

TACKLING FUEL POVERTY BY IMPROVING THE ENERGY EFFICIENCY OF SCOTLAND'S HOUSING STOCK

By Norman Kerr, Director, Energy Action Scotland



Poor energy efficiency of the home is one of the three main contributing factors to fuel poverty, that is, the inability to heat the home to an approved standard. A household is defined as being in fuel poverty if, in order to maintain a satisfactory heating regime, it would be required to spend more than 10% of its income on domestic fuel use.

So much of current government, media and public attention is on energy generation and climate change. However, it is important to understand that many of the fuel poor may need to use more energy not less, as they already ration their energy use, often to the detriment of their health and well-being. It is essential that the fuel poor are not left out in the cold in the race to reduce our carbon footprint.

Energy Action Scotland (EAS) believes that improving domestic energy efficiency is the most sustainable solution to fuel poverty. By reducing the need for energy to power and heat homes to an acceptable living standard, householders will be less exposed to the problems caused by rising energy prices or drops in income.

The latest *Scottish House Condition Survey Key Findings 2008* report confirms expectations that levels of fuel poverty have again risen. In 2008 618,000 (27%) households in Scotland were estimated to be in fuel poverty. This represents an increase on the previous year of 5.5% and an increase of 116% on the 2002 figures, when energy prices were last at a low level.

If the Scottish Government's target to eradicate fuel poverty by 2016, as required by the Housing (Scotland) Act 2001, is to be met, especially while energy prices remain high, then homes need to be 'fuel poverty proof' – in other words, as energy efficient as possible.



Existing Housing

By 2050 around 90% of all housing stock in Scotland will have been built before 2008, and all of these properties need to be brought up to current energy efficiency standards if Scotland is to meet its targets on fuel poverty and climate change. Scotland therefore needs to focus even more on improving its existing housing stock and this will mean significant additional investment in housing and energy efficiency.

EAS has previously stated that all homes should be NHER 7¹ or better to ensure that Households Below Average Income² are protected and to 'fuel poverty proof' all homes in Scotland. EAS had estimated that £1.7 billion would be required to do this, with this being the equivalent of £170 million per year over each of the next 10 years. However, given the subsequent rise in energy prices and the current economic downturn, EAS now believes that NHER 8 would be a more realistic target.

Hard to Treat Homes

Hard - or expensive - to treat homes are those that cannot have their energy efficiency improved by cost effective measures such as cavity wall or loft insulation and/or which do not have access to an inexpensive fuel or a favourable energy tariff.

Many of the current grant schemes aimed at improving the energy efficiency of homes focus on providing cavity wall and loft insulation. However, around 25% of all homes in Scotland do not have a loft, due to the large number of flatted and tenemental properties that are prevalent in many of our cities and towns. Around a third of homes in Scotland do not have masonry cavity walls and so cannot take cavity wall insulation. In addition, Scotland has 10% of dwellings classified as 'non-traditional', split between concrete, timber and metal-framed housing. All these types of property are 'hard to treat' in energy efficiency terms.

To take households living in hard to treat properties out of fuel poverty will require a combination of energy demand reducing measures, such as internal and external insulation, and also to provide access to inexpensive fuel through investment in microgeneration measures, such as heat pumps or solar water heaters. Some of these measures are now included in public grant programmes such as the Scottish Government's Energy Assistance Package.

Under the Carbon Emissions Reduction Target (CERT)³ scheme set by the UK Government, energy suppliers are allowed to meet up to 5% of their obligation through a 'flexibility mechanism', which aims to target hard to treat homes i.e. those off gas grid or solid walled homes, in the Priority Group⁴. Under CERT energy suppliers are also able to promote microgeneration measures, biomass, community heating, Combined Heat and Power, and other measures for reducing supplied energy consumption. Energy suppliers thereby have an opportunity to contribute effectively to the problem of tackling hard to treat housing. However, to date, they have been reluctant to take up this option, with a lack of incentive being cited as the main reason.

Issues surrounding access to energy efficiency measures in flatted households also need to be addressed. It is not uncommon to find large areas where cost effective measures, such as cavity fill, are not available to fuel poor households when other building occupants are either unwilling or unable to contribute their share of the cost to improve the whole building.



Government grant schemes to tackle fuel poverty and improve domestic energy efficiency are now starting to move beyond just the basic measures such as cavity wall and loft insulation

Buildings in Multiple Occupation therefore pose a significant barrier to targeting effective measures at those most in need of assistance and grant programmes need to take cognisance of this factor.

¹ The current NHER scale now runs from 0 to 20. This new scale was implemented to take into account the potential for low and zero carbon technologies to significantly impact on the energy efficiency of the home. NHER calculates all fuel use within the home and takes into account the geographic location of the home. NB: The figures used in this report are taken from the SHCS which currently uses the old scale of 0 to 10.

