

# ***EveryOne Campaign Briefing: Climate Change & Fuel Poverty***

## **Summary**

The **EveryOne Coalition** wants to see more action to tackle climate change and fuel poverty. As an absolute minimum we want to see existing programmes and standards extended and enhanced to so that by 2010 at least:

40,000 houses a year are built or renovated so they feature super insulation and passive solar gain so that they have minimal or no heating bills and meet part of their own energy needs using green technologies. Solar panels, mini wind turbines, biomass boilers, heat pumps and combined heat and power systems, should be incorporated into all new buildings and retrofitted on to existing homes. A programme should also be introduced to ensure that these technologies are installed into all public buildings.

## ***Why is action needed?***

### **1. The need to tackle climate change**

Scientists now agree that at least a 60% cut in CO<sub>2</sub> emissions (on 1990 levels) will be needed by 2050 if dangerous climate change is to be avoided<sup>i</sup>, although many more recent studies and commentators suggest that significantly tougher targets are needed<sup>ii</sup>. The UK Government has made such a cut an aspiration and is now seeking to enshrine the 60% target in law. Failure to realise the target could contribute to devastating impacts:

- On the developing world including more extreme weather events such as droughts and floods, affecting 2bn people<sup>iii</sup>.
- On the global economy amounting to cuts of between 5 and 20%, costing up to £3.7bn<sup>iv</sup>
- In Scotland, from more unpredictable and less predictable weather patterns, with significant consequences for Scotland's economy, society and environment. 77,000 properties are under threat from flooding<sup>v</sup>.

The domestic sector accounts for 25% of energy use and carbon emissions, so cutting CO<sub>2</sub> from this sector is therefore a vital part of the overall effort to meet the 60% target.

### **2. The need to tackle fuel poverty**

Fuel poverty occurs where a household is forced to spend a disproportionate part of its income (over 10%) on heating. Fuel poverty is caused by a combination of three factors (one of which is a devolved responsibility):

- poor energy efficiency of the dwelling (policy devolved to Holyrood);
- low disposable household income (policy reserved to Westminster)
- high price of domestic fuel (policy reserved to Westminster)

The most recent government estimates showed that 328,000 households were in fuel poverty in 2003-04<sup>vi</sup>. 59% of this figure is likely to be made up of pensioner households<sup>vii</sup>. 100,000 Scottish children are in fuel poverty according to children's charities. 25% of households in rural Scotland are estimated to be in fuel poverty<sup>viii</sup>. Action is essential as 30,000 more households fall into fuel poverty for every 5% rise in fuel prices. Since 2003 gas prices have risen by 90% and electricity by 60%.<sup>ix</sup> This implies that fuel poverty may have almost doubled since 2003.

### **3. The need to raise housing standards**

Scotland's buildings standards are years behind those in leading European countries such as Sweden, which are some of the toughest and most effective in the world for energy efficiency<sup>x</sup>. The 2003 Energy White Paper noted that a detached house built to the latest UK standards consumes 20% more energy than an equivalent home in Denmark, since then Danish standards have been tightened further.

Less than 1% of Scotland's current housing stock has an energy rating of excellent and less than half of all houses fall into the good category<sup>xi</sup>.

If all of the 780,000 dwellings without cavity wall insulation were insulated this could save 1.1 million tonnes of carbon annually<sup>xii</sup>, equivalent to 65% of the current Scottish Executive climate change target.

### ***What is being done already?***

#### ***Climate change***

Scotland has a climate change strategy and a target for reducing CO<sub>2</sub> levels by 1.7million tonnes, which – assuming a 1990 baseline - goes beyond the targets set for the UK as whole<sup>xiii</sup>. Despite this, the targets remain inadequate.

#### ***Fuel poverty***

The Housing (Scotland) Act 2001 and the subsequent Scottish Fuel Poverty Statement require that fuel poverty be eradicated, as far as is practicable, in Scotland by 2016. This target cannot be met without radical improvements in Scotland's housing stock. Despite initial progress rising fuel prices are leading to increasing levels of fuel poverty, making it unlikely that the 2016 target will be met without dramatic action to provide fuel security for households.

