i) LOCAL ENERGY EFFICIENCY AMBITIONS AND PRIORITIES

Executive Summary

The Bath & North East Somerset Sustainable Community Strategy (SCS)[1] sets the ambitions for local energy efficiency, and tasks the cross-party, inter-organisational B&NES Environmental Sustainability Partnership (ESP) with delivering these ambitions. The SCS states that *"We will provide the leadership for our communities to help people reduce carbon emissions across the area by 45% by 2026"* and *"Incidences of fuel poverty will be addressed and reduced. Communities will be equipped to deal both with increases in energy costs and the increased frequency of extreme weather events such as flooding".*

These aims are carried through into the ESP's Environmental Sustainability and Climate Change Strategy (ESCC Strategy)[2]. Since domestic CO_2 emissions constitute the largest portion (around 40%) of the area's total, the Home Energy work stream is the top priority of the ESCC Strategy.

The forthcoming Health & Wellbeing Strategy reflects our ambition to tackle fuel poverty and climate change and climate change is also a key objective in the forthcoming draft Core Strategy, the highest level of planning policy.

The Housing and Wellbeing Strategy key priority is to tackle fuel poverty and climate change by making homes warmer and more energy efficient (3)

Fuel Poverty

Existing local plans

[1] B&NES Sustainable Community Strategy 2009-2026: http://www.bathnes.gov.uk/sites/default/files/sustainable_community_strategy.pdf
[2] ESCC Strategy 2012-2015; http://www.bathnes.gov.uk/sites/default/files/esp_-_strategy_2012-2015.pdf
3 Housing and Wellbeing Strategy; http://www.bathnes.gov.uk/sites/default/files/siteimages/5022_housing_and_wellbeing.pdf

	In place • Free 'phone Home Energy Team advice line giving energy saving advice and guidance. Currently fielding an average of 85 B&NES residents calls/month, with peaks of up to 210/month during specific promotions. • Winter Warmth Club – see www.bathnes.gov.uk/wwc - (DOH funded) – (partners include :- CURO RSL; British Red Cross: Age UK in B&NES; WOE Care and Repair; Centre for Sustainable Energy)- accessible via free advice line (above), for a variety of immediate help and guidance in severe weather and longer term help to improve home energy efficiency through grants etc. Includes demonstration home also used as hub for street level marketing. Also includes visits to local lunch clubs etc. WWC badging and hub idea being carried through to CSCO ECO Pilot currently in development (see below). • Our Green Deal in Somerset - (DECC GD Pioneer Places funded) - providing free Green Deal assessments and an introduction to Green Deal. Currently 173 free assessments being processed in B&NES. • Warm Streets insulation – (DECC Fuel Poverty funded) – extension of our flagship CERT funded scheme providing additional 30 insulation installs in homes in B&NES in the post-CERT, pre Green Deal interim. • Awareness raising/training sessions for front-line staff on affordable warmth – on-going to team meetings and outside groups • Local Affordable Warmth Action Group – chaired by B&NES NHS – working with partners to fight fuel poverty, promote affordable warmth, improve health and well-being and reduce local Excess Winter Mortality (EWM) figures. Partners include:- B&NES Housing Services; B&NES Sustainability team ;B&NES NHS Public Health ; Age UK in B&NES ; CURO RSL ; The Care Forum: Sirona Care & Health : WOE Care and Repair ; Somerset Care & Repair : Energy Efficient Widcombe : Centre for Sustainable Energy: B&NES Councillors Pritchard, Hall and Martin. • WOE Care and Repair Winter Warmth Scheme – (DOH funded) – healthy homes checks as part of WWC • Deaf Plus and Vision Plus -Partnership with local groups -– working with vision and hearing impairment groups to improve channels of communication re. affordable warmth, etc. (Deaf Plus and Vision Plus considering setting up specially adapted demonstration house as WWC hub). • Community Group Projects - Twerton Winter Warmth, Energy Efficient Widcombe, • Bath Green Homes – showcasing all types of local homes that are warm, green and cheap to run	

