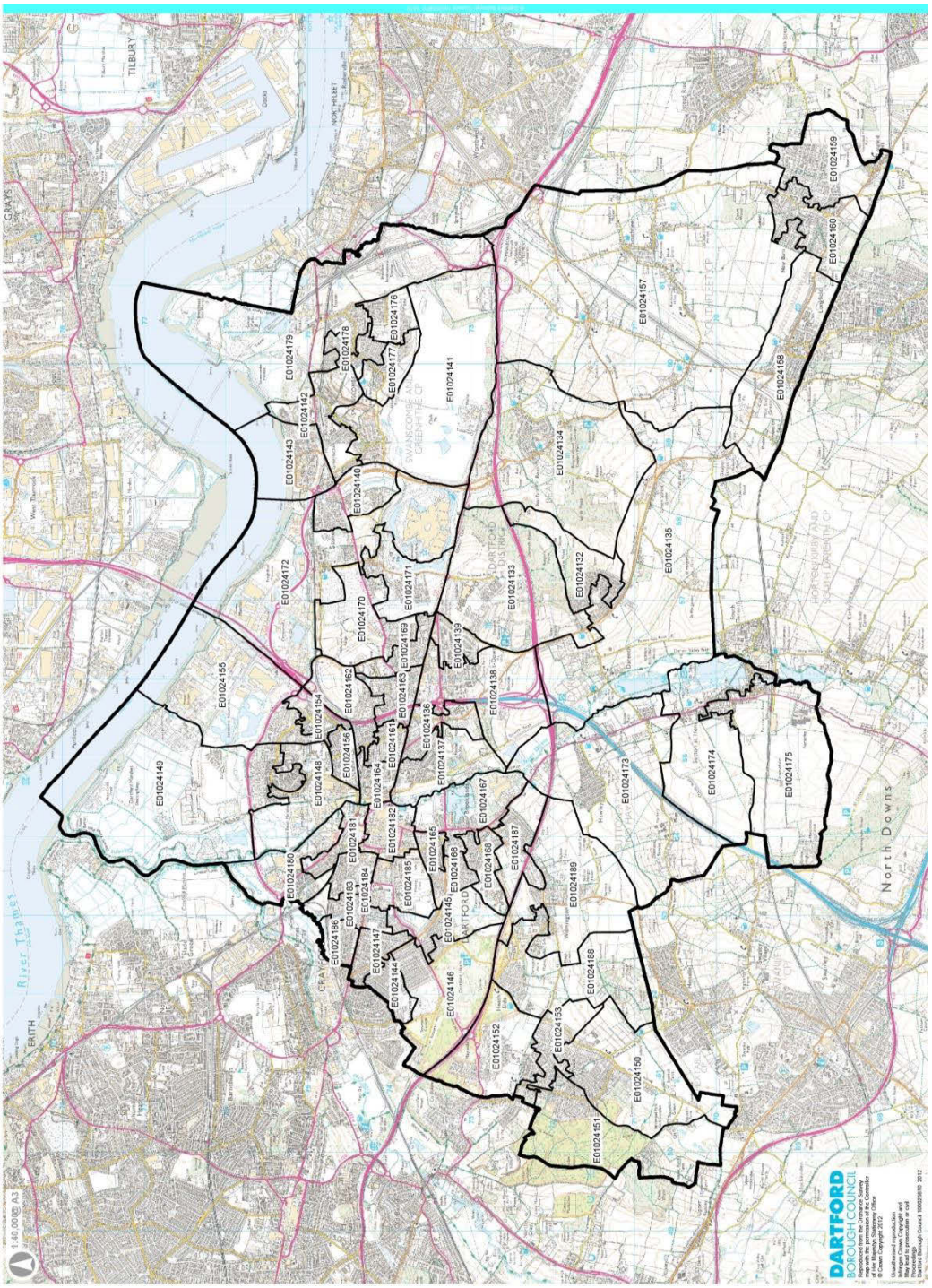
kWp (kilo watt peak): The number of kilo watts (1000 watts) a photovoltaic system will produce in peak conditions, which is the basic measure of performance under standard testing conditions. Needs to be combined with solar potential, insulation and the derate factor to get the actual system outputs in kwh on a specific roof.