#### ***Building standards and micro-renewables***

The Scottish Executive last updated building standards in 2002 and is currently planning a further update, which will raise standards by a further 18-25%. However, these standards only apply to new buildings (adding 1% of the stock each year) and don't cover changes to existing buildings. Action to promote micro-renewables is being taken forward via proposed changes to planning regulations and the annual £3.7m SCHRI grants programme that funded 600 projects since 2002<sup>xiv</sup>. To make a meaningful contribution to climate change objectives, building standards will have to be substantially enhanced and the rate of installation of micro-generation dramatically accelerated.

### ***What more needs to be done?***

#### ***Super insulated homes***

By employing high levels of insulation, passive solar design and air tightness it would be possible to slash heating requirements by over 70% based on voluntary standards being adopted in Germany, using techniques and technologies that have been in place since the 1990s<sup>xv</sup>. Similar homes have already been built in the UK such as the award winning BedZED development in South London<sup>xvi</sup>.

#### ***A micro renewables revolution***

A DTI backed study by the Energy Saving Trust estimated that 30-40% of UK electricity needs could be met from micro-generation by 2050, reducing household CO<sub>2</sub> emissions by 15%<sup>xvii</sup>. Many English Councils now require developers to install micro-renewables before they can get planning permission and Spain is making solar

panels mandatory. Micro-renewables enhance fuel security, insulating householders from energy price rises.

### **A 40,000 green homes target by 2010**

Based on an analysis of UK wide research Scotland needs to ensure that at least 40,000 homes are fitted with micro-generation technologies if the domestic sector is to meet the target of a 60% reduction in carbon dioxide emissions by 2050<sup>xviii</sup>. The research showed that early action to maximise the uptake of micro-renewables in new build is vital given the slow renewal of the building stock through new build, which is currently in the region of 25,000 homes a year but should be accelerated to speed up the replacement of the worst and least energy efficient stock. Reaching an annual figure of 40,000 homes is therefore a modest starting point that must increase rapidly so that micro-generation technologies, including renewables, will eventually help the residential sector to meet in the region of 80% of heat and 100% of electricity demand by 2050<sup>xix</sup>. In this respect the Oxford University research concludes that, “the targets are challenging but feasible, if government starts now”<sup>xx</sup>

In comparison the Scottish Executives current Central Heating Programme, in 2004-5, fitted over 15,000 systems to properties in Scotland (of approximately 117,000 new boilers fitted in Scotland as a whole). The Warm Deal insulation and heating improvement programme assisted over 20,000 properties with basic measures, targeting people on low incomes<sup>xxi</sup>. However, these programmes don't yet include micro-renewables and usually don't bring the homes up to standards equivalent to today's new build properties (NHER 8). EveryOne wants to see all newly constructed properties and a substantial proportion of renovated existing stock meeting today's highest energy efficiency standard (NHER 10). The utility companies deliver their own programmes via the Energy Efficiency Commitment (EEC) targeted towards customers on low incomes, but this programme also rarely brings homes up to NHER 8 or above.

### **Why it can be done?**

The technology is available and most sources of micro-generation will be cost effective in the next decade, a process that could accelerate if energy prices continue to rise<sup>xxii</sup>. Increasing demand will reduce costs further as more suppliers and installers enter the market early in the next decade<sup>xxiii</sup>.

There is widespread public support for action on both fuel poverty and climate change. Micro-generation is a popular method of future energy production<sup>xxiv</sup> and has caught the public imagination, with people now purchasing turbines and panels from DIY stores. Sustainable Development Commission Research has shown that people who install micro-renewables change their overall attitude to energy consumption, seeking greater efficiency in all aspects of their lives<sup>xxv</sup>.

It is a better option than investing in new nuclear power stations, which are expensive, inflexible and hazardous and leave a legacy of radioactive waste that will have to be dumped on future generations.

### **How it can be achieved?**

- Planning guidance should require all new buildings offset 20% of their CO2 emissions from onsite renewables, whilst micro-renewables should not require planning permission apart from in conservation areas.

