

# Energy Efficiency in Bracknell

How energy efficiency benefits residents and businesses in  
Bracknell constituency



**Association for the  
Conservation of  
Energy**

# Key Points

Everyone is worried about their energy bills, and for some people keeping their home warm is not affordable. The only long term solution is to stop wasting fuel and leaking warmth from our homes by improving insulation and ensuring everyone has a modern heating system.

**It can be expensive to heat and power our homes, particularly for those living in homes without a gas connection.**

- Average annual gas and electricity bills are around £1,400 for the 39,000 gas-connected households in Bracknell. In addition there are approximately 4,000 homes in the area without a connection to mains gas. An electrically heated home can typically spend as much as £1,600 a year on heat and power<sup>1</sup>.
- 6,500 homes in Bracknell have been given the very worst energy ratings of E, F or G, and therefore waste hundreds of pounds worth of fuel every year<sup>2</sup>.
- Around 2,500 households in the area are classified as 'fuel poor'<sup>3</sup>. This means they can't afford to keep their homes warm due to a combination of low incomes and high energy costs.

**Significant upgrades to the efficiency of homes in Bracknell have been made in recent years.**

- Energy efficiency schemes have helped to insulate 7,000 lofts and 7,000 cavity walls in the area since 2005. At the same time more than 12,000 efficient boilers have been installed<sup>4</sup>.
- 787 solar photo-voltaic systems and 16 low carbon heating systems have been installed, enabling homes and businesses to generate their own electricity and low carbon heat<sup>5</sup>.

**These improvements generate a wide range of benefits for the area.**

- Bracknell residents spend around £64 million on energy bills every year<sup>6</sup>. Cutting fuel bills means less money leaving the local economy and more spent in local shops and businesses.
- Many of these vital improvements are delivered by local businesses and tradespeople. An ambitious UK energy efficiency programme would support 13,000 jobs in the South East<sup>7</sup>.
- Cold homes have been shown to be damaging to both physical and mental health. For every £1 invested in renovating cold homes the NHS saves 42 pence in reduced hospital admissions and GP visits<sup>8</sup>.

**There are still huge opportunities to improve the efficiency of homes in Bracknell further<sup>9</sup>.**

- Around 12,000 homes could benefit from cavity wall insulation.
- Around 13,000 homes could improve the level of insulation in their lofts.
- Around 21,000 homes could upgrade to more efficient heating systems.

**Despite this potential, national policy commitments would see little progress made.**

- Current national policy commitment would see just 330 homes helped each year to 2020<sup>10</sup>.
- Those in need of more significant works would miss out.

There are 28,000 homes in Bracknell that have an energy efficiency rating of D or worse<sup>2</sup>. Upgrading the energy efficiency of these homes would present a huge opportunity to cut bills, improve residents' health and well-being and boost the local economy. To make this happen and unlock the benefits to the constituency, action is needed both locally and nationally.

## The story so far

The cost of gas and electricity is 30% higher than it was in 2010 and double what it was 10 years ago<sup>11</sup>. To combat these historically high prices, a local army of unsung heroes have been fighting to keep bills in check and make sure everyone can afford to keep their homes warm in the winter.

In the last 10 years Bracknell has seen activity in improving insulation, replacing inefficient heating systems and developing renewable energy technologies. We estimate that since 2005 more than 26,000 significant works have been undertaken to improve the energy performance of homes in Bracknell.

**Table 1: Estimated number of common efficiency improvements made to homes in Bracknell since 2005<sup>4</sup>**

|                             |        |
|-----------------------------|--------|
| Lofts insulated             | 7,000  |
| Cavity walls insulated      | 7,000  |
| Efficient boilers installed | 12,000 |

New insulation technologies such as cladding for sol-

id walls have also greatly benefitted older homes which would otherwise still be leaking heat.

In addition Bracknell residents and local businesses have taken advantage of incentives that enable them to generate their own electricity and low carbon heat.

**Table 2: Low carbon tech installed in Bracknell since 2010<sup>5</sup>**

|                            | In homes | For businesses |
|----------------------------|----------|----------------|
| Low carbon heating         | 7        | 9              |
| Solar photovoltaic systems | 774      | 13             |

National policies have played an important role at the local level. Practitioners in Bracknell have been able to access funds to provide low income households with the heating upgrades they desperately need, and incentive schemes have encouraged people to try newer technologies like solar panels. The dedication of local businesses and charities, combined with national funding and incentive schemes, have been pivotal in the progress made so far in Bracknell.

