

A housing stock fit for the future: Making home energy efficiency a national infrastructure priority



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The benefits of home energy efficiency

Reduce carbon emissions

Energy efficiency can reduce carbon emissions to meet carbon targets and combat climate change.

Drive economic growth and create jobs

Investing in energy efficiency can generate significant economic growth in all regions of the UK and double the number of jobs in the sector to 260,000.



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Energy efficiency can improve health and wellbeing, reduce excess winter deaths and lower NHS and social care costs.

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Energy efficiency can improve the UK's energy security and reduce our reliance on imported gas.

Reduce energy bills and fuel poverty

Energy efficiency can permanently reduce energy bills by £300 each year and lift 9 out of 10 homes out of fuel poverty.

Introduction

“Infrastructure is the backbone of any modern, successful and competitive economy”

National Infrastructure Plan 2013 (HMT)

We agree. Infrastructure – transport, energy, waste, communications and flood defences – underpins our economy and directly impacts our quality of life.

Unfortunately there is a gaping hole at the heart of the National Infrastructure Plan. That most crucial element of infrastructure – the bricks and mortar of our existing housing stock – is missing from the Government’s list of priorities.

No other investment can achieve so much to help struggling householders, stimulate economic growth and create jobs in every constituency in the UK. It is also critical to addressing national challenges of safeguarding energy security and tackling climate change.

But the only way to make our housing stock fit for the future is to fully integrate energy efficiency within the UK’s infrastructure plan. We are calling on all political parties to:

- 1. Make home energy efficiency a top infrastructure priority**
- 2. Support investment with a long term revenue stream**
- 3. Achieve 1 million deep retrofits each year by 2020**

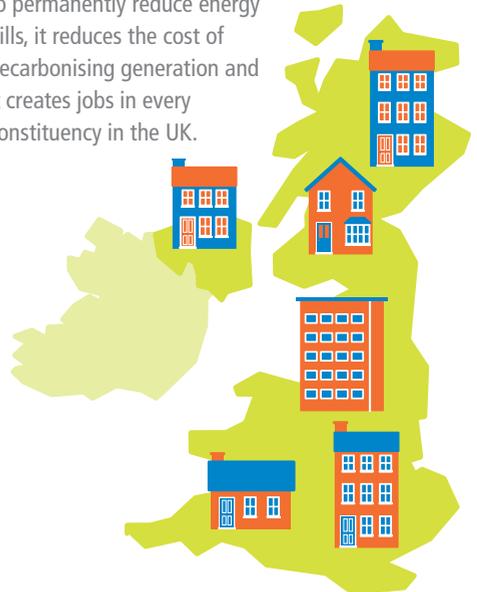
Delivering most infrastructure is complex and costly. The National Infrastructure Plan recognises that the market needs support, and this is clearly true for home energy efficiency. Government has a key role to play in creating the right conditions for a flourishing market.

Firstly, Government can provide an overarching strategy, to give confidence to investors in the infrastructure pipeline and help facilitate a clear delivery plan. Commitment to an ambitious target of 1 million deep retrofits a year will provide

certainty of a substantial market opportunity. This should include at least half a million retrofits every year to bring all low income households up to a minimum of EPC Band C by 2025.

Secondly, there are projects where it is essential that Government capital spending is used to overcome barriers to delivery. A significant programme of energy efficiency would need public investment of £3-4 billion a year¹ to address areas of market failures and leverage substantial additional private investment. Capital investment could be used to subsidise low cost loans for householders and a programme of targeted installations for the fuel poor, and should be viewed in the context of around £45 billion public investment in infrastructure annually².

Making our homes fit for the future is good for householders and good for UK Plc. Domestic energy efficiency is one of the most cost effective ways to achieve the Government’s three strategic priorities for energy infrastructure: controlling energy bills, tackling climate change and unlocking investment to support economic growth³. It is the only way to permanently reduce energy bills, it reduces the cost of decarbonising generation and it creates jobs in every constituency in the UK.



Drive economic growth and create jobs

Investing in energy efficiency can generate significant economic growth in all regions of the UK and double the number of jobs in the sector to 260,000⁴

The home energy efficiency market can stimulate both construction and manufacturing industries, creating jobs in every constituency in the UK. Over 135,000 people are currently employed in the energy efficiency industry⁵ but major investment in energy efficiency could almost double the number of jobs in the sector to 260,000⁶.

By improving all the UK's existing homes, business opportunities will be spread across the country. Installing energy efficiency measures usually

requires local labour – often SMEs – and the investment has the potential to boost local employment and regional economic growth⁷.

The energy efficiency sector has enormous potential to attract investment and provide a major source of additional income for central Government. For every €1 of public funds spent on the KfW Energy-efficient Construction and Refurbishment programme in Germany in 2010, over €15 were invested in construction and retrofit, and more than €4 went back to the public finances in taxes and reduced welfare spending⁸.

Exports from the UK's energy efficiency sector were already worth over £1.8 billion in 2011-12⁹. Establishing a domestic energy efficiency market delivering at least 1 million deep retrofits a year would place UK industry in a prime position to further increase the export of knowledge, skills and products to other countries.



Increase energy security

Energy efficiency can improve the UK's energy security and reduce our reliance on imported gas¹⁰

Reducing domestic energy demand through energy efficiency is vital to ensure there is sufficient supply to meet the UK's energy needs. Demand reduction is critical to guaranteeing a secure energy supply and stable prices, and minimising the costs of new generating capacity and imported fossil fuels.

Investing in energy efficiency is more cost effective in meeting the UK's growing demand for energy than building additional energy generation infrastructure. Energy saving measures cost less on average per unit of power than large-scale power generation¹¹. Through cost-effective investment in all forms of energy efficiency, the UK could be saving 196TWh in 2020, equivalent to 22 power stations¹².