- Bath Green Living Fair – local awareness raising events

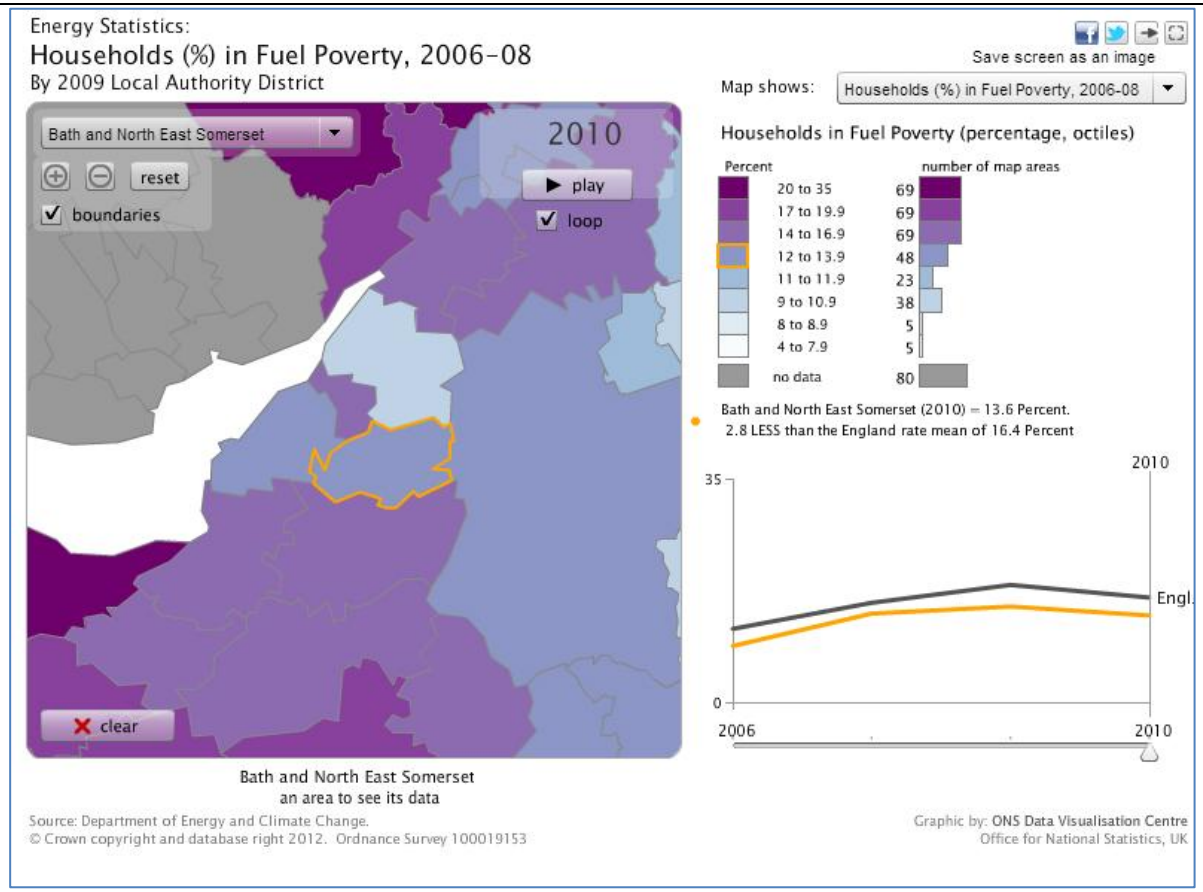
In development

- CSCO ECO Pilot – partners SSE and CSE – initial ECO funding promised £200,000 – project currently awaiting resolution of carbon counting methodology – to be badged as Winter Warmth Club for effective local identity - plans to target approx. 1800 homes in B&NES CSCO areas via street-by-street, door-to-door marketing from central hub/open house (see WWC above)
- Energy at Home partnership – B&NES Sustainability team commissioned a Green Deal scoping study from consultants VERCO, which makes recommendations in relation to the key objectives of:
    a) Reducing fuel poverty;
    b) Maximising the local economic benefits of a local energy efficiency improvement programme;
    c) Maximising uptake and reducing carbon dioxide emissions; and
    d) A clear role for community enterprise and other community interests
- The research recommended a Delivery Partnership Approach and the procurement of one or more Green Deal Providers (GDP), an Affordable Warmth Service and separate local Marketing, Promotion and Assessment Service as partners. The recommendation on a Community Partnership Approach has been officially adopted by the Council and work on implementing an overall programme of retro fit is now underway.
- In relation to reducing fuel poverty the research recommended local co – ordination of delivery, joint working across teams including health care staff and with Health and Wellbeing Boards, training of frontline staff and effective ECO brokerage to maximise funding.

Baseline statistics & trends

- In 2010, some 9,970 households (13.6%) in Bath and North East Somerset were estimated to be in Fuel Poverty. This is lower than the county (14.7%), regional (15.2%) and national (16.4%) figure for that year. From 2006 to 2010, the rate of fuel poverty in Bath and North East Somerset is estimated to have increased by some 4.8%, with a peak in 2009 at 15% (Figure 1). The B&NES House Condition Survey 2011 identified 17% of private sector

	households in fuel poverty. **Targets and priorities** • **Statement of intent** We will aim to reduce fuel poverty and will establish plans to achieve this. Figure 1. Fuel poverty in Bath and North East Somerset.	



[Source: DECC Interactive Charts and Maps, Fuel Poverty Statistics, 2010]

Energy Consumption

Baseline stats & trends

- Total and average annual domestic electricity and gas demand in Bath and North East Somerset in 2010 is shown in Table 1. Average electricity consumption of households on standard meters in BaNES is slightly higher than the

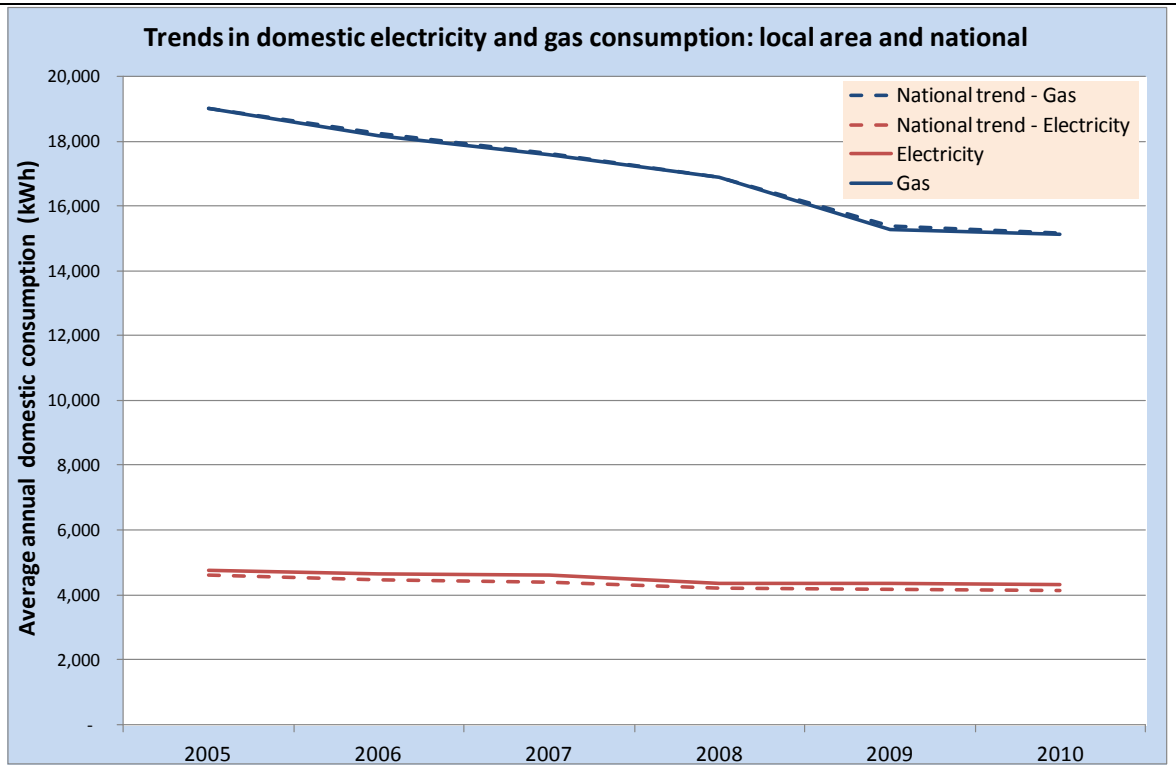
national average, at just under 3,900 kWh a year, whilst average household gas consumption in the area is very similar to national average, at just over 15,100kWh. The majority of domestic properties in Bath and North East Somerset have mains gas.

