Friends of the Earth Scotland

and the

Association for the Conservation of Energy

Parliamentary briefing: Climate change and buildings

Summary:

- **Around 50 per cent of UK greenhouse gas emissions are caused by the construction, occupation and maintenance of buildings[1].**
- **Reducing emissions from buildings can also reduce fuel poverty and improve business competitiveness.**
- **Current proposals for an 18-25% reduction in CO_2 emissions from new buildings through energy standards in building regulations are insufficiently ambitious.**
- **Building regulations must be made to apply to existing buildings on extension or renovation through 'consequential improvements'.**
- **Emissions could be further reduced in buildings by effective promotion of 'low and zero carbon technologies' through the 'Merton 10% rule'.**
- **Evidence suggests that 43% of new houses do not comply with existing energy standards in building regulations[2]. Steps to ensure compliance must be taken.**

Introduction

Friends of the Earth Scotland (FoES) and the Association for the Conservation of Energy (ACE) welcome the commitment to Scottish targets which were announced in the revised climate change programme in March 2006, and support the Executive's ambitious targets for renewable electricity generation. However, we believe more must be done if Scotland is to meet its new targets, specifically in the transport sector and in reducing emissions from buildings. This briefing focusses on the latter.

Fuel poverty and climate change

Building energy efficient buildings can not only deliver reduced CO_2 emissions, it can also help deliver fuel poverty targets (in the domestic sector) and improve business profitability (in the non-domestic sector). While fuel poverty figures fell in Scotland from 35% of households in 1996 to around 13% of households in 2002[3], the latest house condition survey shows a 1.5% rise for 2003-4[4]. This rise is likely to continue as the volatility in fuel prices persists, unless the Scottish Executive redoubles its efforts to combat fuel poverty. Likewise, business costs can be reduced through more energy efficient buildings: £1.3bn is thought to be lost to the Scottish economy every year through wasted energy[5] – much of this through inefficient buildings.

Current proposals insufficiently ambitious

The latest proposed energy standards from the Scottish Building Standards Agency (SBSA) would lead to a reduction in CO_2 emissions from new buildings of between 18% and 25% compared to current regulations. While we welcome this target, we are concerned that in order to acheive a reduction in emissions from *all* buildings of 60% by 2050, far higher

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[1] Speech by Elliot Morley, 3 April 2006 http://www.defra.gov.uk/corporate/ministers/speeches/em060403a.htm
[2] "Assessment of energy efficiency impact of Building Regulations compliance", Brown M (2004), Building Research Establishment
[3] "Scottish House Condition Survey 2002", Communities Scotland (2003)
[4] "Scottish House Condition Survey Key findings for 2003-4", Communities Scotland (2006)
[5] Scottish Executive press release, 7 December 2004 http://www.scotland.gov.uk/News/Releases/2004/12/07102348

standards are needed. The leading academic study on this subject suggests that new buildings should have zero or very low space heating demand by 2020 at the latest[6], and many thousands of German homes have already been built to this standard[7]. The Scottish target does not compare favourably with Denmark, where a house built to the latest standards in 2003 consumed 20% less energy than its equivalent in the UK[8]. Since then, Danish standards have risen by a further 25%. In addition, most of the proposed energy standards apply only to new buildings. If we are to tackle existing buildings, then energy standards must also apply to extensions and renovations, through a process of 'consequential improvements', as is being considered in England[9].

Effective promotion of 'low or zero carbon technologies'

The current proposals for amending Scottish building standards include measures to promote so-called 'low or zero carbon technologies' (LZCT). These are technologies which emit low or zero carbon during the generation of energy. Examples include wind turbines, solar water heaters or combined heat and power plants. We are highly supportive of measures to encourage the use of LZCT through building regulations, but believe the proposed method of 'incentivising' LZCTs through allowing a relaxation in wall insulation standards is fundamentally flawed. This relaxation will lead to an increase in CO_2 emissions, thus negating the benefit of installing the LZCT in the first place. We would prefer to see a more robust approach to the promotion of these technologies, such as the so-called 'Merton model'[10] which requires 10% of the energy requirements of large non-domestic developments to be sourced from on-site LZCT. This creates an incentive to reduce energy use in the building, and further reduces emissions through the use of LZCT. Over 70 local authorities have already adopted the model, and some are now extending the rule to smaller commercial developments, and to domestic housing.

Compliance

Studies conducted in England and Wales suggest that compliance with energy efficiency standards in building regulations is as low as 68% overall, and considerably lower (57%) in houses[11]. Building regulations are unlikely to deliver their intended CO_2 emissions reductions unless regulations are complied with. We are disappointed that the Scottish Building Standards Agency has not undertaken any formal research into compliance with building regulations in Scotland. However, as a minimum approach to ensuring compliance, we believe that compulsory air tightness testing must be introduced in the current review, to bring Scotland up to the level that currently exists in England and Wales. In addition, research must be commissioned to establish the rate of compliance in Scotland, and the reasons for non-compliance with energy efficiency standards.

Conclusion

Reducing emissions from Scotland's buildings has knock-on benefits in combatting fuel poverty and improving business efficiency. Current proposals from the Scottish Building Standards Agency to improve standards do not go far enough. We ask MSPs to show leadership in reducing emissions, and to demand higher standards from the SBSA.

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[6] "40% house", (2005) Environmental Change Institute, University of Oxford p. 38
[7] See http://www.passiv.de/ or http://www.passivhaus-info.de/ for more information
[8] "Our Energy Future – creating a low carbon economy" (2003), DTI, p.38
[9] See http://www.ukace.org/pubs/articles/eibi2006-02.pdf for further info.
[10] See http://www.merton.gov.uk/living/planning/plansandprojects/10percentpolicy.htm for more information
[11] "Assessment of energy efficiency impact of Building Regulations compliance", ibid