

HOME ENERGY EFFICIENCY TARGETS (SCOTLAND) BILL

POLICY MEMORANDUM

INTRODUCTION

1. This document relates to the Home Energy Efficiency Targets (Scotland) Bill introduced in the Scottish Parliament on 19 September 2006. It has been prepared by Shiona Baird, who is the member in charge of the Bill, to satisfy Rule 9.3.3A of the Parliament's Standing Orders. The contents are entirely the responsibility of the Member and have not been endorsed by the Parliament. Explanatory Notes and other accompanying documents are published separately as SP Bill 70-EN.

POLICY

2. The long-term aim of the Bill is that the overall energy efficiency of Scotland's residential accommodation should be improved, contributing to action to tackle climate change, bringing households out of fuel poverty, helping to reduce the incidence of excess winter deaths and improving energy security.

3. The primary objective of the Bill is to make an improvement in the energy efficiency of Scottish homes. This is to be achieved by:

- Setting targets for the improvement of the mean overall energy rating of Scottish residential accommodation;
- Requiring the Executive to prepare a plan setting out the measures for meeting the targets. The plan will be reviewed and modified when necessary. Annual progress reports must be made to the Scottish Parliament.

4. The aim of the Bill is not to prescribe the way the targets are to be met, but to set out the type of information which must be included in the plan.

BACKGROUND

Energy efficiency

5. Everything we do uses energy. In the home, this includes space heating and cooling, water heating, lighting and the use of household appliances. Energy efficiency is the term given

to making more efficient use of electricity and fuels such as gas and oil while still maintaining a similar level of services.

6. A good example is the use of low energy lighting. A normal sized living room may be lit using a one hundred watt incandescent light bulb. As well as providing light, a large proportion of the energy is wasted as heat. Similar levels of lighting can be provided using a 20 watt compact fluorescent lamp that uses far less electricity. Switching to such a lamp means that our room has been lit in a more energy efficient manner.

7. Other examples of domestic energy efficient practices include:

- Improved loft and wall insulation, leading to greatly reduced heat loss from the home;
- The installation of a more efficient gas boiler that uses less gas than an older, less efficient model to provide the same amount of hot water or heat the home to the same level of comfort;
- Similarly, the use of more energy efficient household appliances such as refrigerators, washing machines or cookers.

8. None of these examples involve compromising on the level of services provided by the light bulbs, boilers or appliances. Rather, the same level of output is achieved through the use of less inputs.

Energy rating methodologies

9. The energy efficiency of residential accommodation in the UK is normally rated using either the National Home Energy Rating (NHER), an assessment owned and operated by National Energy Services, or the Standard Assessment Procedure (SAP), the Government's preferred methodology.

10. The NHER is an energy rating based on the total annual running costs per unit area under standard occupancy conditions. Properties are rated on a scale of 0.0 (very poor) to 10.0 (excellent). An NHER rating is generated using bespoke computer software and takes into account space and water heating, cooking, lighting and the use of other appliances. It also takes account of the effects of the local environment, meaning that a property in the highlands of Scotland will have a lower rating than an identical property in southern England.

11. The SAP is a simplified energy rating that can be generated by hand. Unlike the NHER, the SAP only assesses energy costs for space and water heating and does not take geography into account. The SAP rating is expressed on a scale of 1 to 100; the lower the energy cost, the higher the rating.

12. In Scotland, the energy efficiency of residential accommodation is assessed by the Scottish House Condition Survey (SHCS) and is measured using the NHER rating. Cross-sectional surveys were carried out in 1991, 1996 and 2002; since 2003 the SHCS has used a

continuous survey format. The HEET Bill takes 2002 as its baseline year largely due to the fact that the SHCS carried out an assessment in this year.

13. The 2002 SHCS reported that the mean NHER of the Scottish housing stock was 4.5 with a standard deviation of 1.8. Taking the 2002 figure as a baseline therefore, a 20% improvement would be represented by a mean NHER of 5.4 while an improvement of 40% would be a mean NHER of 6.3.

The need for greater energy efficiency

Climate change

14. According to Executive figures, the domestic sector accounts for around 34% of Scottish energy demand¹. This makes it the biggest single demand sector in Scotland.