- Domestic energy consumption, and gas particularly shows a decline since 2005, in line with national trends.

Table 1. Domestic electricity and gas consumption in Bath and North East Somerset

Electricity consumption	**B&NES**	***National***
Total Ordinary Domestic Consumption (kWh)	258,846,520	*83,617,338,808*
Total Economy 7 Consumption (kWh)	77,291,201	*28,979,740,857*
Total Number of Ordinary Domestic Meters	66,403	*22,054,469*
Total Number of Economy 7 Meters	11,782	*5,081,738*
Proportion Economy 7 Meters	15%	*19%*
Average Ordinary Domestic Consumption (kWh)	3,898	*3,791*
Average Economy 7 Consumption (kWh)	6,560	*5,703*
Gas consumption		
Total Consumption (kWh)	954,000,806	*343,878,360,068*
Total Number of Meters	63,042	*22,688,598*
Estimated Proportion of Households with Gas meters	88%	*86%*
Average Gas consumption (kWh)	15,133	*15,156*

[Source: DECC Middle Layer Super Output Area (MLSOA) on Domestic Electricity and Gas]



[Source: DECC Domestic Electricity and Gas Sales per Consumer (KWh) by Local Authorities]

Domestic Carbon Emissions

Existing local plans for carbon reduction

- The SCS sets the high-level ambition for carbon reduction, which is carried forth into the following policies and

documents:

- The B&NES draft Core Strategy[3]y lists Climate Change as a key strategic issues and lists, as Objective 1, to "Pursue a low carbon and sustainable future in a changing climate". This objective is carried forward throughout the draft Core Strategy, and in particular through the five Core Policies, a summary of which is below:
    - ⇨ CP1: Retrofitting in existing buildings: Encouraging the retrofitting for energy efficiency of existing buildings, including listed buildings
    - ⇨ CP2: Sustainable Construction: All planning developments should include evidence that sustainability standards have been addressed. CP2 also requires major developments to meet standards of Code for Sustainable Homes
    - ⇨ CP3: Renewable Energy: Development should contribute to achieving a minimum level of installed renewable heat and electricity capacity by 2012 of 110MWe of electricity and 165MWth of heat.
    - ⇨ CP4: District Heating: Expects development in three key priority areas to incorporate infrastructure for district heating and to connect to existing systems when they are available and requires all major developments to demonstrate that they have used a thermal master-planning approach.

- To deliver the targets in the renewable energy policy, the Council has a cooperation agreement with Bath & West Community Energy (BWCE), a local social enterprise which aims to install ¼ of the Core Strategy renewable energy target through community projects. BWCE reinvests a portion of their revenues into a Community Fund which is allocated to further low carbon projects including energy efficiency[4].
- The Retrofitting and Sustainable Construction policies are supported by the Sustainable Construction and Retrofitting Supplementary Planning Document (SPD)[5]. The SPD gives guidance for small new-build developments and informs residents about how to retrofit the most common types of homes in the district. A further guidance document on energy efficiency in listed buildings is also in development.
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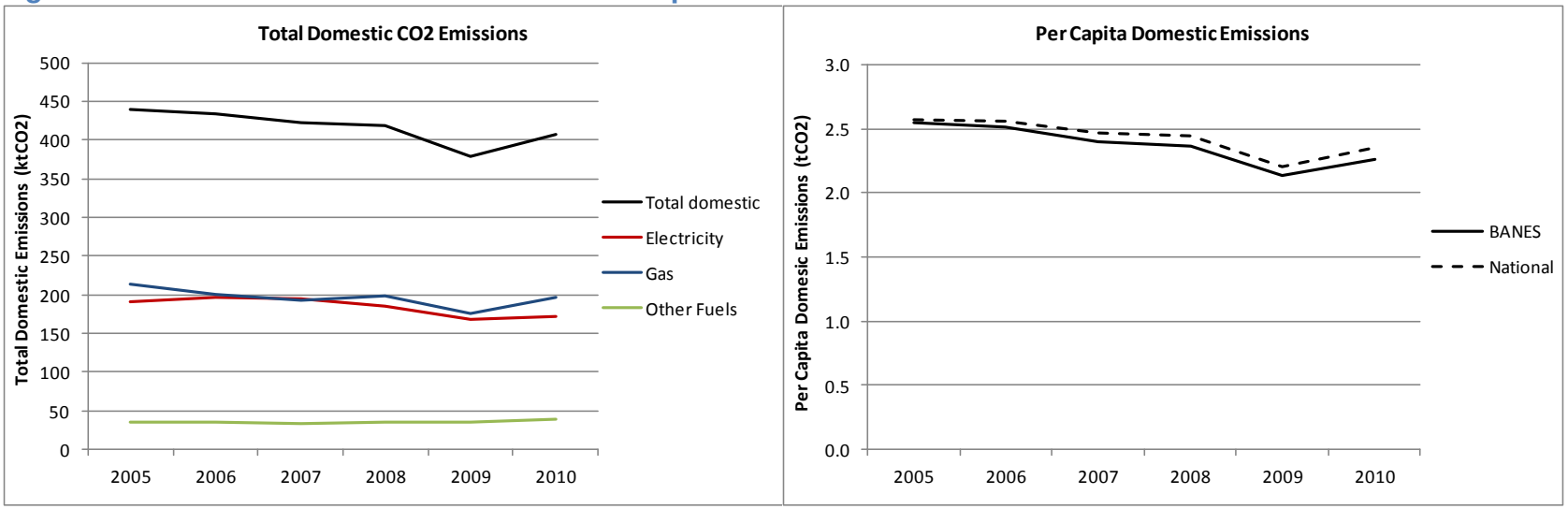
Baseline statistics & trends