Meeting energy needs through demand reduction will reduce our dependence on imported fossil fuels and increase national security. In 2004 the UK ceased to be self-sufficient in gas and in 2012 net imports of gas accounted for just over 40 per cent of gas use¹³. By 2020 the UK is expected to import more than half its oil and gas¹⁴.

The UK could reduce its reliance on imported gas by 19 per cent by making UK homes more energy efficient, saving £2 billion in gas imports every year¹⁵.



Reduce carbon emissions

Energy efficiency can reduce carbon emissions to meet carbon targets and combat climate change¹⁶

The Climate Change Act 2008 commits the UK to reduce carbon emissions by 80 per cent by 2050. Carbon budgets are set for each five year period up to 2050 in order to track progress towards this reduction target. Binding EU targets also require carbon reductions of 20 per cent by 2020 and probably 40 per cent by 2030.

Achieving these significant levels of carbon reductions will require a complete transformation of the UK's existing homes to dramatically reduce domestic emissions. 85 per cent of the UK's existing homes will still be standing and

in use in 2050, presenting a significant low carbon refurbishment challenge¹⁷.

To meet carbon budgets, a further 6-7 million cavities, 7m lofts and 1m solid walls need to be insulated by 2020¹⁸. This will mean significantly increasing the rate of solid wall insulation and raising the pace of loft and cavity wall insulation back up to 2012 levels¹⁹.

Energy efficiency can also help the UK transition towards low carbon energy. Reducing domestic energy demand will make it far easier for the UK's energy needs to be met through new low carbon renewable energy generation.

Reduce energy bills and fuel poverty

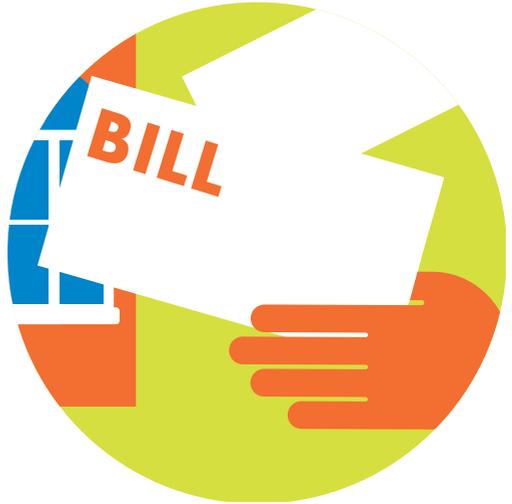
Energy efficiency can permanently reduce energy bills by £300²⁰ each year and lift 9 out of 10 homes out of fuel poverty²¹

Rising energy bills are the number one financial concern for householders²² and prices are predicted to rise above inflation for the foreseeable future. The UK has among the lowest average energy prices in Europe yet it has among the highest rates of fuel poverty²³. This is because our energy inefficient homes are a major contributing factor to high energy bills.

Fuel Poverty

England uses a Low Income High Costs (LIHC) indicator to define fuel poverty. A household is fuel poor if they have above average fuel costs and are left with a residual income below the official poverty line.

Domestic energy efficiency is the only way for households to gain control of their energy bills and insulate themselves against future price rises. By installing low cost insulation measures the average household is able to reduce their heating use by 40 per cent and reduce their energy bill by £300, saving £6 billion in heating costs nationally each year²⁴. Retrofit is also a key way to offset most of the projected increased cost of energy due to network and wholesale gas price increases to 2020²⁵.



Rising energy bills have a disproportionately negative impact on those households which already struggle to afford adequate heating. 2.5 million households in England are classified as being in fuel poverty in 2014²⁶ and this figure is expected to rise to 2.9 million in 2016²⁷.

The only permanent solution to fuel poverty is to retrofit the existing housing stock to a high energy efficiency level²⁸. Policies that improve the efficiency of the housing stock are more cost-effective and longer term for tackling fuel poverty than energy price policies and income support policies²⁹.

“The UK has one of the highest excess winter death levels in Europe despite our moderate climate.”

Improve health and wellbeing

Energy efficiency can improve health and wellbeing, reduce excess winter deaths and lower NHS and social care costs³⁰

Energy inefficient homes are not only expensive to heat but can also damage the health of their occupants. Cardiovascular and respiratory diseases are caused or worsened by living in cold conditions. Children living in cold homes are significantly more likely to suffer from chest problems such as asthma and bronchitis³¹.

Fuel poverty also adversely affects mental health. More than 1 in 4 adolescents living in cold homes are at risk of multiple mental health problems compared to 1 in 20 adolescents who have always lived in warm housing. Cold homes negatively affect children's educational attainment and emotional wellbeing³².

An estimated 31,100 excess winter deaths occurred in England and Wales in 2012/13³³ and around 30 per cent of these were due to cold homes³⁴. The UK has one of the highest excess winter death levels in Europe despite our moderate climate, with deaths in the coldest quarter of housing almost three times higher than in the warmest quarter³⁵. Many of these excess winter deaths could be prevented through warmer housing³⁶.

Investing in energy efficiency can help protect the health of residents and offset health spending on treating preventable illnesses. NHS expenditure has been reported to rise by 2 per cent in the cold months³⁷. Age UK has calculated that the annual cost to the NHS in England of cold homes is £1.36 billion, as well as the associated cost to social care services, which is likely to be substantial³⁸.

Insulation of all solid walls in the UK would give total health improvements equivalent to £3.5bn - £5bn³⁹ over the lifetime of the measures. Insulating all unfilled cavities (as of 2009) provides a further health benefit of £4bn - £6bn over the lifetime of the insulation⁴⁰.

"2.5 million households in England are classified as being in fuel poverty in 2014²⁶."



Endnotes

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