



Scottish
House Condition
Survey
2002

Fuel Poverty in Scotland



SCOTTISH EXECUTIVE

Communities
Scotland

Fuel Poverty in Scotland: Further Analysis of the Scottish House Condition Survey

David Cormack, Karren Friel, Sara Grainger, Dianne Millen and Andrew Robinson
House Condition Surveys Team
Communities Scotland Investment & Performance Division

House Condition Surveys Team
Communities Scotland
Thistle House
91 Haymarket Terrace
Edinburgh
EH12 5HE

0131 313 0044
shcs@communitiesscotland.gov.uk
<http://www.shcs.gov.uk>

Released on 15 April, 2004

Executive Summary

This report sets out the findings of a detailed analysis of the information available from the Scottish House Condition Survey 2002 on fuel poverty. Unless otherwise specified, the definition of fuel poverty set out in the Fuel Poverty Statement (FPS) (2002) has been used. The key findings of the report are as set out below.

- An estimated 286,000 households (13%) are fuel poor. Of these, 24% (69,000) are in extreme fuel poverty (ie. would have to spend more than 20% of their income on fuel to maintain the standard heating regime). Most of the extremely fuel poor are single person households.
- Approximately half of the change in fuel poverty since SHCS 1996 can be attributed to increases in household incomes. 35% of the change is due to decreased fuel prices and 15% to improvements in the energy efficiency of the stock.
- A theoretical modelling exercise was undertaken to look at the impact of fuel price changes. This indicated that for every 5% increase in average annual fuel prices an estimated 30,000 more households over and above the current figure of 286,000 would become fuel poor (the reverse being true for a decrease of 5%). This analysis used average annualised fuel prices across all suppliers and does not reflect specific pricing policies from individual energy suppliers.
- If Housing Benefit and Income Support for Mortgage Interest are excluded from the definition of income used to derive fuel poverty estimates, the total fuel poor estimate increases to 363,000 (17%). If all housing costs are excluded from income, this rises further to 445,000 (20%). Excluding Disability Living Allowance has no significant impact on the original total.
- Households living in privately rented accommodation have a higher risk of being fuel poor than do those living in other tenures. Single adult households have a higher risk than other household types.
- There is a strong association between income and fuel poverty, as might be expected. There are almost no fuel poor households in the top three income bands.
- Households in receipt of Jobseekers Allowance, State Retirement Pension and Widows' Pension are significantly more likely to be fuel poor than households which are not.
- Approximately 63% of fuel poor households in receipt of benefits receive State Retirement Pension; 25% of households receiving the benefit are fuel poor.
- The best predictors of fuel poverty are income band, tenure, and extent of central heating. All households with an average weekly income of less than £100 have a high probability of being fuel poor regardless of other factors. For those on incomes of £100-1999, those in private tenures are more likely to be fuel poor than those in public.
- If the improvements available under the Warm Deal are modelled for those fuel poor households eligible for the programme and who require at least one such improvement, the fuel poverty total goes down to 238,000 (11%). This is if cavity wall insulation is assumed to be given to half of all flats which require it. If CWI is given to all flats which require it, this figure is 234,000. Approximately 167,000 fuel poor households eligible for Warm Deal would remain fuel poor even if the programme was fully implemented.
- If 300mm loft insulation were added to the package of Warm Deal measures for dwellings of solid wall construction, the total fuel poor would be reduced to 237,000.
- If the improvements available under the Central Heating Programme are modelled for those fuel poor households eligible for the programme and who

require at least one such improvement, the fuel poverty total goes down to 225,000 (10%).

- If partial central heating systems are upgraded to full systems (using CHP eligibility as criteria), and other Warm Deal improvements also applied, the total number of fuel poor is 230,000 (11%).
- If single glazing is replaced with double glazing (using Warm Deal eligibility as criteria) the prevalence of fuel poverty is 275,000 (13%).

Contents

Chapter 1.	Introduction and Definitions	1
Chapter 2.	Fuel Poverty and Extreme Fuel Poverty	8
Chapter 3.	Changes since 1996	16
Chapter 4.	The Effect of Modelled Changes to Inputs	18
Chapter 5.	Marginal Fuel Poverty	27
Chapter 6.	Vulnerability to Fuel Poverty	31
Chapter 7.	Impact of Dwelling Improvements	60

Chapter 1

Introduction and Definitions

1.1 Introduction

The initial reports of the 2002 Scottish House Condition Survey (SHCS), published in November 2003, provided a series of basic analyses of the prevalence of fuel poverty in Scotland at a national and local authority level. The main purpose of these reports was to make available the basic 'facts and figures' about the Scottish housing stock and its occupants, including fuel poverty. However, as the SHCS 1996 follow-up work on fuel poverty demonstrated, there is considerable scope for the data to be used for more sophisticated analysis and modelling work which will inform ongoing policy and practice around fuel poverty. Recognising this, Communities Scotland made a commitment to undertake and publish a series of more detailed investigations.

This report sets out the findings of these analyses. After defining the terms and concepts used in the study, it goes on to revisit the prevalence of fuel poverty and extends this analysis to more specific subcategories such as the extreme and marginal fuel poor. Further chapters look at change since SHCS 1996, and the impact of modelling changes to the various inputs to the fuel poverty calculation (such as income and fuel prices). The report then examines vulnerability to fuel poverty and predictors of risk, before setting out the results of a modelling exercise looking at the impact of carrying out specified improvements to the dwelling stock.

Annex 3 to this report also sets out the fully revised material originally published in Chapters 11 (national) and 8 (local authority) of the November 2003 reports, further to the announcement on 9 March 2004 of a post-publication technical error. **This material was released via the survey website on 1 April 2004: while some of the tables are found elsewhere in this report, for the convenience of users they have been gathered together in this Annex which should now be used as a replacement for the original chapters.**

Readers of this report are reminded that the SHCS 2002 was a sample survey and as such, the figures presented here are estimates, subject to sampling error. Annex 1 gives further details of how estimates should be used, particularly when making comparisons.

Where an asterisk appears in a table, this means that the estimate in question would be based on information from fewer than 30 cases, and is hence omitted for reasons of statistical reliability. Where the symbol † appears, this represents an estimate derived from between 30 and 100 cases and which should therefore be treated with considerable caution.

1.2 Defining fuel poverty

The term *fuel poverty* refers to a situation where a household is unable to heat its home at a reasonable cost. There is not necessarily agreement in the academic and practitioner communities about the detailed definition of the term, with a number of different definitions being in use in different administrations and at different times.

It is important to note that the concept of fuel poverty is based on a theoretical calculation of how much it would cost to heat the dwelling to the specified regime. It does not address how much the household *actually* spends to heat the dwelling. In practice, householders may choose to heat their home differently.

Two definitions have been used throughout the process of compiling the SHCS 2002 main reports and this follow-up analysis.

1.2.1 Fuel Poverty Statement (FPS) definition

In August 2002, the Scottish FPS (Scottish Executive, 2002) was published, which set forth the definition of fuel poverty to be used in Scotland.

According to this definition, a household is in fuel poverty if 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. "Income" can be more precisely defined as income before housing costs, as derived from the Households Below Average Income (HBAI) definition set out in the FPS. The HBAI definition has not been used exactly because the information gathered in the SHCS does not disaggregate income sources to this level of detail. However, the crucial point to note is that "income" in this definition is net of council and income tax.

The definition of "household fuel use" is derived from the following heating regime as set out in the FPS:

- nine hours per 24 hour period during the week, with two hours being in the morning and seven hours in the evening.
- 16 hours per 24 at the weekend.
- living-room heated to 21 degrees Celsius.
- rest of the house heated to 18 degrees Celsius.
- for elderly and infirm households, the home is continuously heated for sixteen hours per day to a temperature of 23 degrees Celsius in the living-room and 18 degrees Celsius in other rooms.

The FPS does not give a precise definition of "elderly" or "infirm". The following definitions of these terms have been applied in the SHCS analyses:

- "elderly" refers to a household where at least one member is aged sixty or over (male or female).
- "infirm" refers to a household where at least one member has self-reported as long-term sick or disabled.

This is the definition used in this report except where stated otherwise. Note that in contrast to the definition used in the SHCS 1996 Fuel Poverty Report, this does not include an adjustment for underoccupancy nor does it include a separate heating regime for households with at least one child under the age of five.

1.2.2 SHCS 1996 definition

The SHCS 1996 fuel poverty follow-up report used a different definition from that which was finally settled upon for the FPS. It has been used in certain analyses in this report, primarily for the purposes of trend analysis.

Under this definition, a fuel poor household is one which needs to spend more than 10% of its income on fuel. A further distinction was made in the SHCS 1996 follow-up report between expenditure on space and water heating, and general fuel expenditure: however, any estimates based on the definition in this report are for *total* fuel expenditure so as to enable more useful comparisons with the FPS definition.

Within this definition, "income" is taken to mean total after-tax income of the Head of Household (plus his or her partner where applicable) from wages and salaries plus social security benefits and income from other sources such as non-State pensions, alimony and maintenance. The definition of "fuel costs" is based on the following heating regime:

- nine hours per day during the week.
- 16 hours continuously at the weekend.
- living-room heated to 21 degrees Celsius.
- rest of the house heated to 18 degrees Celsius.

- for households with at least one member who is of pensionable age (but is not more than 75 years old), and/or at least one member who is long-term sick, and/or one or more children aged five years or less, the home is continuously heated for sixteen hours per day.
- for households where at least one member is over 75, the home is continuously heated for sixteen hours per day and the living-room temperature is maintained at 23 degrees Celsius.