## Thames Valley Vision: pioneering networks of the future in Bracknell

Thames Valley Vision is a project funded by Ofgem's Low Carbon Networks Innovation (LCNI) Fund for distribution network operators. It is led by Scottish and Southern Energy Power Distribution (the regional DNO), and delivered in partnership with Bracknell Forest Council (BFC), EA Technology, DNV-GL, GE, Honeywell and the University of Reading. Centred within Bracknell, Thames Valley Vision is closely monitoring electricity demand, then modelling and building demand profiles to feed into novel and improved ways of managing power demand and (investment in) the electricity network. The four classes of network management being deployed in Bracknell include:

- Demand response arrangements with non-domestic premises including data and leisure centres, offices and schools—whereby participants are asked, through a central portal, to reduce electricity demand at certain times of day for different durations;
- Cold thermal storage, involving the freezing overnight of water in a large tank (when electricity and network capacity is more plentiful) to provide more sustainably sourced cooling for offices during the day;
- Hot thermal storage for residential customers with solar electric panels, whereby electricity generated but not otherwise used in the home is diverted to heat hot water tanks, in a way which avoids damage to the network and accommodate solar panels;
- And energy storage and management units (ESMUs), essentially street-level batteries that optimize the use of the grid.

According to Charlie Edwards, at Scottish and Southern Energy Power Distribution, the key to raising Bracknell residents' awareness, acceptance of and engagement with the Thames Valley Vision project has been the close partnership with BFC and the support of other publicly trusted organisations. This was originally manifested in the local Community Energy Advice Centre on Bracknell's, now closed for refurbishment, Charles Square. This, run in Partnership with BFC served as an 'energy museum', showcase for TVV projects, and source of free energy efficiency advice for residents. Charlie added: "Thames Valley Vision is just a slice of the total portfolio of LCNI projects being operated across the UK, ultimately looking to provide a more sustainable, reliable and cost-effective electricity network for the future."



## Warm and Well scheme: helping Bracknell residents reduce energy waste and stay warm

The Warm and Well scheme was run by Bracknell Forest Council for two years, with funding from the NHS Warm Homes Healthy People fund. The scheme targeted families with children under five, people over 60 years old and those with a disability. It was able to help 218 households over the two years with energy efficiency improvements, heating system advice and support in accessing the benefits that the households were due to help them afford to stay warm.



Hazel Hill, Bracknell Forest Council's Sustainability Officer, recalled helping one household: "One of the households that contacted us had no proper heating system at all – the only source of heat was the oven. The living room was black with mould – this resulted in the resident being in and out of hospital with chest infections. Once funding was accessed to make the home energy efficient and have a proper heating system installed, the resident was in tears with thanks."

Hazel said: "Doing this work is extremely rewarding as you can really see how you are improving people's lives." However, Hazel also said: "What we really need is some stable long life funding as the Warm and Well scheme really worked! As a Council we have been very successful in getting funding over the years, but the problem is, by the time the scheme is up and running, it's time to wind it down again. The nature of the funding, when available, means schemes only run for short periods at a time, which limits the number of people that can be helped. This is really frustrating and also an inefficient way of running the service."

# Real benefits for Bracknell

It is easy to see the benefits of reducing your energy bills and having a warmer, cosier home, but the impact of improving energy efficiency in Bracknell goes much further.

## Well maintained homes

Energy efficiency works are a vital part of maintaining your home. Cold homes often become damp which can lead to mould and further complications in the long run. Insulated wall cladding will tackle damp permanently and can rejuvenate the appearance of a home.

## Keeping money in the local economy

We estimate that Bracknell residents spend approximately £64 million annually on domestic energy bills<sup>6</sup>. Money spent on fuel is mostly taken out of the local economy, so cutting bills means that households have more money to spend in local shops and businesses.

## Creating skilled jobs

Economic modelling has shown that an ambitious UK energy efficiency programme would create 13,000 jobs in the South East<sup>7</sup>. Energy efficiency works rely

on skilled tradespeople and small-scale contractors. This means that these jobs are spread across all communities and not just concentrated in a few industrial areas.

## Improving health and wellbeing

Cold homes have been shown to be damaging to both physical and mental health. Children living in cold homes are significantly more likely to suffer from respiratory problems such as asthma and bronchitis. It has been shown that for every £1 invested in renovating cold homes, the NHS saves 42 pence in reduced hospital admissions and GP visits<sup>8</sup>.

## Business productivity

Energy costs can be a significant overhead for businesses. Improving the efficiency of commercial buildings, vehicles and equipment can cut waste and add to the bottom line. Helping businesses to identify these opportunities can boost productivity and make local businesses more competitive.

## Improving local energy resilience

It is easy to take basic services like gas and electricity for granted, but our energy security has become a significant concern in recent years. A more efficient housing stock and local generation will make Bracknell more resilient to future energy price shocks or interruptions to supply and can take the strain off local energy infrastructure.