- Building regulations should be put on a course to ensure that new buildings are carbon neutral by 2015, matching the best standards in Europe (currently Sweden) by 2010.
- Deliver better public information provision, on energy efficiency and micro-renewables – with information tailored to individual homes via a one stop shop.
- Public sector investment programmes need to set standards specifying that all new buildings should be carbon neutral and must generate a proportion of their energy needs from onsite renewables.
- Homes that install micro-renewables should receive council tax discounts to encourage the uptake of the new technology.
- Targets and funding should be in place to ensure that by 2010 15,000 existing homes are brought up to the highest energy efficiency standards every year.
- The amount of support available through existing grants programmes should be reviewed and increased.

### How much will it cost?

It is difficult to accurately predict costs in 2010, other than offering a rough comparison with today's prices, such as planned changes in building regulation in 2007, which will cost approx £1150 per dwelling<sup>xxvi</sup> and the lowest cost micro-renewables on the market cost £1500-2500.

Researcher by Strathclyde University's Energy Systems Research Unit has estimated that improving energy conservation standards<sup>xxvii</sup> would cut annual fuel bills by:

- £593 for buildings brought up to the best German design standards
- £660 for buildings brought up to German standards with micro generation (rooftop wind turbines or solar panels) with 40,000 homes collectively saving approximately £26,400,000 per annum

In addition there would be substantial positive cost benefits from cutting carbon emissions per year. The biggest health and social benefits would also be secured by targeting households with low incomes who face fuel poverty.

### Notes and references

<sup>i</sup> Royal Commission on Environmental Pollution 2000

<sup>ii</sup> G8 Science Conference Exeter 2005

<sup>iii</sup> HM Treasury (2006) The Stern Review: The Economics of Climate Change

<sup>iv</sup> Ibid 1

<sup>v</sup> SEPA (2006) State of Scotland's Environment 2006

<sup>vi</sup> Written Answer SW28656

<sup>vii</sup> Based on Scottish Household Survey Estimates 2002

<sup>viii</sup> Written Answer SW29061

<sup>ix</sup> BBC report 29/9/06 <http://news.bbc.co.uk/1/hi/business/5391774.stm>

<sup>x</sup> DEFRA (2006) Comparison of UK and Best International Standards: Energy Efficiency Standards as at Feb 2005, Report by the Market Transformation Programme

<sup>xi</sup> Scottish House Conditions Survey 2003-4

<sup>xii</sup> Written Answer S2W-18491

<sup>xiii</sup> Scottish Executive (2006) Changing our ways Scotland's Climate Change Programme

<sup>xiv</sup> Scottish Executive 16/5/2006 News Release: Small Projects reflect big future for renewables

<sup>xv</sup> [http://en.wikipedia.org/wiki/Passive\\_house](http://en.wikipedia.org/wiki/Passive_house)

<sup>xvi</sup> <http://www.peabody.org.uk/FileStore/PressRoom/downloads/BedZEDfactsheet.pdf>

<sup>xvii</sup> DTI (2006) Our Energy Challenge: Power from the people

<sup>xviii</sup> Analysis based on Environmental Change Institute University of Oxford Report the 40% House 2005, p69. Table 7.4.

<sup>xix</sup> Ibid XVIII p72 & p90

<sup>xx</sup> Ibid XVIII p84

<sup>xxi</sup> Scottish Executive (2005) Central Heating and Warm Deal, Annual report 04-05

<sup>xxii</sup> DTI (2006) Our Energy Challenge: Power from the people

<sup>xxiii</sup> Ibid <sup>xxiii</sup>

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<sup>xxiv</sup> McGowan, F & Sauter, R (2005) Public Opinions On Energy Research, A Desk Study for the research councils, Sussex Energy Group

<sup>xxv</sup> SDC (2006) Seeing the light: the impact of micro-generation on the way we use energy

<sup>xxvi</sup> Scottish Executive (2006) Executive Note: The Buildings (Scotland) Amendment Regulations 2006 (S.S.I 2006/534)

<sup>xxvii</sup> BBC radio report 5/3/06 <http://news.bbc.co.uk/1/hi/scotland/4774106.stm>