The 1996 SHCS approach also included an adjustment for underoccupancy, using the Bedroom Standard (see Glossary). This enabled the analysis to take account of homes where all rooms need not be heated to achieve satisfactory living conditions:-

- for households up to and at the Bedroom Standard, plus one additional room, the above heating regime was applied.
- for households with two or more rooms above the Standard, the extra rooms were assumed to be unheated.

1.3 Defining household income

Detailed information on the calculation, imputation and editing of the household income data can be found in Technical Annexe 10 of the main SHCS 2002 report. This information will not be reproduced here: however, it is important to clarify the relationship between the definition of income in the SHCS 2002 and the definition used in the FPS, namely the HBAI definition.

1.3.1 Treatment of income in the SHCS

The income and benefits data collected in the SHCS are subject to strict standards of quality control and are a credible and robust source of information for the purposes of comparison between groups and estimating fuel poverty. However, the data have inherent limitations due to the nature of the interview structure.

The income and benefits data in the SHCS is obtained in respect of the Highest Income Householder (HIH) and his or her spouse/partner. No income information is obtained about any other economically active adult household members. Therefore, the SHCS will underestimate the income of households which include several working adults. The proportion of such households is, roughly speaking, about 20%.

This means that it is important to recognise that the SHCS is not intended as a survey of income *per se* and should not be used as a source of absolute rather than comparative income information. Users seeking such information are referred to the Family Resources Survey, undertaken for the Department of Work and Pensions, which includes a Scottish booster sample. Communities Scotland has commissioned research in partnership with the Development Department and supported by the Office of the Chief Economic Advisor and Department of Work and Pensions. This work will improve our understanding of the impact of interview structure on income estimates.

It is also worth making clear that the analyses reported here involving income do *not* use *equivalised* income. Equivalisation means that the composition of the household is taken into account when using income variables in an analysis. For example, it may be assumed that a lone adult does not require the same income as a family of four in order to achieve the same standard of living. Likewise, a family of four will not require four times the level of income as many costs can be shared. Estimating the numbers of people below particular income thresholds generally involves adjusting incomes to reflect the household composition so that they are being compared on a like-for-like basis – this is what we mean by equivalised income.

The use of this approach is common in the analysis of poverty. However, it is not appropriate here as the only equivalisation factors available were derived from surveys using different interview structures from the SHCS. The potential effect of this difference

Fuel Poverty in Scotland

could not be quantified without extensive further work and so all analysis presented in this report uses *unequalised* income.

1.3.2 *HBAI definition of income before housing costs*

Under this definition, income includes total income from all members of the household, including dependants, and includes the following components:

- usual net earnings from employment.
- profit or loss from self-employment.
- all Social Security benefits (including Housing Benefit, Social Fund, maternity, funeral and community care grants, but excluding Social Fund loans) and Tax Credits.
- income from occupational and private pensions.
- investment income.
- maintenance payments, if a person received them directly.
- income from education grants and scholarships (including for students, top-up loans and parental contributions).
- the cash value of certain forms of income in kind (free school meals, free welfare milk, and free school milk).

Under this definition, income is net of the following items:

- income tax payments.
- National Insurance contributions.
- Council Tax.
- Contributions to occupational pension schemes (including additional voluntary contributions) and any contribution to personal pensions.
- All maintenance and child support payments, which are deducted from the income of the person making the payment.
- Parental contributions to students living away from home.

1.3.3 *SHCS income definition*

The household income used in the SHCS implementation of the FPS definition is the income (net of income tax and national insurance) of the Highest Income Householder (HIH) and his or her spouse/partner. Household income comprises all income from the following sources:

- employment, self-employment, part-time and casual work.
- state benefits including Council Tax Benefit and Housing Benefit (see below).
- student grants and loans.
- any other regular non-work income including non-state pensions, investment income, etc.

Information was also collected on the receipt of the Winter Fuel Payment. This was added to the income of all households containing a person of state pension age and to those households with a person aged 60 or over who had stated that they had received this payment.

This income figure was then adjusted, by deducting council tax, for use in our implementation of the FPS definition of fuel poverty. This was done to obtain income data closer to the HBAI definition.

1.3.4 *List of benefits covered in SHCS 2002*

Income support
Working families tax credit
Jobseekers allowance

Widow's payment
Widowed mother's allowance
Widow's pension

Housing benefit

Council tax benefit
Earnings top-up
Child benefit
Child benefit at one parent rate
Maternity allowance
Retirement pension
Statutory maternity pay
Statutory sick pay
Support/HB
Some other state benefit

Incapacity benefit
disabled person's tax credit
Disability living allowance
Industrial injury/disablement benefit
Invalid care allowance
Severe disablement benefit
Attendance allowance
War disablement benefit
Disability premium with income

1.3.5 *Differences between SHCS income and HBAI*

Certain items included in HBAI were not included in the SHCS social survey, which was already in the field when the FPS was released. The income data from the SHCS 2002 used to calculate fuel poverty differ from the HBAI definition as follows:

Income not included (data not collected):

- from members of the household other than the HH and their spouse/partner.
- from Social Fund, maternity, funeral and community care grants and the cash value of certain forms of income in kind (free school meals, free welfare milk, and free school milk).
- student income from parental contributions.

Income from self-employment was collected as amount taken out of business, rather than the profit or loss of the business.

Deductions not included:

- contributions to occupational pension schemes (including additional voluntary contributions) and any contribution to personal pensions.
- maintenance and child support payments, which are deducted from the income of the person making the payment.
- parental contributions to students living away from home.

1.4 Understanding Fuel Cost Modelling

The fuel costs used in the estimation of fuel poverty are based on a model which estimates how much it would cost to heat the dwelling to the specified regime. These modelled fuel costs include an allowance for other fuel costs including lighting, cooking and use of appliances.

1.4.1 *The BREDEM-12 model*

The model used to calculate required fuel costs is based on a methodology developed by the Building Research Establishment (BRE) to calculate energy consumption in dwellings. The methodology is known as BREDEM (the Building Research Establishment Domestic Energy Model). The version used for estimating energy use and hence fuel costs in this report was BREDEM-12.

BREDEM-12 uses a mixture of analytical and empirical techniques to assess the energy requirements needed in a dwelling to achieve a specified heating regime. A full technical description of the model is covered in the BRE Laboratory Report¹. A very broad description of the model is provided here.

BREDEM-12 models a dwelling as a number of 'zones'. Zone one is the main living area of a dwelling; Zone two the remainder, or that proportion of the remainder explicitly designated if the property is underoccupied. The model takes as raw data the heating regime required for each zone, occupancy levels, and the dwellings' heating system together with the characteristics of the dwelling and its fabric.

In calculating the energy requirements of a dwelling, BREDEM-12 uses what has been discovered about the thermal qualities of housing over successive English House Condition Surveys, and allows for:

- Dwelling 'U' values – the capacity of the fabric of a dwelling to allow heat loss from within, to the external environment.
- 'Infiltration rates' – the patterns of air movement within a dwelling.
- 'Thermal capacity' – or the intrinsic ability of different materials (e.g. stone, or wood) to hold heat.
- 'Internal Heat Transfers – from zone one to zone two, and from zone two to the unheated part of a house (if relevant).
- 'Metabolic gains' – essentially heat from bodies.
- Characteristics of the heating system within a house, like efficiency, responsiveness to change, and control systems.
- External weather conditions, including temperature, wind, and solar effects.

1.4.2 *AutoEvaluator*

To calculate annual dwelling fuel costs a complementary program that works with BREDEM-12 was used. This program, known as *AutoEvaluator* was developed by the National Energy Services Ltd (NES) in conjunction with BRE and National Energy Foundation (NEF). A full technical description is available in the documentation developed by NES. *AutoEvaluator* uses information determined from the energy analysis and, together with data on the cost of different types of fuel calculates annual dwelling running costs, both in total and broken down by costs associated with:

- Space heating.
- Water heating.
- Lighting and electrical appliance use.
- Cooking.

The program can also produce an estimate of the energy requirements of the dwelling for each of the above, together with the CO₂, SO₂ and NO₂ emissions for the dwelling.

AutoEvaluator generates three separate energy ratings for a dwelling:

- NHER (National Home Energy Rating), a rating system developed by NEF.
- SAP (Standard Assessment Procedure), a rating system developed by BRE.
- BEPI (Building Energy Performance Index), an alternative rating system developed by BRE.

During the development of the NHER index, two main objectives had to be met

- (a) The index had to be directly related to the estimated running costs. Any feature of the dwelling that would have a significant effect on the running costs would be included and accredited.

Fuel Poverty in Scotland

- (b) The index should relate to the engineering concept of energy efficiency. Dwellings with the same level of insulation and heated by appliances with the same overall conversion efficiency should have the same rating.

This led to the index being based on the total running costs per square metre of floor area. The details of the methods used to resolve this are beyond the scope of this report. However, it should be noted that item (a) above would be influenced by changes in fuel costs.

During development there was also a need to stabilise the NHER rating against fuel price changes. This was accomplished in two ways. Firstly the fuel prices are indexed to remove inflation; secondly, the NHER uses a set of UK fuel prices that are the average of the fuel prices over the previous three years. This averaging process smoothes out fluctuations in relative fuel prices. The NHER uses the Fuel Price Index published as part of the retail price index series.