## InstaGroup, a UK leader in energy efficiency, at home in Bracknell constituency

Bradley Isaacs has worked for InstaGroup for 13 years in Finchampstead, Wokingham. He has seen how the solid wall insulation programmes InstaGroup has been involved in have transformed areas of Bracknell. He said: “All the installers have huge pride in their work and in the visible improvements they have been able to make to their local area. We’re also making a real difference to peoples’ lives by reducing their energy bills significantly, making their hard-earned money go that little bit further.”



However, he also said: “Since the changes to the funding, we have had to adapt the way we operate. The stop-start nature of grant funding for solid wall insulation means we have to adopt a more cautious approach than we’d like and implement a flexible business model that uses more sub-contractors than employed staff.” He also spoke of how much time and money was wasted in surveying homes that couldn’t access funding, and advertising for schemes that had their plug pulled early.

Bradley said: “In my opinion, what we need is a long term energy efficiency strategy. The Green Deal Home Improvement Fund subsidies were too high – this caused a boom and bust situation as everyone scrambled to get the vouchers. What we need is a more sustainable subsidy regime alongside competitive finance to support those who can’t access the balance.”

# Untapped potential

Whilst a promising start has been made to modernise heating systems and insulation in Bracknell, there are huge opportunities still remaining and many households that have yet to benefit.

Detailed surveys of 1,997 homes representing the South East's housing stock were conducted as part of a nationwide housing survey. Surveyors identified a range of opportunities to improve energy efficiency in the homes they visited.

**Table 3: Estimated number of homes in Bracknell that could benefit from basic energy efficiency measures based on survey sample<sup>9</sup>**

|                                                       |        |
|-------------------------------------------------------|--------|
| Could improve the level of insulation in their lofts  | 12,000 |
| Could benefit from cavity wall insulation             | 13,000 |
| Could improve the efficiency of their heating systems | 21,000 |

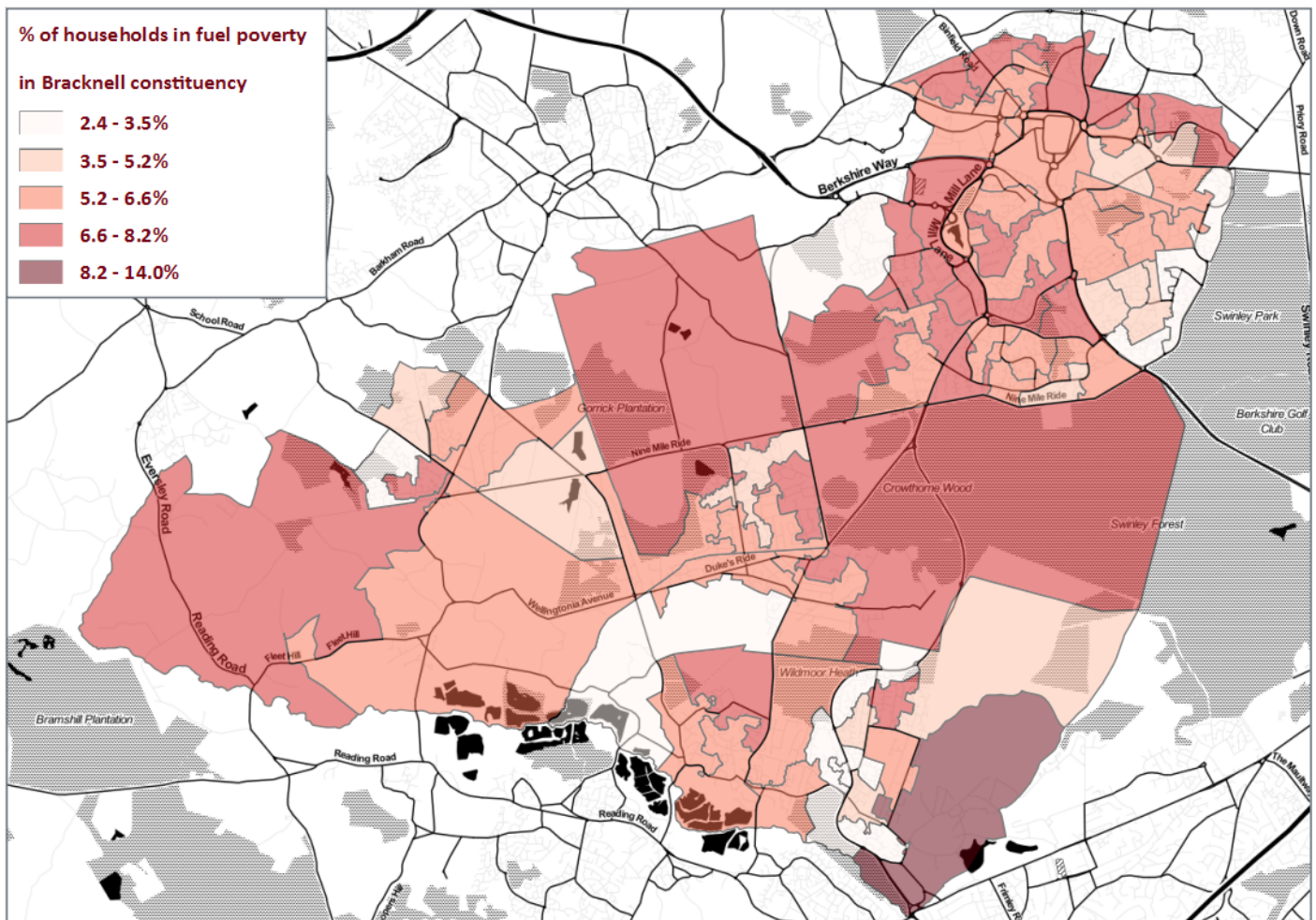
Despite the significant potential, local practitioners have found that changes to national energy efficiency schemes in the last few years have meant that funding for low income households is harder to get hold of and support for making costlier upgrades is no longer available.