- Total domestic annual carbon dioxide emissions in Bath and North East Somerset decreased slightly from 2005 to 2009, with a subsequent increase in 2010. This mirrors the national trend.

[3] Draft Core Strategy: http://www.bathnes.gov.uk/sites/default/files/sitedocuments/Planning-and-Building-Control/Planning-Policy/Core-Strategy/dcs_interactive.pdf
[4] BWCE: http://www.bwce.coop/
[5] SPD: http://www.bathnes.gov.uk/greenbuild

- In 2010, total domestic carbon dioxide emissions in BaNES were 407.5 $ktCO_2$. This equates to average, per capita emissions of some 2.3 tCO_2, which is lower than the national average of 2.4$ktCO_2$ per person per year (Figure 2).

Figure 2: Total Domestic Emissions and Per Capita Domestic Emissions in Bath and North East Somerset



[Source: DECC Local Authority CO_2 emissions dataset - CO_2 emissions within the scope of influence of Local Authorities]

Targets and priorities

Targets and priorities

Our target is to reduce energy use in line with the Sustainable Community Strategy target of a 45% reduction in the area's CO2 emissions from 1990 levels by 2026.

There is no target yet for the reduction in domestic carbon emissions but this sector accounts for about 42% of emissions and is the largest contributor.

Our Green Deal Scoping Study found that the retrofit market could be worth an additional £10-20m a year over

	current levels of activity across B&NES, assuming a pro-rata share of the Federation of Master Builders estimate of the UK retrofit market. We believe the value of our plans will be worth £10 -20 m potential business if retro fit at a rate to meet national carbon targets, we are trying to maximise market share to local businesses.	

ii) MEASURES WE ARE TAKING TO RESULT IN SIGNIFICANT ENERGY EFFICIENCY IMPROVEMENTS OF OUR RESIDENTIAL ACCOMMODATION		
Green Deal and ECO	We will undertake preparatory work to remove barriers to the Green Deal e.g.: • Early take up of the Green Deal & ECO grants facilitated by information on the B&NES website, through frontline services and through targeted emails, including signposting to: the B&NES Home Energy Advice Line (run by the Centre for Sustainable Energy); free assessments as part of the Pioneer Places bid (with 173 assessments registered to date); and Bath Green Homes 'exemplar' weekend. • A proactive approach, developed with local partners such as Curo Housing and Bath & West Community Energy, has been approved in order to influence delivery of Green Deal and maximise benefits for the local community. The recently published Green Deal Scoping Study, commissioned by B&NES in 2012, is being used to develop a local process for retrofit including setting up an LA-Community Partnership and exploring the appointment of a Green Deal /ECO delivery partner or partners. This emerging retrofitting strategy will promote good customer service and outcomes; prioritise vulnerable groups particularly those in fuel poverty; support the reduction of carbon emissions including through the use of community marketing; and strengthen the local economy by creating business opportunities and the potential for local jobs. • The SPD (see above) also contains guidance on Permitted Development rights. This provides information for those areas where SWI requires no separate planning permission. In addition we are exploring with the Planning Department how the SWI planning application process can be streamlined for area-based retrofits.	
	Role the authority has decided to play in delivering the Green Deal:- • Partner - work in partnership with commercial Green Deal Providers and community partners to deliver and facilitate delivery	
	How the authority plans to use Green Deal/ECO and other programmes to tackle fuel poverty; B&NES is also working with local authorities in the West of England sub-region to explore the possibilities for joint working on ECO Affordable Warmth. Packaging joint ECO demand may help achieve the best negotiated price for ECO and therefore deliver energy efficiency measures to a greater number of homes. There may also be scope to deliver a joint Affordable Warmth service to ensure that a focused, good quality service is delivered to vulnerable, low income households.	