Feed in tariff: for each kWh generated you will receive a government incentive. The amount depends on the solar system size whether it is a new built, retrofit or ground mounted system. In systems below 4 kWp it currently is 15 pence per kwh generated. This incentive is guaranteed for 20 years, tax free, and will rise in line with inflation.

Export tariff: when you don't use the electricity in your own home, you can sell it back to your electricity supplier. Current rates are 4.5 pence per kWh exported, and all electricity companies are legally obliged to pay these tariffs. This tariff is tax free and will also be adjusted to inflation.

Appendix A

Dartford Lower Super Output Areas



APPENDIX B

Fuel Poverty Table showing percentage rates for fuel poor households

		LIHC INDICATOR		10% Definition	
LSOA Code	Estimated number of households	Estimated number of fuel poor households	Proportion of households fuel poor %	Estimated number of fuel poor households	Proportion of households fuel poor %
E01024132	489	47	9.6%	32	6.5%
E01024133	460	15	3.3%	21	4.6%
E01024134	649	39	6.0%	48	7.4%
E01024135	541	68	12.6%	58	10.7%
E01024136	678	56	8.3%	54	8.0%
E01024137	552	48	8.7%	53	9.6%
E01024138	656	44	6.7%	51	7.8%
E01024139	690	42	6.1%	40	5.8%
E01024140	1,172	57	4.9%	92	7.8%
E01024141	632	30	4.7%	36	5.7%
E01024142	1,247	72	5.8%	100	8.0%
E01024143	999	25	2.5%	33	3.3%
E01024144	544	46	8.5%	49	9.0%
E01024145	594	46	7.7%	56	9.4%
E01024146	538	48	8.9%	54	10.0%
E01024147	652	49	7.5%	57	8.7%
E01024148	848	51	6.0%	56	6.6%
E01024149	1,219	51	4.2%	47	3.9%
E01024150	642	37	5.8%	56	8.7%
E01024151	625	35	5.6%	50	8.0%
E01024152	930	61	6.6%	78	8.4%
E01024153	542	33	6.1%	41	7.6%
E01024154	511	42	8.2%	32	6.3%
E01024155	575	40	7.0%	37	6.4%
E01024156	783	31	4.0%	30	3.8%
E01024157	674	48	7.1%	62	9.2%
E01024158	649	47	7.2%	48	7.4%
E01024159	647	29	4.5%	42	6.5%
E01024160	549	31	5.6%	47	8.6%
E01024161	799	80	10.0%	83	10.4%
E01024162	817	31	3.8%	41	5.0%
E01024163	728	54	7.4%	63	8.7%
E01024164	798	90	11.3%	90	11.3%
E01024165	674	76	11.3%	55	8.2%
E01024166	620	74	11.9%	50	8.1%
E01024167	773	68	8.8%	71	9.2%
E01024168	488	46	9.4%	39	8.0%
E01024169	629	55	8.7%	39	6.2%
E01024170	666	62	9.3%	52	7.8%
E01024171	620	29	4.7%	32	5.2%

E01024172	979	45	4.6%	65	6.6%
E01024173	696	46	6.6%	62	8.9%
E01024174	497	30	6.0%	28	5.6%
E01024175	514	36	7.0%	40	7.8%
E01024176	787	59	7.5%	61	7.8%
E01024177	598	56	9.4%	42	7.0%
E01024178	622	57	9.2%	44	7.1%
E01024179	1,211	131	10.8%	128	10.6%
E01024180	673	30	4.5%	37	5.5%
E01024181	498	45	9.0%	47	9.4%
E01024182	773	50	6.5%	60	7.8%
E01024183	521	50	9.6%	56	10.7%
E01024184	771	58	7.5%	75	9.7%
E01024185	855	53	6.2%	64	7.5%
E01024186	513	38	7.4%	52	10.1%
E01024187	441	30	6.8%	39	8.8%
E01024188	508	33	6.5%	37	7.3%
E01024189	684	44	6.4%	45	6.6%
	40,040	2824	7.1%	3057	7.6%