This stabilising process means that the standard fuel prices used in the NHER calculation are around 18/24 months behind actual fuel prices. This normally has no deleterious effect when used in a survey such as the SHCS since the energy analysis is carried out around 12/18 months after the data have been collected, meaning that there is a degree of synchronisation between the fieldwork period and the fuel cost data.

The SHCS 2002 used a slightly different approach to gathering information for the NHER rating than did the SHCS 1996. The AutoEvaluator program can operate at several levels, depending upon the amount of data available. In 1996 the SHCS collected data at an enhanced Level 0 with some householder data. For 2002 the scope of data collection was increased to include items like floor areas, ceiling heights, and appliance controls for the primary heating system. This improves the accuracy of the energy rating, as the calculation is less dependent on the default values provided by the program.

Chapter 2 Fuel Poverty and Extreme Fuel Poverty

2.1 Introduction

This chapter sets out some basic frequencies of fuel poverty and extreme fuel poverty to 'set the scene' for the analyses which form the remainder of the report.

2.2 The fuel poor

For ease of comparison with subsequent analyses, the tables which follow simply reproduce the basic frequencies of fuel poverty originally printed in the November 2003 report. These figures take into account the correction issued in March 2004.

Table 2.1 Number of households in fuel poverty

	000s	%
Under SHCS 1996 definition	201	9
Under FPS definition	286	13

Table 2.2 Fuel poverty by banded NHER category

	NHER category (banded)								
	Poor			Moderate			Good		
Fuel poor households	000s	% of FP	% NHER category	000s	% of FP	% NHER category	000s	% of FP	% NHER category
SHCS 1996 definition	63	31	36	120	60	9	19	9	3
FPS definition	74	26	42	181	63	14	31	11	5

Table 2.3 Fuel poor households by Age of dwelling

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Pre-1919	67	34	15	90	31	20
1919-1944	29	15	9	42	15	14
1945-1964	45	22	8	66	23	12
1965-1982	46	23	8	67	24	12
1982-1997	11†	6	4	18	6	7
post-1997	*	1	3	*	1	4

Fuel Poverty in Scotland

Table 2.4 Fuel poor households by type of dwelling

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Detached	54	27	13	76	27	19
Semi-detached	37	18	8	57	20	13
Terraced houses	33	17	7	53	19	11
Tenement	45	22	9	56	20	11
4-in-block	18	9	8	25	9	11
Flat in converted building	5†	3	14	8†	3	20
Tower/Slab	9†	4	14	11†	4	18

Table 2.5 Fuel poor households by location

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Rural	54	27	15	75	26	21
Urban	147	73	8	211	74	12

Table 2.6 Fuel poor households by type of heating

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Full gas CH	77	38	5	128	45	9
Full electric CH	35	17	14	47	17	19
Full other fuel CH	26	13	16	37	13	23
Part gas/other CH	6†	3	14	8†	3	19
Part electric CH	21	11	17	26	9	20
Other	36	18	29	40	14	34

Fuel Poverty in Scotland

Table 2.7 Fuel poor households by extent of loft insulation

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
None	30	15	22	38	14	28
25mm	7†	4	12	11†	4	18
50mm	17	9	10	25	9	14
75mm	14	7	9	22	8	13
100mm	48	24	8	70	25	12
150mm	25	12	7	40	14	12
200mm	7†	4	6	11	4	9
> 200mm	*	2	7	6†	2	11
Unobtainable	*	1	14	*	1	17

Table 2.8 Fuel poor households by glazing

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Single	66	33	16	84	29	20
Double/triple	135	67	8	202	71	11

Table 2.9 Fuel poor households by tenure

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Owner-occupier	115	57	8	177	62	13
LA/Other public	51	25	10	65	23	12
HA/Housing coop	7†	3	5	10†	3	8
Private renter	28	14	17	34	12	20

Fuel Poverty in Scotland

Table 2.10 Fuel poor households by household type

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Single adult	39	19	11	46	16	14
Small adult	17	8	5	24	8	6
Single parent	8†	4	6	9†	3	7
Small family	7†	4	2	9†	3	3
Large family	6†	3	4	9†	3	6
Large adult	15	7	7	20	7	9
Older smaller	37	19	12	63	22	20
Single pensioner	72	36	21	105	37	31

Table 2.11 Fuel poor households by banded weekly household income (£)

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
< 100	79	39	66	86	30	72
100 -199.99	103	51	18	159	56	28
200 -299.99	14	7	3	29	10	6
300 -399.99	*	1	1	8†	3	2
400 -499.99	*	1	0	*	1	1
500 -699.99	*	0	0	*	0	0
700+	*	0	0	*	0	0

Table 2.12 Fuel poor households by age of HH

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
16-24	10†	5	11	11†	4	12
25-39	21	11	4	26	9	5
40-59	49	25	6	64	22	8
60-64	18	9	11	28	10	17
65-74	43	22	14	76	27	24
75-80	33	17	22	45	16	31
81+	25	13	23	34	12	31

2.3 Extreme fuel poverty

The extremely fuel poor are a subcategory of the fuel poor, defined as those households who would need to spend at least 20% of their income on fuel to maintain the specified heating regime. In other words, this raises the income threshold within the definition of fuel poverty so as to identify a subgroup who might be expected to require additional support and intervention.

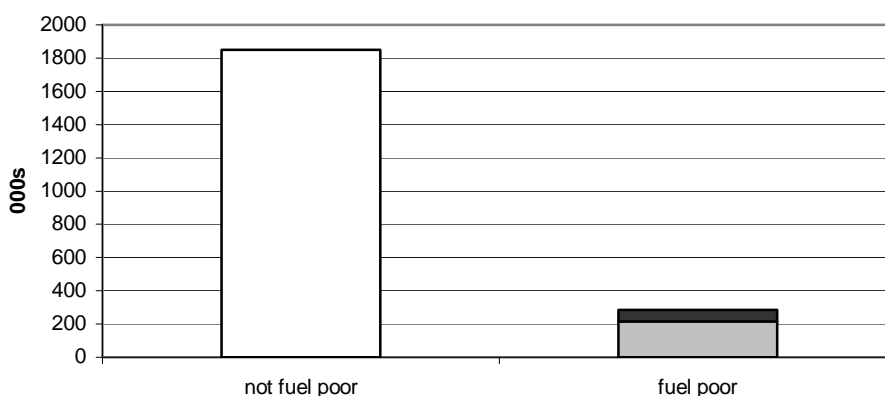
Fuel Poverty in Scotland

The basic prevalence of extreme fuel poverty is shown in Table 2.13 and Figure 2.1. Of approximately 286,000 fuel poor households in total, 24% are in extreme fuel poverty.

Table 2.13 Prevalence of extreme fuel poverty

	000s	% of all households
Fuel poor but not extremely fuel poor	217	10
Extremely fuel poor	69	3

Figure 2.1 Fuel poverty indicating subgroup of extremely fuel poor (black segment of bar)



Tables 2.14 to 2.24 and Figure 2.2 set out extreme fuel poverty by standard household and dwelling characteristics breakdowns. These tables indicate that:

- 73% of the extremely fuel poor live in owner-occupied dwellings.
- Approximately 6% of the extremely fuel poor are families with children.
- Most of the extremely fuel poor are single person households.
- One third of households with an income of less than £100 a week are extremely fuel poor.
- There are very few extremely fuel poor households living in dwellings built since 1983.
- Households are twice as likely to be in extreme fuel poverty if they live in rural areas rather than urban areas.
- Households are more likely to be in extreme fuel poverty if they have single glazed windows, but most of the extremely fuel poor have double or triple glazing.

Table 2.14 Extreme fuel poverty by banded NHER

	000s	%
Poor	24	34
Moderate	40	58
Good	5†	8

Fuel Poverty in Scotland

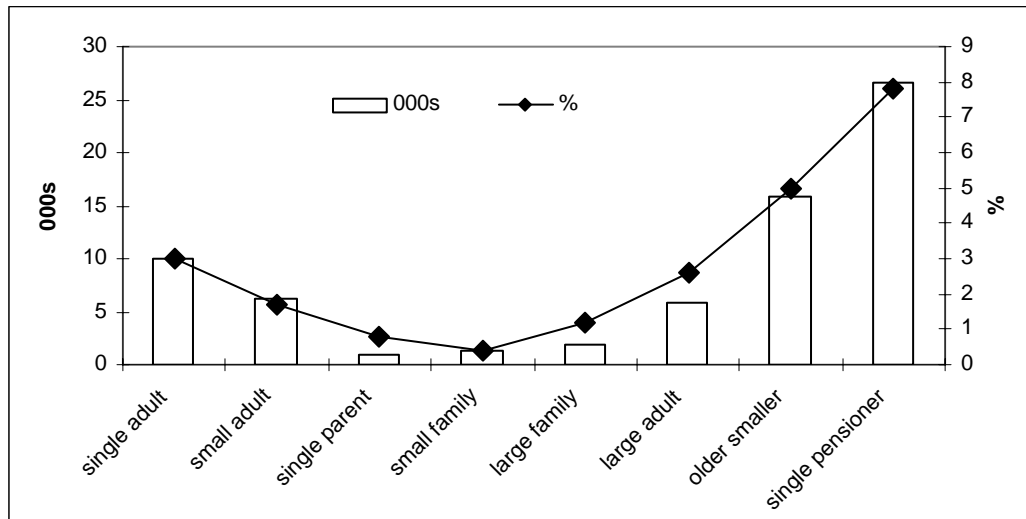
Table 2.15 Extreme fuel poverty by tenure