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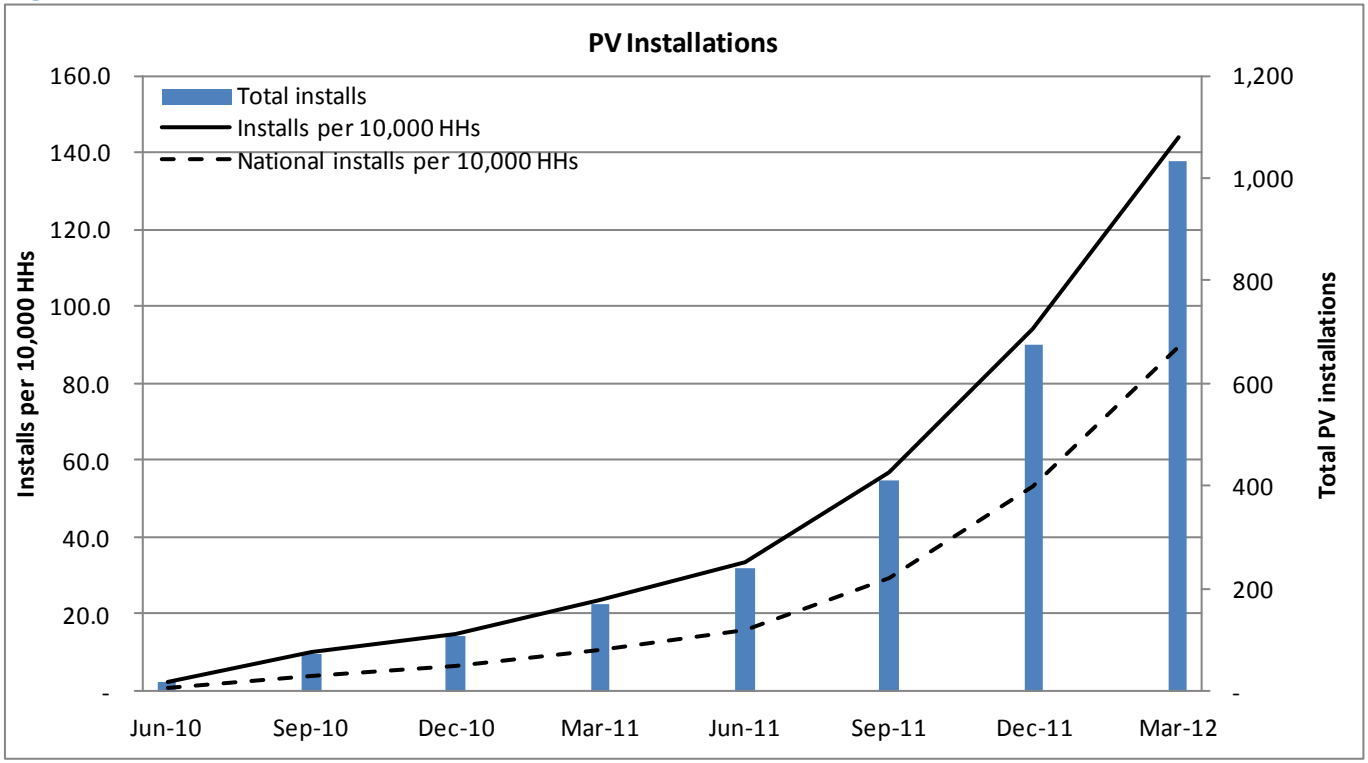
Feed in Tariffs scheme	• **Domestic renewable electricity installations**: At the end of June 2012, there were a total of 1,158 Photovoltaic (PV) installations in Bath and North East Somerset (Figure 3). By December 2012, this figure had risen to 1,353 registered PV installations on the Feed-in Tariff (FIT) register, with an additional 1 micro-wind, 1 hydro-electric and 4 micro-CHP (Table 3). This represents a total installed capacity of 4,375kW of domestic renewable electricity installations and a marked increase since the FIT was introduced in April 2010. The installation rate of PV in B&NES (based on the number of installs per 10,000 households) is notably higher than the national average (Figure 3). • ***Statement of intent:*** The draft Core Strategy sets renewable energy targets for the district. We are currently developing a Clean Energy Strategy to set specific targets for the amount of renewable energy to be generated through installations on domestic properties versus free-standing technologies to supply the grid.	

Table 3. Domestic installations registered for FIT in Bath and North East Somerset (to end December 2012)

	Total Installed Capacity (kW)	Total Declared Net Capacity (kW)	Count
Hydro	24	24	1
Micro CHP	4	4	4
Photovoltaic	4,325	4,320	1,353
Wind	22	22	1
Total	***4,375***	***4,370***	***1,359***

[Source: DECC Feed In Tariff (FIT) Installation Report (1st April 2010 – 31 December 2012)

Figure 3. Domestic PV installations in Bath and North East Somerset



[Source: DECC Interactive map underlying datasets https://www.gov.uk/government/publications/guidance-on-how-to-use-the-interactive-maps]

Renewable Heat Premium	• Data on number of installations under the Renewable Heat Premium Payment scheme is not publicly available at Local Authority level. However, by the end of January 2013, there was 13MW of installed capacity, from a total of 1,683 accredited installations in the South West, representing 20% of all RHPP installations across Great Britain.	

Payment

- As part of the ESP's Sustainable Energy Strategy development, a feasibility project is being undertaken to determine the best way for the Council to stimulate and support local biomass uptake and supply chain development.

Table 4. RHPP Deployment Data: South West to end January 2013

		Total	RHPP 1 (1st August 2011 to 31st March 2012)	RHPP 2 (1st May 2012 to 31 January 2013)
Installations	**Number**	1,683	1,097	586
	% of total	20%	21%	19%
Heat pump and biomass installations (redeemed)	**Number**	998	704	294
	% of total	19%	20%	17%
Heat pump and biomass installed capacity (MW)	**Capacity (MW)**	13	10	3
	% of total	19%	20%	18%

[Source: DECC RHI and RHPP Deployment Data. January 2013.]

