

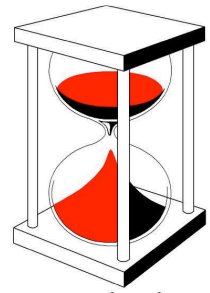


**Friends of
the Earth
Scotland**

**Friends of the Earth Scotland and
Association for the Conservation of Energy
Policy Briefing Paper**

Carbon emissions from buildings

24 September 2007



**Association
for the
Conservation
of Energy**

1. Introduction

The built environment accounts for around 47 percent of UK CO₂ emissions¹. In order to reduce overall emissions in line with government policy, by 80 percent by 2050, both existing and new buildings must be built and renovated to 'climate-friendly' standards. This joint briefing from Friends of the Earth Scotland and the Association for the Conservation of Energy (ACE) sets out what is required under building regulations and finance for buildings in Scotland.

2. Changes to policy required

The following are the main changes required for building regulations and compliance:

2.1. Ensuring compliance with energy standards in building regulations.

There is evidence that a significant number of new buildings in Scotland do not meet energy standards in building regulations². As many as a half of new houses may not comply. In order to ensure compliance, the following steps are needed:

- 2.1.1. An urgent **Scotland-wide study** to establish rates of on-site compliance with energy standards; the reasons for any non-compliance and recommendations for improving compliance levels.
- 2.1.2. **Compulsory random airtightness testing** for new buildings, or some other form of compulsory random post-construction compliance testing should be introduced with the next change of regulations, in 2009 (or before then, if possible).
- 2.1.3. Giving local authority building control departments **control over the funds they raise** would help to ensure better compliance, since this will allow adequate staffing and training levels. Many building standards managers are simply too overworked to address energy issues at present.
- 2.1.4. For replacement windows, we suggest that **Scotland joins the FENSA system** to ensure replacement windows meet current energy efficiency standards.

2.2. Setting ambitious standards

- 2.2.1. Scotland must set a framework to ensure that new buildings are very **low or zero-carbon in use by 2016** at the latest. England has specified 2016 for the introduction of this standard, and Wales has cited 2011 for the same³.
- 2.2.2. In order to achieve this standard, a step-change in building regulations will be required. We warmly welcome the SNP manifesto commitment to aim for **Scandinavian standards of energy efficiency** in our buildings. To put this aim in context, the most recent change in Scottish regulations, introduced on 1 May 2007, are still not up to the standard introduced in Sweden in 1978⁴. It would appear we are nearly 30 years behind the best in Europe.

Friends of the Earth Scotland

5 Rose Street, Edinburgh EH2 2PR

Tel 0131 243 2700 Fax 0131 243 2725 Email info@foe-scotland.org.uk Website www.foe-scotland.org.uk

A Scottish Charity: SC003442

2.3. Encouraging behaviour change

2.3.1. Since emissions reductions will require behaviour change as well as improvements in building fabric, it is essential that building regulations encourage this. Specifically, **smart meters should be required as standard in all new buildings from 2009**. For the avoidance of doubt, we define smart meters as devices which provide real time and historical information for residents on their energy use; which provide energy companies with accurate remote billing for their customers; and which allow the householder to install, and be accurately rewarded for any contribution to the grid from, microgeneration devices.

2.4. Extending building regulations to existing buildings through consequential improvements

2.4.1. Building regulations apply primarily to new buildings, or in certain circumstances to existing buildings where a building warrant is required. Since only around 1% of the building stock is new build each year, in order to ensure that emissions from all buildings contribute to reducing emissions, a system of **consequential improvements** is required.

2.4.2. Consequential improvements would require all major refurbishments or extensions to invest **10% of the value of the work in improving the energy performance of the existing building**.

2.4.3. Furthermore, we suggest that consideration be given to create a requirement on householders, through building regulations, when replacing boilers to consider the installation of microgeneration technologies or combined heat & power units.

2.5. Provide low-interest loans to householders

2.5.1. Germany has a highly-successful system of low-interest loans of up to €50,000 (around £34,000) for those in pre-1978 homes to bring their homes up to current energy efficiency standards⁵. Through this mechanism, 5 percent of pre-1978 stock will be brought up to modern standards each year. **We strongly urge the Scottish Government to consider a similar universal low-interest loans scheme for Scottish householders**.

3. About Friends of the Earth Scotland

Friends of the Earth Scotland is an independent member of the Friends of the Earth International network. We undertake research, advocacy and community development activities throughout Scotland in pursuit of environmental justice and sustainability.

4. About the Association for the Conservation of Energy

The Association for the Conservation of Energy is a lobbying, campaigning and policy research organisation, and has worked in the field of energy efficiency since 1981. Our lobbying and campaigning work represents the interests of our membership: major manufacturers and distributors of energy saving equipment in the United Kingdom.

For further information please contact:

Chas Booth
Parliamentary Officer
chas (at) ukace.org

¹ DTI (2006) *Our Energy Challenge. Power from the people*

² For example: Building Research Establishment (2004) *Assessment of energy efficiency impact of Building Regulations compliance*

Building Research Establishment (2004) *Thermal performance of new housing in the Aberdeen area*

Future Energy Solutions (2006) *Compliance with Part L1 of the 2002 Building Regulations*

Energy Advisory Associates (2001) *Building in ignorance, demolishing complacency: improving the performance of 21st century homes*

³ Welsh Assembly Government (2007) Press release: *Programme of action to tackle climate change*

<http://new.wales.gov.uk/news/archivepress/environmentpress/2007/1420889/?lang=en>

⁴ Backstop U-values required in domestic buildings in Scotland are now 0.3, 0.25 and 0.2 W/m²K in walls, floors and roofs respectively (Scottish Building Standards Agency (2007) *Domestic Technical Handbook*). In Sweden in 1978, the corresponding values were 0.3, 0.2 and 0.2 W/m²K respectively. (Energy Advisory Associates (2001) *Building in ignorance, demolishing complacency: improving the performance of 21st century homes* <http://www.ukace.org/pubs/reportfo/BuildIgn.pdf>)

⁵ For more details see http://www.bundesregierung.de/Content/DE/Artikel/_Reformprojekte/Energie-Energie-und-Rohstoffeffizienz.html or http://www.kfw-foerderbank.de/DE/Home/Bauen_Wohnen_Energiesparen/Darlehensprogramme_fuer_Wohnimmobilien/Co2-Gebaudesanierungsprogramm_neu/index.jsp (both in German)