15. The UK has stated that it aims to reduce overall carbon emissions by 60% by 2050; Scotland has pledged to meet – and exceed – Scotland’s share of UK reductions.

16. Improving home energy efficiency is one of the most effective ways to cut carbon emissions; the DTi in its 2003 Energy White Paper identified the domestic sector as providing the largest potential percentage savings, no less than 36% of the UK’s potential sectoral percentage savings.²

Security of supply

17. For the past thirty years, the UK has enjoyed security of energy supplies thanks to domestic coal production as well as significant oil and gas reserves discovered beneath the UK Continental Shelf (UKCS).

18. However, oil production from the UKCS peaked in around 2000, and production is expected to fall year on year from now on. Likewise, the UK is expected to become ever more dependent upon imported gas supplies. There has been considerable speculation and increasing disquiet about the security of the UK’s energy supplies over the medium to long term.

19. The UK Government acknowledges that demand reduction must be at the heart of efforts to strengthen security of supply as well as helping to tackle climate change and improving economic competitiveness.³

20. According to the Department for Environment, Farming and Rural Affairs, the safest and most cost effective way of reducing energy demand is through policies to improve energy efficiency.⁴

¹ Scottish Executive, *Scottish Energy Study: Volume 1: Energy in Scotland: Supply and Demand*, <http://www.scotland.gov.uk/Publications/2006/01/19092748/2>

² DTi, *Sectoral energy and emissions projections in the Energy White Paper*, 2003, <http://www.dti.gov.uk/energy/policy-strategy/energy-white-paper/supporting-analysis/page21345.html>

³ DEFRA, *Action to improve energy efficiency in the UK*, <http://www.defra.gov.uk/environment/energy/review/index.htm>

Fuel poverty

21. In addition to the enormous carbon emissions reductions that will result from improved energy efficiency in residential accommodation, there are significant social benefits to be gained, including a reduction in the number of households in fuel poverty.

22. The Scottish Executive currently uses the following definition of fuel poverty: “A household is in fuel poverty if, in order to maintain a satisfactory heating regime, it would be required to spend more than 10% of its income (including Housing Benefit or Income Support for Mortgage Interest) on all household fuel use.”⁵

23. The Scottish House Condition Survey estimated that in 2003/4 there were 328,000 households in fuel poverty, up from 286,000 households in 2002.⁶ This rise was caused almost exclusively by increases in fuel prices, over which Scottish Ministers have no influence.

24. Of the three factors affecting fuel poverty, viz. fuel prices, household incomes and energy efficiency standards, only energy efficiency standards can realistically be legislated for. The Home Energy Efficiency Targets Bill seeks to use this ability to remove households from fuel poverty.

Excess winter deaths

25. It has long been recognised that mortality rates in Scotland exhibit marked seasonal patterns, with relatively low rates in the summer contrasting with higher rates during the winter months.⁷

26. Excess winter deaths are defined as the difference between the number of deaths in the months December - March and the average of the preceding (August - November) and following (April - July) non-winter periods.⁸

27. In 2004/05, the last winter for which data are available, there were 2,760 excess winter deaths. 37% of these were in the 75 – 84 age group, and 39% were over 85.⁹ The Excess Winter Mortality Index, however, has shown a marked drop over the past 50 years.¹⁰

⁴ Ibid.

⁵ Scottish Executive, *Scottish Fuel Poverty Statement*,
<http://www.scotland.gov.uk/Publications/2002/08/15258/9955>

⁶ Scottish House Condition Survey, *Key Findings for 2003-2004*,
<http://www.shcs.gov.uk/pdfs/SHCS%20Key%20Findings%202003-04a.pdf>

⁷ General Register Office for Scotland, *Excess Winter Deaths in Scotland 2004-05*,
<http://www.gro-scotland.gov.uk/statistics/library/excess-winter-deaths/excess-winter-deaths-in-scotland-2004-05.html>

⁸ Ibid.