Zero Carbon Homes

In line with UK Government objectives for all new homes to be zero carbon from 2016, we propose :-

* In addition to the draft Core Strategy and SPD, the drive for low and zero carbon homes is being carried forward in a variety of ways through the planning process:

- Placemaking Development Plan Document: This document provides the possibility to set site-specific

	sustainable construction targets. - Site Concept Statements: For the regeneration of the MoD sites the Concept Statements[6] set the ambition for Code for Sustainable Homes Level 5 (zero regulated emissions) to be met site-wide. - Innovative partnership approaches: We are investigating whether BWCE can work with developers to install and own renewable energy on their sites, so that high sustainability standards can be met at a low cost to the developers.	
EPCs	• Modelling and analysis of an address-level dataset of the local housing stock[7] estimates that just over 50% of the housing stock in Bath and North East Somerset is SAP band D and just over one fifth (21%) is Band E. Compared to the regional and national profile, Bath and North East Somerset's housing stock fairs slightly better on energy efficiency ratings[8]. This reflects the mixed nature of the local housing stock, which on the one hand is (proportional) older, with around two fifths being built pre-1945 (42%) and nearly one third (30%) estimated to have solid walls, but on the other the majority do have mains gas heating and two fifths (39%) are estimated have insulated cavity walls (CSE, 2013). Further analysis of the B&NES private sector housing stock following the B&NES House Condition Survey 2011 also provides a local profile of the energy efficiency rating of local housing. This will also be considered before overall planned energy saving potential is proposed. We are establishing further data on the energy efficiency rating of our residential accommodation,	

[6] MoD Concept Statements: http://www.bathnes.gov.uk/services/planning-and-building-control/planning-policy/mod-concept-statements

[7] This dataset was compiled by the Centre for Sustainable Energy using address-level data provided by the Council including data on Warm Front installations, Building Control Data and information from other local improvement schemes. This Council-supplied data was supplemented with address-level data from Experian UK on dwelling age, dwelling type, number of bedrooms, tenure and gas connectivity. CSE also provided address level data from the Warm Streets scheme database.

[8] Regional and National SAP ratings are from the 2009 English Housing Survey.

including an address-level database of the local housing stock, capturing baseline housing characteristics and energy demand data, information on energy efficiency installations to date and the potential opportunity for installing measures under the Green Deal and ECO.

Table 5. Energy efficiency ratings of Bath and North East Somerset housing stock

SAP Band	Households	% of local	*South West*	*England*
A	0	0%	*0%*	*0%*
B	0	0%	*0%*	*1%*
C	12,767	18%	*13%*	*13%*
D	37,932	53%	*35%*	*38%*
E	15,159	21%	*33%*	*34%*
F	5,723	8%	*14%*	*11%*
G	489	1%	*5%*	*3%*
Total	72,070	100%	*100%*	*100%*

[Source: Centre for Sustainable Energy, 2013]

Minimum standards in the private rental sector

- Baseline estimates of the energy efficiency of the local housing stock suggest nearly a quarter (23%) of private rented properties in Bath and North East Somerset – which represent 15% of the total housing stock – are SAP band E or lower (Table 6). A high proportion of (36%) of private rented dwellings in the area are in properties built before 1919 and therefore would have solid walls (CSE, 2013).

Table 6. Modelling SAP ratings of the local housing stock by tenure

SAP	Private	*Owner*	*LA/*
A	0%	0%	0%
B	0%	0%	0%
C	30%	10%	41%
D	47%	54%	50%
E	16%	25%	7%

F	7%	9%	1%
G	0%	1%	0%
Total	100%	100%	100

- We are working with our local landlords to explore how we can assist energy efficiency improvements in the private rented sector. We are planning to include the development of practical solutions for thermal insulation and heating improvements using ECO and the Green Deal.

Smart meters

- Government's own analysis assumes that most householders will have smart meters installed by their energy supplier between 2014 and 2019. Where possible, this local authority will work with energy suppliers to help them achieve full take up of smart meters by 2019.

iii) MEASURES WE PROPOSE TO COST EFFECTIVELY DELIVER ENERGY EFFICIENCY IMPROVEMENTS IN RESIDENTIAL ACCOMMODATION BY USING AREA BASED/STREET BY STREET ROLL OUT.

- Modelling and analysis of an address-level dataset of the local housing stock has assessed the potential for the installation of measures under the Green Deal and ECO, quantifying the number and types of measures, costs and impact on domestic carbon emissions and energy efficiency levels[9]. The results, summarised below, identify potential for a total of 136,800 measures, at a total cost of £213.5 million (table 7). Installing all of these measures could increase the average SAP rating of the local housing stock from 58 to 68, reducing household emissions by some 28%. (NB this is based on a SAP assessment of required energy not actual household energy consumption).). This provides one scenario for potential improvements based on the B&NES Housing Assessment model which uses actual and modelled address level data.

*

[9] This analysis was undertaken by the Centre for Sustainable Energy, using its 'Housing Assessment Model'. For further details see: http://www.cse.org.uk/projects/view/1193

Further work will be carried out using the potential identified by the B&NES House Condition Survey and the modelling included as part of the B&NES Green Deal Scoping Study before a final plan for domestic energy efficiency improvements is proposed.

Table 7. Total opportunity for measures identified for improving the energy efficiency of the local housing stock

Insulation	Count of	% HHs
Cavity wall insulation	21,285	30%
Solid wall insulation[10]	3,430	5%
Loft insulation	16,210	22%
Heating & controls		
Gas condensing boiler	23,582	33%
Oil condensing boiler	5,094	7%
Storage heater upgrades	740	1%
Renewables		
Air source heat pump	0	0%
Ground source heat pump	0	0%
Solar water heating	2,678	4%
Photovoltaics	185	0.3%
Total measures	*136,810*	
Total households	***56,082***	***78%***
Total cost of measures (£m)	£214	
Average cost per dwelling	£2,963	

[10] It is worth noting that the model assumes solid walls to be brick without any detailed data on wall construction and so may not reflect that a number of properties in the Bath and North East Somerset stock are constructed from bath stone.

