

Analysis of questionnaires from 40% house conference delegates

Environmental Change Institute, University of Oxford. April 2005.

Introduction

At the 40% House conference on 23rd March 2005, delegates were asked to complete questionnaires about their housing and whether they already lived in a 40% house. Over half of the delegates completed the questionnaires, and this document briefly sets out the results. These data are not typical or representative – but they are interesting.

Basic numbers

Total number of completed questionnaires = 98

Table 1: Responses to questionnaire (data are number of responses, not percentages)

	Yes	No	Partly	Don't Know	No answer
Q1. Do you have solar water heating?	4	94			
Q2. Is your heating supplied by CHP / biomass / heat pump?	2	87	8	1	
Q3. Do you have well insulated walls?	37	51		10	
Q5. Do you have solar PV or other renewable electricity generation?	5	93			
Q6. Do you buy renewable electricity?	51	46			1
Q7. Are most of your light bulbs CFLs?	76	20			2
Q8. Do you think you live in a 40% home?	10	68		10	

Q4. How warm is your home in winter? When sitting still what do you typically wear?

Warm jumper = 47

Thin jumper = 41

No jumper = 8

No answer = 2

Analysis of energy data provided

Of the total, 21 respondents said they had no idea how much energy they used or how much it cost (a number of these were tenants who did not receive energy bills). The remaining 77 respondents gave energy data in a variety of formats, most in terms of cost per month, but a few in kWh per annum. Using average energy prices for 2003 (plus 8% to account for rising prices in 2004), this cost data has been used to calculate average kWh used per year for gas, electricity and heating oil. Carbon emissions have been calculated based on this. Where households used electricity as the sole fuel and provided cost data it was not possible to estimate kWh (given the very different prices of on- and off-peak electricity). In total, estimated or actual energy use data was used to calculate carbon emissions for 65 respondents.

Figure 1 presents data for 65 respondents in two different ways. The white data show carbon emissions, if all electricity use is assumed to be of average carbon intensity. The black data show carbon emissions, where all electricity from people choosing green electricity is assumed to give rise to zero carbon emissions.

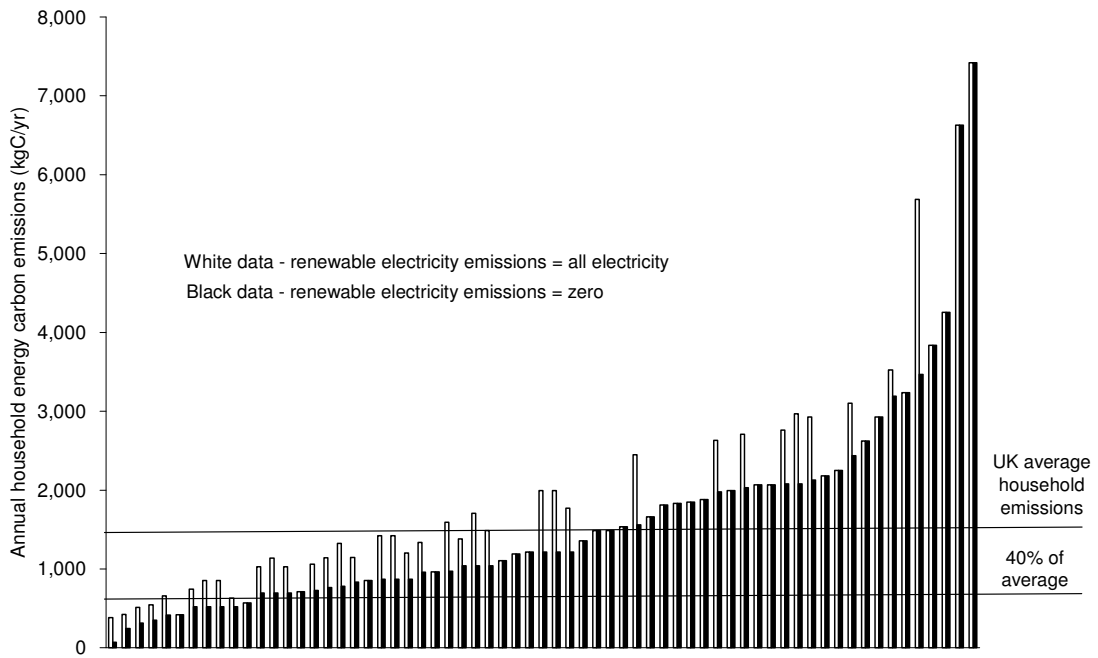


Figure 1: Estimated annual household energy use carbon emissions for 40% house respondents

The average household carbon emissions from these 65 homes was higher than the UK average, based on either measure. However, as Figure 1 demonstrates, this is in part due to very high carbon emissions from a small number of households. Given that much of the data comes from estimates of monthly bills, there are questions about its accuracy.