⁹ General Register Office for Scotland, *Excess Winter Deaths 1990-91 to 2004-05*,
<http://www.gro-scotland.gov.uk/files/xswd05-tab1.xls>

¹⁰ General Register Office for Scotland, *The raised incidence of winter deaths*,
<http://www.gro-scotland.gov.uk/statistics/library/occpapers/the-raised-incidence-of-winter-deaths.html>

28. Independent research has uncovered a credible causal link between poor housing and poverty to low indoors temperatures to cold related deaths. The study¹¹, for the Joseph Rowntree Foundation, revealed the following connections:

- A seasonal excess of mortality is greatest in dwellings whose characteristics are likely to be associated with poor space heating;
- temperature measurements confirm that these same dwelling characteristics are indeed associated with low internal temperatures;
- there is evidence that specifically cold-related mortality is greatest in the coldest homes.

29. The study concluded that “it is likely that substantial health benefits could be achieved by measures aimed at improving the thermal efficiency of homes and the affordability of heating them”.¹²

Comparison with the UK Housing Act 2004

30. The Housing Act 2004 applying to England and Wales included a section requiring the Secretary of State to “take reasonable steps to ensure that by 2010 the general level of energy efficiency of residential accommodation in England has increased by at least 20 per cent compared with the general level of such energy efficiency in 2000.”¹³

31. However, while the UK Housing Act 2004 included binding energy efficiency targets for residential accommodation, the corresponding Scottish Housing Act contains only the requirement for Scottish Ministers to prepare a strategy for improving the Energy Efficiency of living accommodation. While such a strategy is welcome as a first step, it does not carry nearly as much weight as a statutory target.

32. The Home Energy Efficiency Targets Bill has as its starting point similar energy efficiency targets to those in the UK Housing Act 2004, but goes further by including a requirement for an additional 20% improvement by 2020.

Existing legislation

The Home Energy Conservation Act 1995

33. The Home Energy Conservation Act 1995¹⁴ (HECA) came into force in 1996 and placed a duty on Scottish local authorities to devise strategies to improve the energy efficiency of their housing stock over the ten to fifteen years following the Act’s coming into force.

¹¹ Joseph Rowntree Foundation, *The impact of housing conditions on excess winter deaths*, <http://www.jrf.org.uk/Knowledge/findings/housing/pdf/N11.pdf>

¹² Ibid.

¹³ Office of Public Sector Information, *Housing Act 2004*, <http://www.opsi.gov.uk/ACTS/acts2004/40034--r.htm#217>

¹⁴ Office of Public Sector Information, *Home Energy Conservation Act 1995*,

34. However, there has been trenchant criticism of HECA from a number of bodies campaigning for greater home energy efficiency. There appear to be two main criticisms¹⁵ of HECA:

- That the energy efficiency improvement targets are advisory rather than statutory;
- That local authorities have not been given enough resources to allow them to meet their targets.

35. Advisory targets laid down in HECA were for energy efficiency improvements of 30% by 2010. By 2003, improvements of 12.74% had been made, behind what should have been expected by that stage.¹⁶

36. It is unlikely that improvements between 2003 and 2010 will match these early gains as the easiest and cheapest improvement will have already been made.

37. There was also a wide variation in the individual performances of different local authorities. The lowest performing local authority only managed a 7.11% improvement, with the best over 30%.¹⁷

38. It is intended that the statutory targets in the Home Energy Efficiency Targets (Scotland) Bill will consolidate and strengthen the work already being carried out by local authorities in Scotland, with the statutory nature of the targets acting to focus the attention on the local authorities which are currently bringing up the rear of the field.

Building Standards Regulations

39. The Scottish Building Standards Agency¹⁸ is an executive agency of the Scottish Executive, set up to undertake the national functions related to the new building standards system as set out in the Building (Scotland) Act 2003.

40. As such, it is its responsibility to implement measures specified in relevant European directives, such as Directive 2002/91/EC¹⁹ on the energy performance of buildings. Member states of the European Union had until the 4th of January 2006 to bring into force the laws, regulations and administrative provisions necessary to comply with this directive.

http://www.opsi.gov.uk/ACTS/acts1995/Ukpga_19950010_en_1.htm

¹⁵ Association for the Conservation of Energy and Friends of the Earth Scotland, *Warmer Homes, Cooler Planet*, Executive summary available at:

http://www.ukace.org/pubs/reportfo/WHCP_execsumm.pdf

¹⁶ <http://www.scotland.gov.uk/library5/development/hecar5-00.asp>

¹⁷ Ibid.