² <http://www.dwp.gov.uk/asd/hbai.asp>

³ The Carbon Emissions Reduction Target (CERT) is an obligation which sets targets on energy suppliers to achieve carbon savings by providing energy efficiency measures - such as cavity wall and loft insulation, energy efficient boilers and appliances - to households across Great Britain.

⁴ <http://www.defra.gov.uk/environment/climatechange/uk/household/supplier/cert.htm>



Newer technologies such as solar panels need to become mainstream and be available to all households regardless of income but where appropriate to the dwelling

Rural Housing

In Scotland, about 33% of homes are off the mains gas grid and are likely to remain so and therefore have no gas. Research from the Scottish Government⁵ has shown that the most effective measure for removing a household from fuel poverty is to fit a gas central heating system. However many fuel poor properties are in rural and remote areas where the cost of providing a gas supply would be uneconomic. These areas are then forced to use a restricted range of more expensive fuels to heat and provide power to their homes – such as solid fuel, domestic oil, liquefied petroleum gas (LPG) or all-electric.

EAS believes that in rural areas it will be necessary to use market transformation initiatives to make new technologies such as solar water heating, biomass and heat pumps more affordable as current grant schemes are still not sufficient to stimulate demand for these technologies.

The Scottish Government also needs to ensure that rural areas do not miss out on schemes designed to eradicate fuel poverty, and that there is equitable delivery across all geographic areas of the country.

⁵ Assessing the Impact of the Central Heating Programme on Tackling Fuel Poverty: The First Three Years of the Programme 2001-2004 Final Report', Bill Sheldrick and David Hepburn, Alembic Research



A super insulation package for example of external wall cladding, loft and floor insulation, double glazing, solar heating and a ventilation system can transform cold, damp and expensive to heat homes

Photo courtesy of Alembic Research

Building Standards

The Scottish Housing Quality Standard (SHQS) defines what constitutes acceptable good quality housing. Local authorities and housing associations have until 2015 to meet the standard.

The SHQS is a key driver in ensuring that social housing for rent in the future will be of a quality commensurate with the expectations of modern living. The SHQS demands that the property achieve a minimum of NHER 5. However, EAS does not believe that this is a target that will ensure that properties are fuel poverty proof.

The SHQS's ability to impact upon the future numbers of fuel poor in social rented housing stock should therefore be reviewed. Targets were set some time ago when this country benefited greatly from a period of relatively low energy prices. Due to the nature of the global energy market, it is unlikely that domestic energy prices will fall to pre-2002 levels before the target dates of 2015 for the SHQS and 2016 for fuel poverty eradication.

EAS and others also believe that the SHQS should be extended to cover private rented housing stock.

These changes can be both in terms of legislation and to make practical improvements using a combination of older and newer technologies as is most appropriate.

Making Use of the Data

With the introduction of Energy Performance Certificates (EPCs) for buildings together with energy audits of stock carried out by housing providers, a picture is building up of the energy efficiency of our housing. But more needs to be done to make use of this data and to use EPCs and the like to make informed decisions about the changes required. These changes can be both in terms of legislation and to make practical improvements using a combination of older and newer technologies as is most appropriate.

EAS, the national fuel poverty charity in Scotland, has therefore developed a new course aimed at energy professionals who are trained to provide domestic EPCs. Building on its recognised policy and technical expertise on the issues causing fuel poverty in Scotland, EAS has devised an intensive one day training programme to utilise the skills of existing EPC assessors. It aims to give participants the understanding and tools to confidently determine the risk of fuel poverty and to measure the impact of physical measures and financial aid in homes across Scotland.

The course allows participants to utilise their existing RDSAP surveying and assessment skills to determine the risk of fuel poverty in a specific home. By using National Home Energy Rating (NHER) Stock Assessor⁶ modelling software, participants will be able to estimate the running costs for all fuel use in line with the FPS02. In addition the software will adjust this estimation of running costs based on the location of the home.

Users will then be able to:

- assess the level of income required to live in that home free from fuel poverty
- assess fuel poverty and demonstrate compliance with the Scottish Housing Quality Standard (SHQS)
- provide reports for statutory reporting requirements such as average SAP, stock profiles and fuel poverty
- provide reports on total running costs, including lights and appliances and generating unique NHER ratings.

EAS now also offers a course on renewable energy in the home, leading to the NEA/City & Guilds 6176-02 qualification. The course is designed to increase the knowledge and understanding of energy advisors on renewable and low carbon technologies as realistic interventions to reduce fuel poverty. It covers solar thermal hot water, heat pumps, biomass, solar photovoltaics, micro and small wind, micro-hydro, micro-CHP/fuel cells and CO₂ emissions.

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⁶ http://www.nher.co.uk/pages/software/stock_management.php