Looking to the future, current national policy commitments would see just 330 homes receive low cost improvements in Bracknell each year and those in need of more significant works, could miss out altogether<sup>10</sup>.

There are 28,000 homes in Penrith and the Border with an Energy Performance Rating of D or worse that could benefit from improved efficiency. 6,500 of these have the worst ratings of E, F or G and are likely to be in urgent need of attention<sup>2</sup>.

Upgrading the energy efficiency of these homes would present a huge opportunity to cut bills, improve residents' health and well-being and boost the local economy. To make this happen, action is needed both locally and nationally.

**Figure 2: Map showing severity of fuel poverty in the area. Homes in the darkly shaded areas are more likely to find keeping their homes warm unaffordable. High resolution data can be used to identify opportunities and target those in need<sup>3</sup>**



## With thanks to

- Charlie Edwards, Customer Project Manager, Future Networks, Scottish and Southern Energy Power Distribution  
[www.thamesvalleyvision.co.uk](http://www.thamesvalleyvision.co.uk)
- Hazel Hill, Sustainability Officer, Bracknell Forest Council  
[www.bracknell-forest.gov.uk/energyefficiencyadviceandassessment](http://www.bracknell-forest.gov.uk/energyefficiencyadviceandassessment)
- Bradley Isaacs, Operations Manager, InstaGroup  
[www.instagroup.co.uk](http://www.instagroup.co.uk)

## More to explore

- Nearest Super Home is on Eastern Avenue, Reading  
[www.superhomes.org.uk/superhomes/reading-eastern-avenue](http://www.superhomes.org.uk/superhomes/reading-eastern-avenue)
- A reasonably nearby Passive House development is Standings Court in Horsham  
[passivhausbuildings.org.uk/viewproject.php?id=347](http://passivhausbuildings.org.uk/viewproject.php?id=347)



## Notes

<sup>1</sup> Based on an average electricity bill in Bracknell of £664 and on-gas properties spending an additional £707 per year on gas. These estimates are based on 2015 DECC lower super output area (LSOA) [domestic gas](#) and [electricity consumption data](#) and fuel tariffs from 2015 DECC [regional fuel price data](#). Off-gas residents assumed to spend an additional £899 on electricity for heating annually, the national average expenditure for electrically-heated properties from the [DECC Living Cost & Food Survey](#)

<sup>2</sup> 2015 DECC LSOA-level [household energy efficiency ratings data](#)

<sup>3</sup> 2015 DECC constituency and LSOA level [fuel poverty data](#)

<sup>4</sup> Delivery of measures 2005-2012 derived from a sample of [7,633 homes in the South East](#), adjusted to reflect the number of off-gas properties in Bracknell Constituency. Delivery of measures after 2012 based constituency level 2015 DECC [GD & Energy Company Obligation \(ECO\)](#)

<sup>5</sup> 2015 DECC [Feed-in Tariff \(FiT\)](#) and [Renewable Heat Incentive \(RHI\)](#) statistics

<sup>6</sup> Derived estimate based on average bill data (described in end note 1) with household number data from 2015 DECC [meter data](#) and [regional statistics](#)

<sup>7</sup> Verco & Cambridge Econometrics, 2012, [Jobs, growth and warmer homes](#)

<sup>8</sup> Department of Health, 2009, [On the state of public health: Annual report of the Chief Medical Officer 2009](#)

<sup>9</sup> Estimate is based on surveys of 1,997 South East homes, adjusted to reflect the number of off-gas properties in the Bracknell Constituency. Survey data part of the 2015 DCLG [English Housing Survey](#).

<sup>10</sup> Based on Bracknell Constituency receiving a fair share of the [Autumn Statement pledge](#) to deliver low cost energy efficiency measures to 200,000 homes each year during this Parliament.

<sup>11</sup> 2015 DECC [domestic energy price statistics](#)