¹⁸ Scottish Building Standards Agency, <http://www.sbsa.gov.uk/>

¹⁹ European Commission, *Directive on the energy performance of buildings*, http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_001/l_00120030104en00650071.pdf

41. Articles 5 and 6 of the directive apply to new and existing buildings respectively. These are the articles therefore that have most relevance to the Bill.²⁰

42. Article 5 refers to new buildings, but because energy standards have not been increased at the time of implementing the directive, existing standards will continue to apply for the time being. Proposed improvement will aim to deliver an 18 – 25% reduction in CO₂ emissions from new and renovated buildings, far short of what will be required if Scotland is to achieve overall CO₂ emissions reductions of 60% by 2050.

43. Article 6 requires minimum energy standards to be applied to large buildings when they are renovated. In this context, “large” refers to buildings with a floor area greater than 1000m², excluding all but a tiny fraction of residential accommodation.

44. The directive is a welcome step in the right direction, but in its current form will not result in significant energy efficiency improvements in existing residential accommodation.

ALTERNATIVE APPROACHES

45. The policy objective of the Home Energy Efficiency Targets Bill is to improve the energy efficiency of Scottish housing. This is not an end in itself; the ultimate objectives include:

- Tackling climate change by reducing domestic greenhouse gas emissions;
- Bringing down the numbers of households in fuel poverty by reducing annual fuel bills;
- Reducing the incidence of excess winter deaths by making it easier for households on lower incomes to heat their homes to a tolerable standard;
- Improving energy security by reducing the amount of electricity, gas and other fuels consumed by Scottish households.

46. It is difficult to conceive of all of these policy outcomes being delivered other than by improvements to home energy efficiency. Such improvements could possibly be delivered via aspirational targets, such as those described above under the HECA scheme.

47. But, as has also been described above, the very aspirational nature of the HECA targets let them down, as do the lack of resources available to achieve them.

48. Other methods to improve home energy efficiency could include requirements to dramatically improve the energy efficiency of only new build housing. But given the slow replacement rate of housing stock (it is estimated that around two-thirds of the housing that will be in use in 2050 is already standing²¹) it would take an extremely long time for such an

²⁰ Scottish Building Standards Agency, *Guidance document on implementation of Articles 3, 4, 5 & 6 of EU Directive 2002/91/EC on the energy performance of buildings*,

<http://www.sbsa.gov.uk/pdfs/Article%203,4,5%20&%206%20EPBD%20guidance.pdf>

²¹ University of Oxford Environmental Change Institute, *The 40% House Project - Executive Summary*, <http://www.eci.ox.ac.uk/pdfdownload/energy/40house/execsummary.pdf>

approach to have an impact on overall energy efficiency levels. In the meantime, it would have no impact on the residents of older housing, often those in the greatest need of improved energy efficiency.

49. The Member therefore considers that legislation to impose binding targets for improving the overall domestic energy efficiency of housing (existing and new build) offers the only realistic opportunity to achieve the outcomes listed above.

50. Prior to the lodging of the HEET Bill proposal, Green MSPs twice attempted to amend the Housing (Scotland) Bill to include statutory targets for energy efficiency improvements. The failure of these amendments to be accepted by the Parliament led to the introduction of the HEET Bill as a stand alone piece of legislation.

CONSULTATION

51. A consultation paper entitled *Turning down the heat* was published by Shiona Baird MSP in February 2005.²² The consultation paper introduced the Home Energy Efficiency Targets Bill proposal, gave policy background on home energy efficiency, described the existing legislative framework and energy efficiency initiatives, and invited comments on the Bill proposal from interested parties.

52. The consultation paper asked the following questions:

- Do you feel that the use of mandatory targets for improved energy efficiency is an appropriate way to tackle both fuel poverty and climate change in Scotland?
- If not, what other methods might be more appropriate?
- If yes, what target level of energy efficiency improvement should be set and over what time frame?
- What do you see as the main strengths and weaknesses of the Bill, as proposed?

