

October 2011 (RPC RB 2011/11)

## Low carbon Scotland: What influences residents' energy use behaviours?

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### Introduction

Given the targets that the Scottish Government has set for reducing greenhouse gas (GHG) emissions – 42% reduction by 2020 and 80% reduction by 2050 (from 1990 levels) – all sectors of Scottish society will have to change the way they currently consume energy and contribute to emissions of GHGs. This study focused on the energy use behaviours of Scottish residents, and aimed to find out the barriers to, and motivations for, reducing energy use and therefore emissions of GHGs. Data collected through The Scottish Environmental Attitudes and Behaviours Survey (2008)<sup>3</sup> were analysed to investigate the factors that affect the energy use behaviours of Scottish residents. These included every day behaviours (such as turning off lights when leaving a room) and one-off behaviours (such as looking into installing renewable energy technologies at home). The findings revealed the ways in which a number of factors were related to the energy use behaviours of Scottish residents.

### Key Findings

- Respondents' **attitudes to climate change** were measured using 11 statements<sup>4</sup> designed to uncover the extent to which people were concerned about or apathetic towards the issue. The project found that people who were more concerned about climate change were more likely to try to reduce their energy use through every day and one-off behaviours.
- Respondents' **'green identity'** was measured through questions asking whether they discuss the environment and climate change with people they know, whether they try to persuade people to do more to help the environment, and whether they have suggested improvements at their workplace to help the environment. To these was added a question about membership of different categories of charities, including environmental groups. The study found that people who had a 'green identity' were more likely to use energy saving light bulbs and to participate in other energy saving behaviours. 'Green identity' had more of an effect on one-off behaviours than every day behaviours.
- Respondents' **knowledge of climate change** was measured using four questions: one asking about self-reported knowledge ("how much do you know about climate change?"); one asking about the main causes and one the main effects of climate change; and a fourth about what actions could be taken to reduce climate change. Greater knowledge of climate change made people more likely to participate in every day energy reducing behaviours but less likely to participate in one-off energy reducing behaviours.
- Respondents were asked about their **levels of trust in different information sources regarding climate change**, including the Scottish Government, business and industry,

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<sup>3</sup> For more information, see: <http://www.scotland.gov.uk/Topics/Research/by-topic/environment/social-research/Environmental-Attitudes>.

<sup>4</sup> For example: "I wouldn't sacrifice my home comforts to save energy".

environmental groups, television news, independent scientists and others. Overall, independent scientists were the most trusted and tabloid newspapers the least. Trust in different information sources was related to the level of knowledge and concern that people had about climate change but was not directly linked to energy reduction behaviours. People with a stronger 'green identity', higher levels of concern about climate change and greater knowledge of climate change, also had greater trust in environmental groups and independent scientists. People with greater trust in industry had less concern about climate change and lower levels of knowledge of climate change.

- The **influence of several socio-demographic variables on behaviour** was investigated. Households with more children were more likely to have looked into installing renewables and more likely to have switched energy supplier for environmental reasons. Households with more children were less likely to turn off lights in un-occupied rooms or to turn down heating when going out of the house. These results varied, however, depending on the age of the children, and households with children aged 0-4 years were less likely to carry out every day behaviours. Women were found to be less likely to engage in one-off energy reducing behaviours than men. Respondents with a higher level of formal education were more likely to carry out energy reducing behaviours.
- The Scottish Government 6-fold urban–rural typology<sup>5</sup> was used to investigate whether there were any **differences between the behaviours of rural and urban residents and remote and non-remote residents**. Urban residents were less likely than rural and small town residents to have switched energy supplier for environmental reasons or to have considered installing renewable energy technologies at their property. Urban residents were more likely to turn down the heating when going out in the winter than rural and small town residents. Overall, levels of engagement in energy reduction behaviours were similar for all residents, but the study suggests that the factors driving behaviours vary between residents in different locations.

### Policy and research implications

- The Scottish Government Public Engagement Strategy for Low Carbon Scotland<sup>6</sup> stresses the importance of engaging with people and communicating about climate change.
- The findings presented here go some way to informing the implementation of such a strategy, suggesting that:
  - some information sources are likely to be more trusted than others but this does not directly affect behaviour; levels of knowledge are related to behaviour but the relationship is not straightforward; attitudes towards, and concern about, climate change are related in important ways to energy use behaviours; and wider engagement with environmental issues (having a 'green identity') is matched to energy reducing behaviours at home. Certain demographic variables, including locational variables, are important too.
- There is merit in further work to investigate the impact of different factors as the survey results presented here are from 2008, and climate change, energy use and carbon emissions issues have moved rapidly up the political and public agenda since then.
- There is particular interest in delving more deeply into the differences between rural and urban residents and remote and accessible locations. These areas face different infrastructural challenges which may either hinder or support behavioural change. Exploration of the varying drivers of behaviour change in different geographical locations is also warranted. Further work at SAC will explore these issues.

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<sup>5</sup> For more information, see: <http://www.scotland.gov.uk/Resource/Doc/281343/0084923.pdf>.

<sup>6</sup> For more information, see: <http://www.scotland.gov.uk/Resource/Doc/336432/0110100.pdf>.