	000s	% of EFP in tenure	% of tenure that are EFP
Owner-occupier	50	73	4
LA/Other public	8†	11	2
HA/Housing coop	*	2	1
Private renter	10†	14	6

Table 2.16 Extreme fuel poverty by household type

	000s	% of EFP in household type	% of household type that are EFP
Single adult	10†	15	3
Small adult	6†	9	2
Single parent	*	1	1
Small family	*	2	0
Large family	*	3	1
Large adult	6†	8	3
Older smaller	16	23	5
Single pensioner	27	39	8

Figure 2.2 Number and proportion of extremely fuel poor in each household type category



Fuel Poverty in Scotland

Table 2.17 Extreme fuel poverty by banded weekly household income

	000s	% of EFP in household type	% of household type that are EFP
<£100	40	58	33
£100-199	24	35	4
£200-299	*	6	1
£300-399	*	1	0
£400-499	*	0	0
£500-699	*	0	0
£700+	*	0	0

Table 2.18 Extreme fuel poverty by age of HIH

	000s	% of EFP in HIH age	% of HIH age that are EFP
16-24	*	4	3
25-39	*	6	1
40-59	14	21	2
60-64	8†	12	5
65-74	19	27	6
75-80	12	18	8
81+	8†	12	8

Table 2.19 Extreme fuel poverty by age of dwelling

	000s	% of EFP in dwelling type	% of dwelling type that are EFP
Pre-1919	30	43	7
1919-1944	11†	16	4
1945-1964	11†	16	2
1965-1982	13	19	2
1983-1997	*	5	1
Post-1997	*	1	0

Table 2.20 Extreme fuel poverty by type of dwelling

	000s	% of EFP in dwelling type	% of dwelling type that are EFP
Detached	29	42	7
Semi-detached	9†	13	2
Terraced	11†	16	2
Tenement	11†	16	2
4-in-a-block	6†	9	3
Tower/slab	*	3	3
Flat in converted building	*	2	4

Fuel Poverty in Scotland

Table 2.21 Extreme fuel poverty by location

	000s	% of EFP location	% of location that are EFP
Rural	24	34	7
Urban	45	66	3

Table 2.22 Extreme fuel poverty by type of heating

	000s	% of EFP in heating type	% of heating type that are EFP
Full gas CH	27	40	2
Full electric CH	9†	13	3
Full other fuel CH	11	16	7
Part gas/other CH	*	3	5
Part electric CH	7†	10	6
Gas fires	*	2	4
Electric heaters	7†	10	11
Other heaters	4†	6	24

Table 2.23 Extreme fuel poverty by extent of loft insulation

	000s	% of EFP in insulation level	% of insulation level that are EFP
None	15	21	11
25mm	*	4	5
50mm	7†	10	4
75mm	7†	10	4
100mm	15	22	3
150mm	8†	11	2
200mm	*	2	1
> 200mm	*	1	2
Not applicable ^a	12†	17	2

^a The dwelling has no loft space.

Table 2.24 Extreme fuel poverty by extent of glazing

	000s	% of EFP in glazing type	% of glazing type that are EFP
Single	24	35	6
Double or triple	45	65	3

Chapter 3 Change since 1996

3.1 Introduction

Between 1996 and 2002 average household incomes increased in Scotland, fuel prices decreased and the energy efficiency of dwellings improved. The effect was a reduction in the estimated total of fuel poor households. Any of the three factors (increased income, decreased fuel prices, improved energy efficiency) could lift a household out of fuel poverty and for some households more than one factor could have been in operation.

The following analyses attempt to allocate the reduction in the fuel poverty estimate since 1996 across these three factors. For this purpose, it is important to be comparing like with like, so the **comparisons use the 1996 definition of fuel poverty rather than the FPS definition**. This means that we are comparing the 1996 Fuel Poverty estimate (35% of households) with the estimate for 2002 using the same definition (9% of households rather than 13% under the FPS definition).

There are some limitations to this approach. The data collected in 1996 do not fully match the current input data structure of the current AutoEvaluator program. The data were, where required, remodelled to match the current program structure. Where data were missing (ie. not collected at all in 1996) the standard operating practice of applying the program defaults was used. The items defaulted in this way included room height, primary heating controls, hot water cylinder insulation and draughtproofing. The outputs were checked against the original NHER outputs for 1996 and found to be within acceptable limits.

3.2 Modelled fuel costs and income

Firstly, the change in distribution of the modelled fuel costs was considered. The 1996 fuel poverty calculation was rerun with modelled fuel costs adjusted to 2002 levels and all other inputs held as for the 1996 estimate. The 1996 modelled fuel costs were decreased by various percentages, so that their distribution was similar to that of the 2002 modelled fuel costs. This resulted in an estimate of 22% of households in Fuel Poverty, 13% less than the original 1996 estimate.

The change in distribution of income was also considered. The 1996 fuel poverty calculation was run again, this time with income approximately adjusted to 2002 levels, but all other inputs (including modelled fuel costs) held as for the 1996 estimate. The 1996 income data were increased by a percentage based on 2002 income data for each household type. This gave an estimate of 16% of households in Fuel Poverty, 19% less than the original 1996 estimate.

Table 3.1 summarises the results of these two modelling exercises.

Table 3.1 The individual effects of changes in fuel costs and income

Basis of estimate	% of households in Fuel Poverty
1996 data	35
1996 data with modelled fuel costs at 2002 levels	22
1996 data with income at 2002 levels	16

3.3 Allocating the reduction across the three inputs

The analyses reported above would have included some households who would have been lifted out of fuel poverty by both the fuel cost change *and* the income change. To sum the amounts of reduction from each change in input would result in the double counting of these households. As the change in income has the largest reducing effect on fuel poverty, it may mask the effect of fuel cost changes when the reduction from 1996 to 2002 is being attributed across the three main inputs. For this reason, in the calculation presented here, the reduction due to fuel cost change will be considered before considering the further reduction due to income change.

3.3.1 Changes in the energy efficiency of the stock

The reduction in modelled fuel costs observed above is itself due to two factors; a decrease in fuel prices used in the model (see Chapter 1 for details of how this is calculated) and an improvement in the energy efficiency of the housing stock. The effects of these two factors on the fuel poverty estimate were separated by running calculations in the following stages.

Stage 1 The fuel prices used in the 2002 model were applied to the 1996 modelled energy consumption profiles for the 1996 heating regime, to obtain the change in modelled fuel costs due to fuel prices only (ie. no change in energy efficiency). These fuel costs were input to the 1996 fuel poverty calculation with all other inputs the same as for the 1996 estimate.

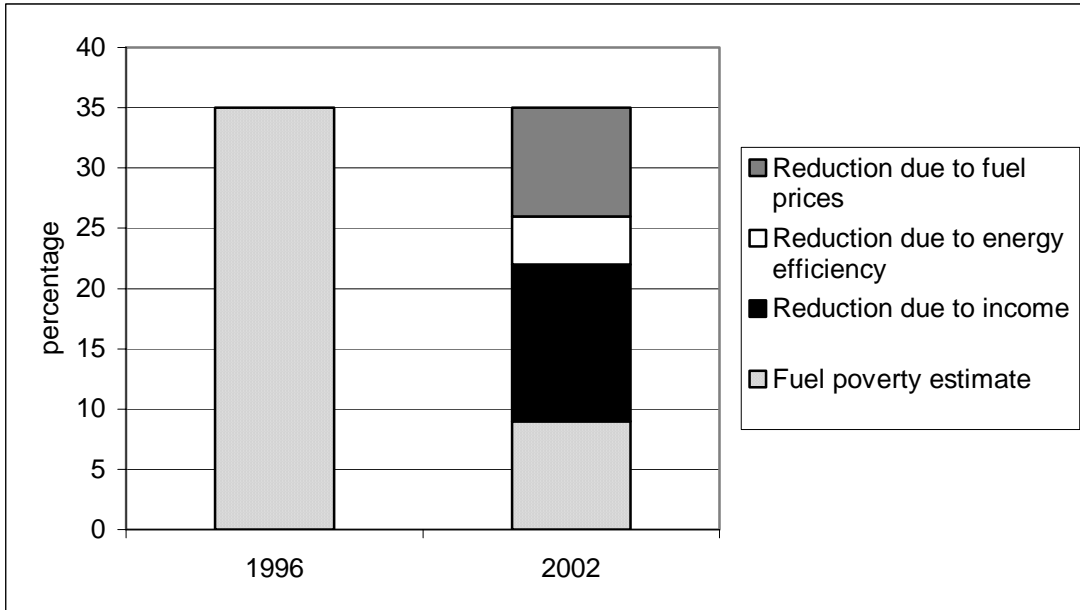
Stage 2 The reduction in the Fuel Poverty estimate from stage 1 was subtracted from the overall reduction due to modelled fuel cost changes from the estimate given in Table 3.1, to give the amount of reduction due to energy efficiency.

Stage 3 Finally, the amount of reduction due to change in modelled fuel costs was subtracted from the total difference in the percentage prevalence from 1996 to 2002 (26%) to give the amount allocated to increase in income. Table 3.2 shows this allocation of the difference in the percentages to each of the three factors.