Table 8. Impact of measures identified on the energy efficiency of the local housing stock

Average	*Baseline*	*"After"*	Percentage Change on Baseline
Household energy demand (kWh)	31,034	20,643	-33%
Household CO_2 emissions ($kgCO_2$)	8,626	6,178	-28%
SAP Rating	57.8	68.2	

- The results shown above are indicative of the overall opportunity for improving the local housing stock through the installation of energy efficiency measures under the Green Deal and ECO. Additional modelling has assessed a more probable scenario of actual take-up of such measures, including eligibility for ECO funding and Green Deal finance. This suggests there are some 20,100 households in BaNES who are selected by the model for Green Deal finance **and** are considered likely to take this up. Around 1,300 and 1800 households qualify for funding under ECO Affordable Warmth and ECO Carbon Saving Communities respectively. Looking only at those households flagged as eligible (ECO) and likely (GD) to take up measures, the measures identified translate into some £63 million of Green Deal finance, £30 million of ECO Carbon Finance, some £1.9 million of ECO Affordable Warmth finance and £512 thousand under ECO Carbon Saving Communities (table 9).

Table 9. Financing measures identified for improving the energy efficiency of the local housing stock, by policy group

Sum totals	Total opportunity	Probably Scenario		
	All HHs	GD likely recipients	ECO AW	ECO CSCo
Total households	72,070	20,142	1,295	178

% of local housing stock	78%	28%	2%	0%
Baseline SAP	58	53	58	64
After SAP	68	68	67	68
Total measures	136,810	51,543	2,377	190
Total package cost (thousands)	£213,533	£92,755	£1,888	£379
Average cost per dwelling	£2,963	£4,605	£1,458	£2,127
Total GD Finance (thousands)	£154,405	£63,014	£0	£0
Total ECO Carbon Finance (thousands)	£56,717	£29,738	£0	£0
Total ECO AW Finance (thousands)	£1,888	£0	£1,888	£0
Total ECO CSCo Finance (thousands)	£512	£0	£0	£512

- The key areas have been identified for targeting, based on eligibility for, and most likely uptake of, Green Deal Finance, ECO Affordable Warmth, ECO Carbon Finance and ECO Carbon Saving Communities in Bath and North East Somerset..

	• local partners for area based energy measures include Bath Green Homes, ~~Cure~~Curo, Public Health, Sirona and other partners on the Local Affordable Warmth Action Group (see (i) above)	
	• As noted above in "Zero Carbon Homes" the planning and regeneration process is being used where possible to pursue low and zero carbon housing. There is a synergy with the Council's objectives on economy and skills development, since the emerging retrofit market is a valuable opportunity for local businesses. To provide local trades with retrofit skills, the Council has provided a grant to enable the development and launch of a Green Skills Academy[11] located at the two further education colleges in our district. City of Bath College focuses on renewables and Norton Radstock College focuses on energy efficiency in buildings.	
iv) TIME FRAME FOR DELIVERY AND NATIONAL AND LOCAL PARTNERS		
	• We are working with other West of England Local Authorities to explore joint working opportunities for the delivery of energy efficiency improvements and in particular the benefits of a jointly commissioned Affordable Warmth Service utilising ECO Affordable Warmth grants.; • We are also working within B&NES to develop a Community Delivery Partnership to oversee the a wider Energy at Home programme as recommended by the B&NES Green Deal Scoping Study.	
	• Our local partners include Bath and West Community Energy, Curo (Housing Association), local colleges, Age UK, British Red Cross, West of England Care and Repair, and the Centre for	

[11] Green Skills Academy: http://www.bathnes.gov.uk/latestnews/tackle-climate-change-improve-your-green-skills-today

	Sustainable Energy;	
	Our Green Deal Scoping Study[12] found that the retrofit market could be worth an additional £10-20m a year over current levels of activity across B&NES, assuming a pro-rata share of the Federation of Master Builders estimate of the UK retrofit market. We believe the value of our plans will be worth £10 -20 m potential business if retro fit at a rate to meet national carbon targets, we are trying to maximise market share to local businesses.	
	• The measures identified by the Housing Assessment Model developed by the Centre for Sustainable Energy for improving the energy efficiency of the local housing stock will require between £32.1m and £59m of investment from the Energy Company Obligation (in total, including ECO Carbon Finance, ECO AW Finance and ECO CSCo Finance) and between £63m and £154m under the Green Deal, depending on how many households take out a finance offer. • Further modelling has been carried out as part of the B&NES Green Deal Scoping Study and this will also inform the proposed time scale for delivery of our continuing energy efficiency programme. This will be issued at a future date as an update to this report. • Table 7 and Figure 8 below show potential scenarios for installations over time. (This assumes a constant level of annual funding.) Looking only at those households identified as the most likely Green Deal participants, this suggests a potential for approximately 54,000 measures, in 30% of the housing stock, achieving 12.5% reduction in carbon emissions (table 8). • These improvements will require a total investment of £93 million, with £63m coming from Green Deal finance and £29.7 million from the ECO Carbon Reduction element. An additional £1.9m from the Affordable Warmth element of the ECO and £0.5m from the ECO CSCo fund is also identified, as shown in Figure 9.	