Ten respondents thought they already lived in a 40% house and it was possible to calculate carbon emissions for nine of them. Figure 2 shows how eight compared with 40% of average emissions (one had emissions considerable higher than the UK average – thus well in excess of the 40% standard). Where renewable electricity emissions are counted as zero, five of the nine were below the 40% house standard. However, on this basis there were another six who also had 40% homes. Three of the respondents who thought they lived in 40% homes had emissions which were rather higher, although all apart from one (not shown in Figure 2) were well below UK average emissions.

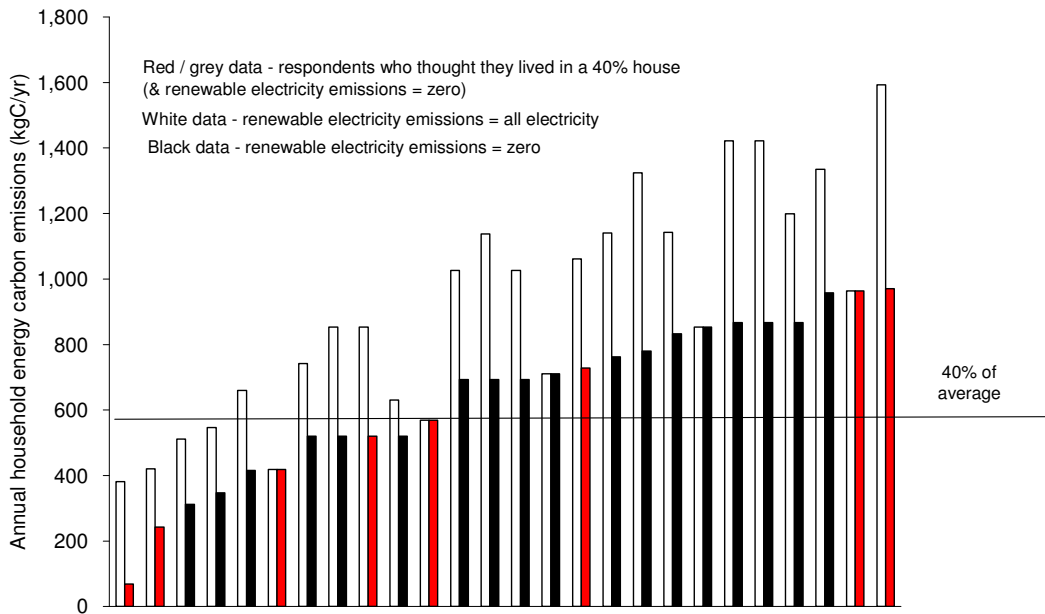


Figure 2: Estimated annual household energy use carbon emissions for 40% house respondents, showing those who thought they already lived in a 40% house

Text responses

The final question was “what have you done to reduce carbon emissions from you home that you’re most pleased with?” This generated a wide range of responses - from one word replies to mini-essays - with 91 out of 98 respondents answering this question.

Responses have been classified into categories shown in the table below. Respondents could identify more than one action taken. Less common actions are grouped together under ‘other’.

Action taken	Number of respondents
Green electricity	6
CFLs / efficient lighting	18
Double glazing	10
Roof insulation	23
Wall insulation	13
Condensing boiler	11
Draught-proofing	16
Efficient appliances	6
Behavioural / lifestyle changes	20
Other	32
No comments	7

‘Behavioural / lifestyle changes’ covered a wide range of behaviour including: turning down thermostats, switching off equipment not in use, not leaving appliances on standby, wearing warmer clothes and exhorting children / flatmates / spouses to behave responsibly. More far-reaching lifestyle changes were also mentioned, including: not fitting central heating, renting out spare rooms, choosing to buy a terraced house, moving to a smaller modern house.

'Other' actions also covered a wide range: adding insulated curtains, installing a conservatory on the south side of a building which reduced heat load, storage and release of heat from waste bath water, changing from electric to gas / oil heating, using LED lighting, fitting radiator and boiler controls.