Table 3.2 Allocation of reduction since 1996 across inputs

Source of reduction	Reduction in estimate of Fuel Poor %
Decrease in Fuel Prices	9
Improvement in Energy Efficiency	4
Increase in Income	13
Total	26

Figure 3.1 Allocating the reduction in the Fuel Poverty estimate since 1996



Chapter 4

The Effect of Modelled Changes to Inputs

4.1 Introduction

As noted in Chapter 1, the concept of fuel poverty is reliant on three main inputs; income, household composition and the cost of applying the specified heating regime. This last is related to the energy efficiency of the dwelling but also to the basic costs of fuel (incorporated in the BREDEM-12/AutoEvaluator analytical toolkit). This chapter looks at the impact on total numbers of fuel poor of different approaches to these input variables.

Note that the analysis is based on the approach of modelling changes to a single input while holding the others constant (eg. fuel prices are projected without including income changes in the same model, and vice versa). Given the interaction between factors in the concept of fuel poverty, it may be argued that all inputs should be varied in the one model as in practice, simultaneous changes to all factors would be likely. However, the analysis team estimated that taking such an approach would have resulted in a minimum of 125 modelling combinations. Such an analysis is therefore outwith the scope of this study, although the potential exists for the topic to be addressed in future research.

4.2 Modelling fuel price changes

Approximately 70% of Scottish dwelling's have mains gas as the primary fuel source and around 20% have electricity as the primary fuel source, as Table 4.1 shows.

Table 4.1 Primary fuel sources in use in Scotland

	Households using source (000s)	% of all households
Mains gas	1,561	71
Electric	444	20
Other fuel ^a	187	9

a Includes oil, LPG and the various types of solid fuels

As described in Chapter 1, the required fuel costs to achieve the specified heating regime are modelled with reference to the thermal characteristics of the dwelling as part of the fuel poverty analysis.

It is important to note that the analysis reported here is not based on actual changes to fuel prices. The *AutoEvaluator* program uses standardised UK fuel costs which are based on the DTI fuel price index produced quarterly for the Retail Price Index (RPI). The costs are used to produce an estimate of annual running costs which is in turn used to produce the estimate of fuel poor (see Chapter 1 for more details).

Each fuel cost input to the program is the weighted average cost for the three years prior to the production of the RPI-adjusted annual update normally provided in September. The result of this standardisation and updating process means that in general the costs used in the *AutoEvaluator* program will tend to lag behind (for a maximum of two years just before the September update).

The date on which Communities Scotland received the latest version of the *AutoEvaluator* software meant that the analysis has used costs based on the average of years 2000/2001/2002. The average point is about mid-2001, about one year before the survey, but the calculation does include the costs for 2002 (ie. the year the survey fieldwork was carried out).

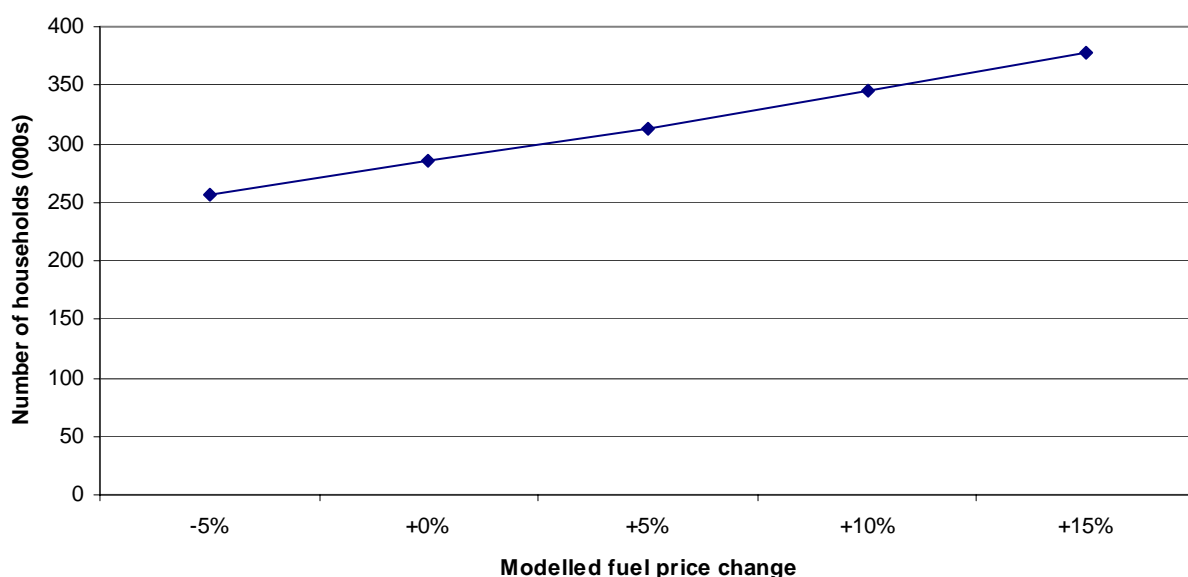
In order to look at the effect of a change in fuel prices, the prices used in the model (as described above) were adjusted using increments of $\pm 5\%$. The calculations of fuel poverty were then rerun using each incremented running costs dataset in turn.

Table 4.2 and Figure 4.1 show the effect of these modelled fuel price changes on the overall prevalence of fuel poverty.

Table 4.2 Impact of modelled fuel prices changes on fuel poverty

Modelled fuel price change	Fuel poor households (000s)	% of all households
-5%	257	12
No change	286	13
+5%	313	14
+10%	346	16
+15%	378	17

Figure 4.1 Impact of modelled fuel prices changes on total numbers of fuel poor



4.3 Modelling changes to income

As noted in Chapter 1, the definition of “household income” used within the fuel poverty calculation includes a number of different components. It is therefore possible to assess the impact on fuel poverty of discounting some of these components.

4.3.1 The effect of removing Housing Benefit (HB) and Income Support for Mortgage Interest (ISMI) from household income

The SHCS 2002 main report gave details of the definitions against which fuel poverty was measured. The definition of “income” used included HB and ISMI. However, the 2002 Scottish FPS gave a commitment to measuring fuel poverty with these two benefits deducted from income. As the 2002 survey had been developed and was in the field when the FPS was released, the social survey did not contain a question on ISMI although it did collect data on HB. After some investigation of the data it was concluded that the following approach should be taken to exclude ISMI:-

- for possible ISMI recipient households where it was less than one year since HIH had been in regular paid work no ISMI was allocated.

Fuel Poverty in Scotland

- for all other possible ISMI recipients, total mortgage payment was deducted from income (this will probably over-estimate the resulting FP prevalence by a figure in the order of hundreds).

Table 4.3 shows the impact of this redefinition on the headline fuel poverty figure. It increases the estimated number of households in fuel poverty by approximately 77,000.

Table 4.3 Prevalence of fuel poverty if HB and ISMI are excluded from income

	000s	%
No deductions from income	286	13
HB and ISMI excluded	363	17

Tables 4.4 – 4.13 set out the standard breakdowns of the total with HB and ISMI deducted from income. When compared to the FPS definition analyses, they indicate that:-

- The number of fuel poor households living in social tenures rises from 75,000 to 141,000 and the number in private tenures rises from 211,000 to 222,000.
- the number of single parents in fuel poverty rises from 9,000 to around 23,000 and the number of single adults in fuel poverty rises from 46,000 to 73,000.
- the number of fuel poor households living in dwelling built 1945-1964 rises from 66,000 to 97,000.
- the number of fuel poor households living in detached houses is unchanged, but the number of fuel poor households in all other dwelling types increases.

Table 4.4 Fuel poverty (excluding HB and ISMI) by banded NHER

	000s	% of FP in NHER band	% of NHER band that are FP
Poor	80	22	46
Moderate	229	63	18
Good	54	15	8

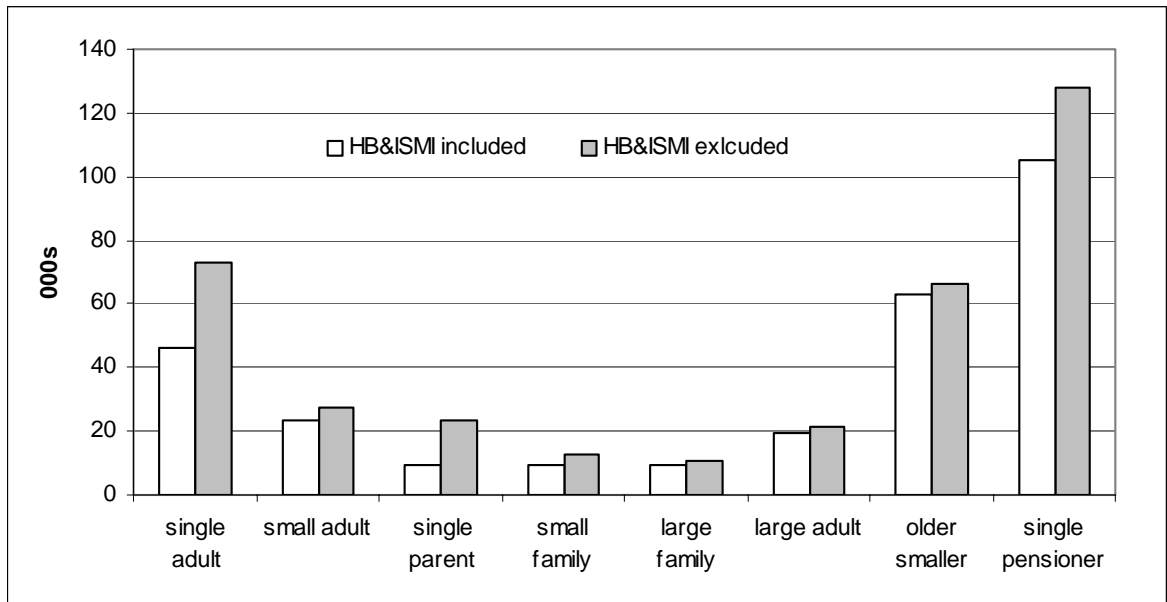
Table 4.5 Fuel poverty (excluding HB and ISMI) by tenure