[12] Green Deal Scoping Study:

Table 7. Modelled uptake of Green Deal in BaNES: installations, costs and impacts from now to 2022 for all Green Deal eligible households

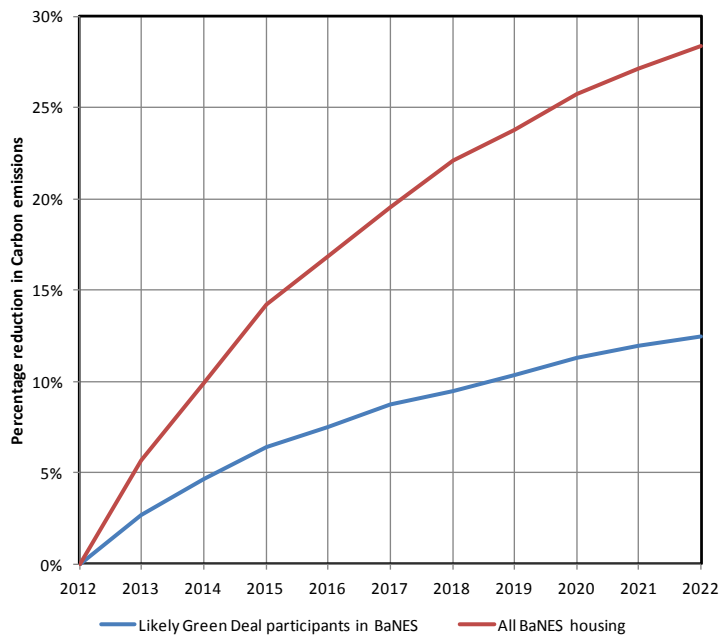
Year	Cumulative number of measures installed	Cumulative number of houses improved	Cumulative CO_2 reduction t.CO2	Cumulative CO_2 reduction %	Green Deal finance funding (£m)	ECO Carbon funding (£m)
2013	34,643	20,119	27,450	5.7%	£20.3	£0.0
2014	54,288	26,945	47,875	9.9%	£41.6	£0.0
2015	73,699	35,182	68,757	14.2%	£62.8	£0.0
2016	94,234	44,205	81,616	16.9%	£84.1	£0.1
2017	109,027	48,773	94,571	19.6%	£104.7	£0.7
2018	122,452	52,815	106,921	22.1%	£123.7	£3.1
2019	126,248	53,651	114,921	23.8%	£132.0	£16.1
2020	129,673	54,383	124,486	25.7%	£139.3	£30.1
2021	133,105	55,211	131,268	27.1%	£147.6	£43.2
2022	136,810	56,082	137,250	28.4%	£154.4	£56.7

Table 8. Modelled uptake of Green Deal in BaNES: installations, costs and impacts from now to 2022 for households likely to take up Green Deal

Year	Cumulative number of measures installed	Cumulative number of houses improved	Cumulative CO_2 reduction t.CO2	Cumulative CO_2 reduction %	Green Deal finance funding (£m)	ECO Carbon funding (£m)
2013	12,972	6,707	13,124	2.7%	£8.4	£0.0
2014	20,675	9,204	22,640	4.7%	£17.9	£0.0
2015	31,298	14,525	30,914	6.4%	£27.3	£0.0
2016	38,739	17,410	36,383	7.5%	£36.7	£0.0
2017	45,763	19,719	42,148	8.7%	£46.1	£0.2

2018	47,838	20,184	45,946	9.5%	£50.2	£5.4
2019	49,427	20,517	50,133	10.4%	£53.6	£11.6
2020	50,912	20,835	54,611	11.3%	£56.7	£17.9
2021	52,452	21,193	57,722	11.9%	£60.2	£23.9
2022	54,147	21,652	60,354	12.5%	£63.0	£29.7

Figure 8. a) Carbon emissions reduction and b) total energy improvement investment for all eligible housing in BaNES and for the 25% of households deemed mostly likely to engage in the Green Deal or ECO.



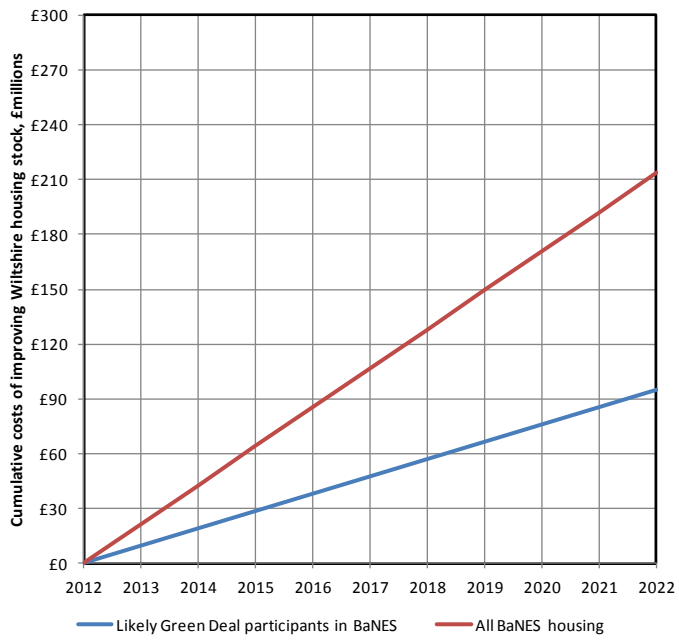
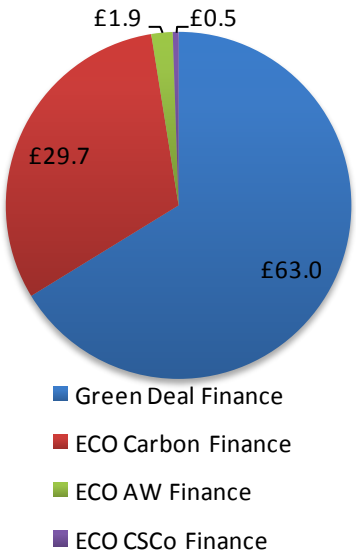


Figure 9. A breakdown of funding streams for costs to improving a) the dwellings of households

deemed mostly likely to engage in the Green Deal or ECO; and b) all eligible households in BaNES.

a) Likely Green Deal participants



b) All BaNES housing