53. The paper brought in eight responses,²³ including the leading NGOs (Non-Governmental Organisations) actively campaigning on domestic energy efficiency measures in Scotland²⁴. In addition, responses were received from local authorities and a number of other bodies with an interest in energy efficiency issues.

54. The full list of respondents is as follows:

- Energy Savings Trust

²² Shiona Baird MSP, *Turning down the heat*,

http://www.shionabairdmsp.org/issues/Turning_down_the_heat.pdf

²³ Shiona Baird MSP, *Turning down the heat – analysis of responses*,

<http://www.scottish.parliament.uk/business/bills/pdfs/mb-conclusion/HomeEnergyEfficiencyTargetsAnalysis.pdf>

²⁴ Including Friends of the Earth, Association for the Conservation of Energy, the Energy Savings Trust and Energy Action Scotland.

- Energy Action Scotland
- Association for the Conservation of Energy/ Friends of the Earth Scotland
- North Ayrshire Council
- Scottish Natural Heritage
- Solid Fuel Association
- UK Timber Frame Association
- An unnamed individual

55. All the respondents agreed that measures to improve the energy efficiency of residential accommodation were necessary, and that such improvements would help to address both climate change and fuel poverty.

56. However, not all respondents agreed that percentage improvements were the best way to tackle energy efficiency. Energy Action Scotland believed that targets should be absolute rather than relative, as these would not disadvantage councils that had already made advances in improving the energy efficiency of their housing stock. The respondent argued that targets should be in the form of National Home Energy Ratings (NHER), with a target value of 7.

57. The final HEET Bill as introduced addresses these concerns by setting percentage targets, but applying them to the overall mean NHER score for Scotland. This means that there is one target for Scotland and not separate targets for individual local authorities. The first target is for an overall mean NHER for Scotland of 5.4 while the second target is for the mean NHER to rise to 6.3.

58. Scottish Natural Heritage was wary of any targets being applied, feeling that enshrining them in primary legislation could make them inflexible and unambitious. It was the only respondent opposed to the use of legislation to set targets.

59. But seven of the eight respondents were in favour of mandatory improvement targets for home energy efficiency to be enshrined in primary legislation. To that end, the consultation was taken to be supportive of the draft Bill proposal overall, and the final Bill proposal lodged by Shiona Baird on the 10th of January 2006 was the same as the draft proposal lodged the previous March.

60. Other points made by respondents included:

- Percentage improvement targets in home energy efficiency would keep Scotland broadly in line with the approach enshrined within the UK Housing Act 2004;
- National targets for energy efficiency would complement existing targets for the eradication of fuel poverty, reduction in greenhouse gas emissions and production of renewable energy;

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- While building standards have improved over recent years, the energy efficiency of existing housing stock remains well below that of new build;
- Any targets should be set within the wider context of the UK's shared framework for sustainable development.

61. On this last point, it is the aim of this Bill to harmonise Scotland's approach to residential energy efficiency with the framework laid out in the UK Housing Act 2004.

EFFECTS ON EQUAL OPPORTUNITIES, HUMAN RIGHTS, ISLAND COMMUNITIES, LOCAL GOVERNMENT, SUSTAINABLE DEVELOPMENT, ETC.

Equal opportunities and human rights

62. It is not anticipated that the Bill will have any effects on equal opportunities or human rights.

Island communities

63. Island communities, reliant as they often are upon imported energy supplies and inefficient generating capacity, have a great deal to gain from enhanced home energy efficiency policies.

Local government

64. Under the Home Energy Conservation Act of 1995, local authorities are designated as energy conservation authorities with a duty to devise strategies to achieve improvements in the energy efficiency of their housing stocks.

65. The Home Energy Efficiency Targets Bill obliges Scottish Ministers to set and achieve targets for improvements in home energy efficiency; how they do it is not specified in the Bill. But given the existing role played by local authorities, it is likely that they will play an important function in delivering the targets.

Sustainable development

66. Binding targets for home energy efficiency improvements would be a key policy measure for the realisation of the Executive's commitment to sustainable development agreed in the Partnership agreement.

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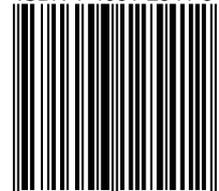
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