	000s	% of FP in tenure	% of tenure that are FP
Owner-occupier	178	49	13
LA/Other public	121	33	23
HA/Housing coop	20	6	16
Private renter	44	12	26

Table 4.6 Fuel poverty (excluding HB and ISMI) by household type

	000s	% of FP in household type	% of household type that are FP
Single adult	73	20	22
Small adult	27	8	7
Single parent	23	6	18
Small family	13†	4	4
Large family	11†	3	7
Large adult	22	6	10
Older smaller	66	18	21
Single pensioner	128	35	37

Figure 4.2 Comparison of fuel poverty by household type if HB/ISMI excluded



Fuel Poverty in Scotland

Table 4.7 Fuel poverty (excluding HB and ISMI) by age of HIH

	000s	% of FP in HIH age group	% of HIH age group that are FP
16-24	17†	5	19
25-39	44	12	8
40-59	90	25	11
60-64	33	9	20
65-74	86	24	28
75-80	52	14	35
81+	40	11	37

Table 4.8 Fuel poverty (excluding HB and ISMI) by age of dwelling

	000s	% of FP in age category	% of age category that are FP
Pre-1919	99	27	22
1919-1944	54	15	18
1945-1964	97	27	18
1965-1982	87	24	16
1983-1997	22	6	8
Post-1997	*	1	4

Table 4.9 Fuel poverty (excluding HB and ISMI) by type of dwelling

	000s	% of FP in household type	% of household type that are FP
Detached	78	21	19
Semi-detached	69	19	15
Terraced	69	19	14
Tenement	84	23	17
4-in-a-block	37	10	16
Tower/slab	19†	5	32
Flat in converted building	8†	2	21

Table 4.10 Fuel poverty (excluding HB and ISMI) by location

	000s	% of FP in location	% of location that are FP
Rural	82	23	23
Urban	282	78	15

Fuel Poverty in Scotland

Table 4.11 Fuel poverty (excluding HB and ISMI) by central heating type

	000s	% of FP in heating type	% of heating type that are FP
Full gas CH	170	47	11
Full electric CH	64	18	26
Full other fuel CH	40	11	25
Part gas/other CH	10†	3	24
Part electric CH	33	9	26
Gas fires	9†	3	25
Electric heaters	29	8	47
Other heaters	8†	2	45

Table 4.12 Fuel poverty (excluding HB and ISMI) by extent of loft insulation

	000s	% of FP in insulation level	% of insulation level that are FP
None	42	12	31
25mm	12†	3	19
50mm	30	8	17
75mm	25	7	16
100mm	85	23	15
150mm	49	13	14
200mm	18	5	14
> 200mm	8†	2	15
Not applicable ^a	91	25	17

^aThe dwelling has no loft space.

Table 4.13 Fuel poverty (excluding HB and ISMI) by extent of glazing

	000s	% of FP in glazing type	% of glazing type that are FP
Single	102	28	25
Double or triple	261	72	15

4.3.2 The effect of removing all housing costs from household income

Similarly, it is also possible to calculate fuel poverty with all housing costs removed from the measure of household income. Table 4.14 summarises the overall prevalence of FP if this is done.

Fuel Poverty in Scotland

Table 4.14 Prevalence of fuel poverty with all housing costs excluded

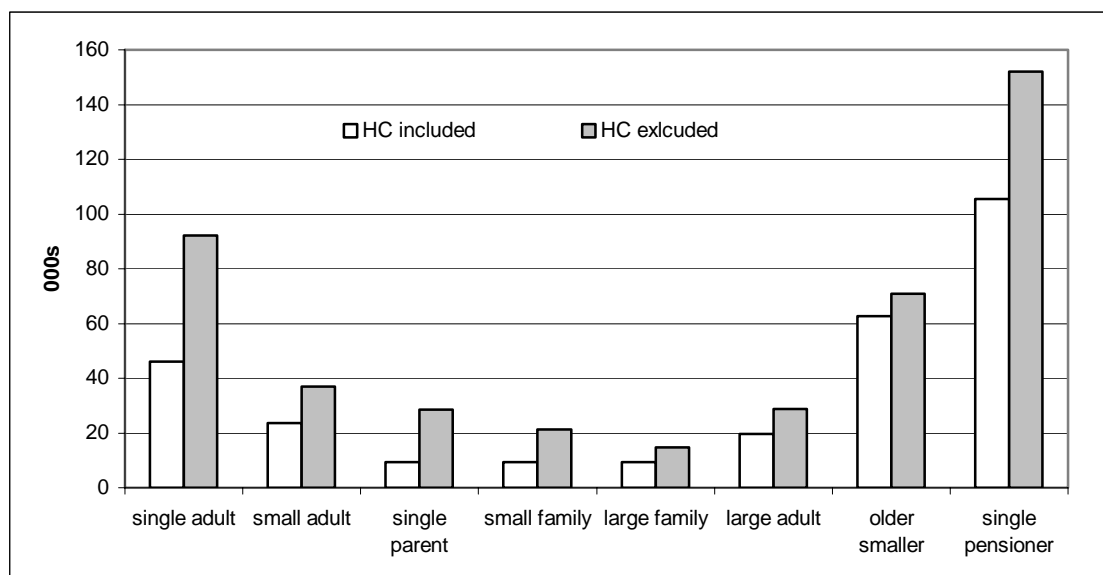
	000s	%
No deductions from income	286	13
All housing costs excluded	445	20

For information, the table below shows how this adjustment would affect fuel poverty by household type.

Table 4.15 Fuel poverty excluding housing costs from income by household type

	000s	% of FP in household type	% of household type that are FP
Single adult	92	21	27
Small adult	37	8	10
Single parent	29	6	22
Small family	21	5	7
Large family	15	3	9
Large adult	29	7	13
Older smaller	71	16	23
Single pensioner	152	34	44

Figure 4.3 Comparison of fuel poverty by household type if all housing costs excluded



4.3.3 The effect of removing DLA from income

Disability Living Allowance (DLA) is a benefit paid to those who have difficulty looking after themselves and/or who have mobility impairments. Table 4.16 summarises the overall prevalence of FP if DLA is removed from the income of those who normally receive it. As this change has no statistically significant impact on the total, no further analysis will be presented here.

Table 4.16 Prevalence of fuel poverty with DLA excluded from income

	000s	%
No deductions from income	286	13
DLA excluded	301	14

4.4 Factoring underoccupancy into running costs

Another adjustment which can be made is to the inclusion or otherwise of an underoccupancy adjustment. If a dwelling is underoccupied, it may be assumed that the occupant does not need to heat all of the rooms to maintain a reasonable heating regime, and so a correction factor can be applied to remove the cost of heating the "empty" rooms. This will result in an adjustment to the overall running costs of the dwelling which can then be factored into the calculation of fuel poverty.

The underoccupancy adjustment used to calculate the fuel poverty prevalence as shown in Tables 4.17 and 4.18 is that used in the 1996 approach and is detailed on page 6. Tables 4.17 and 4.18 show the effect on fuel poverty (total and by household type) if this adjustment is performed (all other aspects of the 2002 fuel poverty definition being held constant).

Table 4.17 Prevalence of fuel poverty with underoccupancy adjustment

	000s	%
Not fuel poor	1,874	86
fuel poor	263	12

Table 4.18 Prevalence of fuel poverty with underoccupancy adjustment by household type

	000s	% of household type	% of FP with u/o adj
Single adult	44	13	17
Small adult	22	6	8
Single parent	9†	7	4
Small family	8†	3	3
Large family	8†	5	3
Large adult	19	9	7
Older smaller	55	18	21
Single pensioner	98	29	37

Chapter 5 Marginal Fuel Poverty

5.1 Introduction

An important aspect of addressing fuel poverty is the recognition that it is a dynamic state ie. households can enter fuel poverty as well as being lifted out of it due to changes in their circumstances. This will be particularly important for those households who are at the margins of fuel poverty. This chapter explores the characteristics of households which are just above and below the fuel poverty threshold, in terms of the percentage of their income they need to spend on fuel costs to maintain the specified heating regime.

5.2 Households just above the threshold

Some households are more vulnerable than others to becoming fuel poor in the event of a drop in income or a fuel price increase. Tables 5.1 – 5.4 and Figures 5.1 and 5.2 illustrate the characteristics of households in the survey which needed to spend between 8 and 10% of their income on fuel costs to maintain the specified heating regime.

Table 5.1 Households with modelled fuel costs of 8-10% of their income by household type

	000s	%
Single adult	29	17
Small adult	13†	8
Single parent	10†	6
Small family	10†	6
Large family	6†	4
Large adult	11†	7
Older smaller	34	20
Single pensioner	53	32
Total	166	100

Table 5.2 Households with modelled fuel costs of 8-10% of their income by tenure

	000s	%
Owner-occupier	85	51
LA/Other public	57	34
HA/Housing coop	8†	5
Private renter	17	10
Total	166	100

Fuel Poverty in Scotland

Figure 5.1 Comparison of fuel poor and marginal fuel poor distributions by tenure

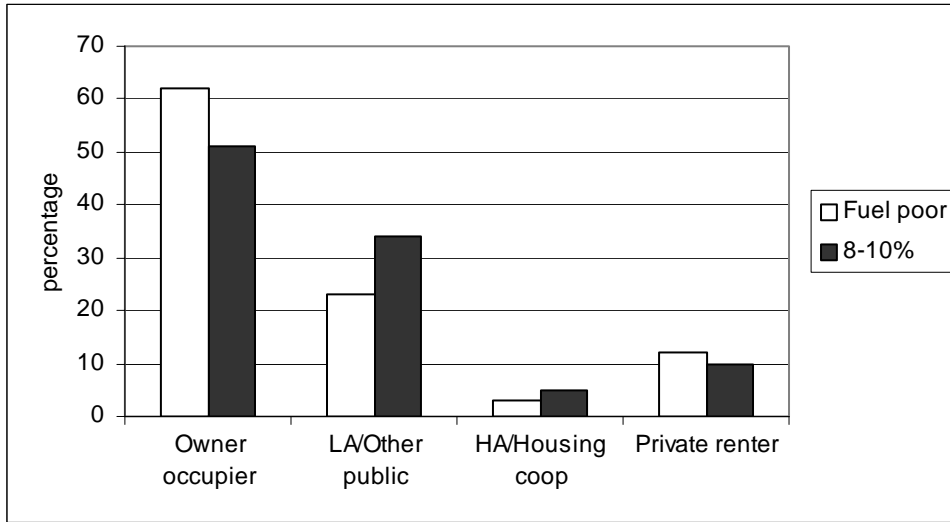


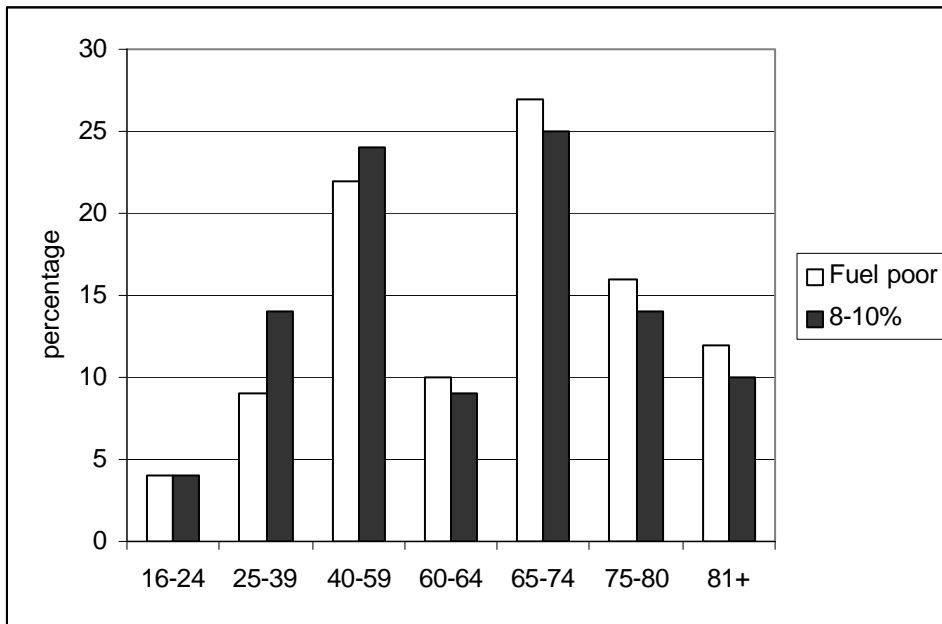
Table 5.3 Households with modelled fuel costs of 8-10% of their income by age of dwelling

	000s	%
Pre 1919	33	20
1919-1944	30	18
1945-1964	51	31
1965-1982	40	24
1983-1997	9†	6
Post 1997	3†	2
Total	166	100

Table 5.4 Households with modelled fuel costs of 8-10% of their income by age of HIH

	000s	%
16-24	6†	4
25-39	24	14
40-59	40	24
60-64	16	9
65-74	41	25
75-80	23	14
81+	16	10
Total	166	100

Figure 5.2 Comparison of fuel poor and marginal fuel poor distributions by age of HH



5.3 Households just below the threshold

If households are close to the income threshold, it may be expected that they could more easily be taken out of fuel poverty by an increase in income, fuel price decrease, or improvements to the energy efficiency of their dwelling (or a combination of all three). It is therefore useful to identify the characteristics of households which are “only just” fuel poor. Tables 5.5 to 5.8 illustrate the characteristics of households which currently would need to spend between 10-13% of their income on fuel costs to maintain the specified heating regime.

Table 5.5 Households with modelled fuel costs of 10-13% of their income by household type

	000s	%
Single adult	20	17
Small adult	10†	9
Single parent	6†	5
Small family	5†	4
Large family	4†	3
Large adult	7†	6
Older smaller	24	20
Single pensioner	43	36
Total	120	100

Fuel Poverty in Scotland

Table 5.6 Households with modelled fuel costs of 10-13% of their income by tenure

	000s	%
Owner-occupier	67	56
LA/Other public	35	30
HA/Housing coop	5†	4
Private renter	12†	10
Total	120	100

Table 5.7 Households with modelled fuel costs of 10-13% of their income by age of dwelling

	Count	%
Pre 1919	31	26
1919-1944	19	16
1945-1964	33	27
1965-1982	29	24
1983-1997	7†	6
Post 1997	*	2
Total	120	100

Table 5.8 Households with modelled fuel costs of 10-13% of their income by age of HIH

	000s	%
16-24	*	3
25-39	13†	11
40-59	31	26
60-64	10†	9
65-74	29	24
75-80	18	15
81+	16	13
Total	120	100

Chapter 6

Vulnerability to Fuel Poverty

6.1 Introduction

An important aspect of the analysis of fuel poverty is the attempt to predict which household characteristics and/or dwelling types are associated with a greater risk of the problem. This enables intervention measures to be targeted effectively, and may also be of assistance to local authorities and other organisations who wish to identify the fuel poor but do not have the resources to undertake a full social survey of income and NHER assessment on their properties, and must therefore rely on identifying predictive factors for fuel poverty.

This chapter addresses the topic in two ways. Firstly, the risk of fuel poverty is considered – in other words, how likely particular groups within the population are to be fuel poor. Secondly, the 286,000 fuel poor are considered in terms of their characteristics, such as age, household type, and nature of dwelling. It is important to note that this is *not* the same as an analysis of risk – for example, the risk of fuel poverty is greater in private rented dwellings than in owner-occupied homes, but the proportion of the fuel poor who own their own homes than rent is higher because the majority of all householders in Scotland (whether or not in fuel poverty) are owner-occupiers.

6.2 Predicting vulnerability to fuel poverty

Frequency tables such as those presented in earlier chapters show the incidence of fuel poverty in various subgroups of the population, but do not reveal which household types are more vulnerable than others to fuel poverty. It is not possible to predict this on the basis of a simple inspection of frequency tables alone since they do not account for the interaction between factors (eg. tenure and household composition).

In order to explore these issues more thoroughly, a series of *logistic regression analyses* were conducted. Logistic regression analysis controls for all variables entered into the analysis. It can therefore reveal which factors are significant and independent predictors of a binary dependent variable, such as whether or not a household is fuel poor. It can also be used to calculate the odds of a household being fuel poor according to changes in the predictor variables.

An important feature of this analysis is the fact that all other variables entered into the analysis are controlled for when the risk associated with one variable is calculated. It is essential to appreciate this approach when reviewing the results. When a frequency table shows, for example, that 14% of single adult households are fuel poor (in other words, a single adult household has a 0.14 probability of being fuel poor) we might speculate that this is because most single adult households are private renters and so it is being a private renter that makes fuel poverty more likely, not being a single adult household *per se*. But if the logistic regression analysis indicates that the risk of being fuel poor for a single adult is 60% higher than the risk for an owner-occupier, then because all other variables have been held constant, the possibility that the association is “really” due to another variable can be ruled out.

It is also important to understand the concept of relative risks when considering the results of these analyses. Within each variable (e.g. tenure) one value (e.g. private renter) is set as the *reference category*. This means that the risk of fuel poverty of any other value within that variable (e.g. owner-occupiers) can only be understood in comparison to the reference category. That the reference category has no risk value associated with it does *not* mean that households within that category have a zero risk of being fuel poor. Nor does it mean that their risk of being fuel poor is equal to the risk of the population as a whole. It is essential for the operation of the model that a value within each category of variables is set as the reference point in this way, but it is important to interpret the information presented in terms of relative and not absolute risk of fuel poverty.

Fuel Poverty in Scotland

6.2.1 The effect of household characteristics

The first stage of the logistic regression analysis looked at household characteristics. This analysis indicated that tenure, location, sex of HIH, age of HIH and total number of people in household were significant predictors of fuel poverty. Ethnicity of respondent and number of people in the household were not, and so were removed from the second model. The results of the second model are given in Table 6.1.

Table 6.1 Estimated odds ratios^a from logistic regression Model 2

Variable	Estimated odds ratio
Owner-occupier	0.530
LA/Other public	0.349
HA/Housing coop	0.211
Private renter	Reference category ^a
Male hih	0.697
Female hih	Reference category
16-24	0.261
25-39	0.112
40-59	0.202
60-64	0.494
65-74	0.781
75-80	0.985
81+	Reference category
Single adult	1.641
Small adult	0.636
Single parent	0.900
Small family	0.394
Large family	0.705
Large adult	0.711
Older smaller	0.717
Single pensioner	Reference category

a (Exp(B))

b For each variable, the last category is the base from which the odds of a household being in fuel poverty if any of the other values are true are calculated. An odds ratio above 1 indicates that households in that group (e.g. single adult households) are more likely to be fuel poor than those in the reference group (single pensioner households). An odds ratio below 1 indicates that households in that group (e.g. owner-occupiers) are less likely to be fuel poor than those in the reference group (private renters). See also explanation in text.

It is essential to note, however, that while the model is statistically significant this is likely to be due mainly to the large sample size and does not indicate a particularly good fit. The proportion of cases that could be correctly classified as fuel poor or not fuel poor increased only marginally when all factors were included rather than excluded from the model. This suggests that the variables included here, while relevant to the likelihood of fuel poverty, are only a small part of the story and the variables that are used to calculate fuel poverty make a far more important contribution – as might be expected.

Table 6.1 indicates that:-

- Households living in LA/other public, HA/co-op and owner-occupied dwellings are all less likely to be fuel poor than households living in private rented dwellings.
- Households with a male HIH have a lower risk of fuel poverty than households with a female HIH.
- Compared to households with an over 81 year old HIH, all others are less likely to be fuel poor.
- Single adult households have a higher risk of being fuel poor than any other household type. This result seems to contradict the pattern shown in Table 6.2, which seems to suggest that older smaller and pensioner households are more likely to be fuel poor. However, a closer look at the analysis indicates that it is not being an older smaller or a pensioner household that causes fuel poverty in itself. Rather, the association of these household types with other variables (tenure, sex of highest income householder or age of highest income householder) is predictive of fuel poverty.

6.2.2 The effect of dwelling characteristics

Logistic regression models were also run using dwelling characteristics to identify which, if any, were significant and independent predictors of fuel poverty. The first such analysis indicated that age of dwelling was a significant predictor of fuel poverty.

The second model indicated that primary fuel type, level of central heating and extent of central heating were also significant predictors of fuel poverty. This result should be viewed with some caution however, as these factors all have an impact on the modelled fuel costs of the dwelling which are used in the original calculation of whether or not a household is in fuel poverty. This introduces the possibility of circularity.

The results of these analyses were used to inform the next and final stage.

6.2.3 The interaction of households and homes – overall vulnerability

In the previous two sections it has been shown that the household characteristics of tenure, HIH sex, HIH age, and household type have a small but significant impact on the risk of a household being fuel poor, as do the dwelling characteristics of age, primary fuel type and glazing type. These factors were all entered into a single logistic regression model (model 5) to investigate the interaction between them.

The results are shown in Table 6.2 and Figure 6.1, and indicate that when the set of dwelling characteristics identified above (ie age of dwelling, primary fuel type and type of glazing) are included in the analysis, there is virtually no change in the risks associated with household characteristics. This demonstrates the independence of these variables in predicting the risk of fuel poverty. In other words, the risk faced by different household types is unrelated to the type of dwellings in which those households are likely to live.

The results do show that whether a dwelling was built prior to or after 1975 has implications for the likelihood of its occupants being fuel poor. Those built before 1975 are more likely to be inhabited by fuel poor households, while those built subsequently are less likely to be inhabited by fuel poor households. 1975 was selected as the reference category because it was the year closest to significant changes in the building regulations in terms of energy efficiency. Increasing energy efficiency requirements have been a major part of the building regulations ever since.

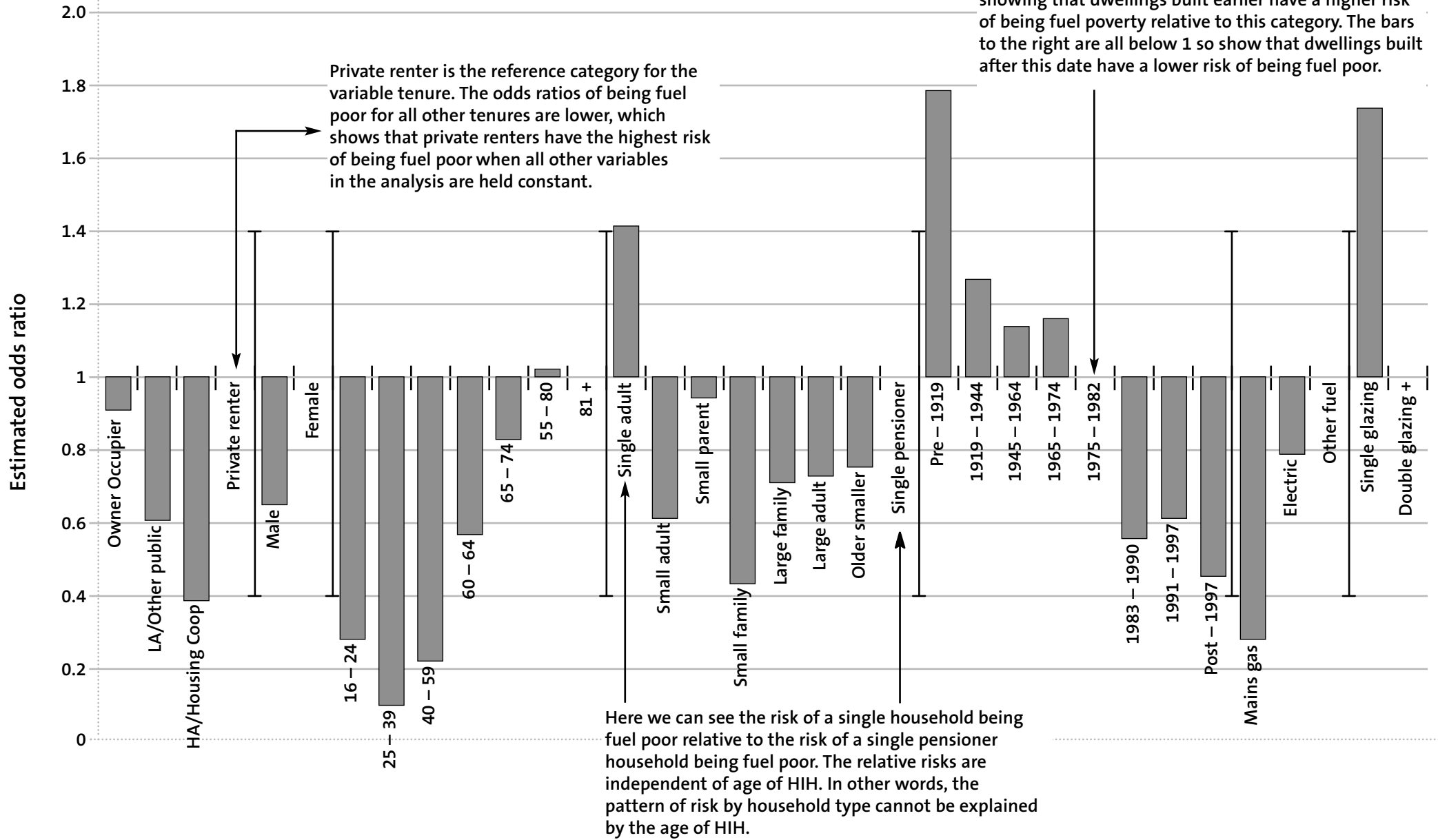
Table 6.2 Estimated odds ratios^a from logistic regression Model 5

Variable	Estimated odds ratio
Owner-occupier	0.903
LA/Other public	0.610
HA/Housing coop	0.384
Private renter	Reference category
Male	0.640
Female	Reference category
16-24	0.282
25-39	0.116
40-59	0.218
60-64	0.573
65-74	0.855
75-80	1.033
81+	Reference category
Single adult	1.428
Small adult	0.616
Single parent	0.944
Small family	0.441
Large family	0.719
Large adult	0.741
Older smaller	0.758
Single pensioner	Reference category
Pre-1919	1.778
1919-1944	1.248
1945-1964	1.134
1965-1974	1.161
1975-1982	Reference category
1983-1990	0.548
1991-1997	0.608
post-1997	0.479
Primary fuel type: Mains gas	0.271
Primary fuel type: Electric	0.787
Primary fuel type: Other	Reference category
Single glazing	1.748
double+ glazing	Reference category

a (Exp(B))

b See note to Table 6.1

Figure 6.1
 Estimated odds ratios (Exp(B)) from logistic regression model



6.3 Describing the fuel poor

As noted at the beginning of the chapter, a distinction can be drawn between assessing the risk of fuel poverty, and describing the prevalence of different groups within the total numbers of fuel poor. Having addressed risk through the logistic regression analyses presented in the previous section, this section now focuses on various aspects of prevalence in turn.

6.3.1 Overview

Basic frequencies of fuel poverty by household characteristics, using the SHCS 1996 and 2002 definitions, were set out at the beginning of Chapter 2. Tables 6.3- 6.18 and Figures 6.2 to 6.4 describe these fuel poor households in slightly more detail, omitting reference to the 1996 definition. They show the following:

- Most fuel poor households are owner-occupied, although the risk of being fuel poor is highest for private renters.
- Most fuel poor households are in urban areas, although the risk of being fuel poor is highest for households living in rural areas.
- There are more fuel poor households with a female HIH than a male HIH.
- There is no association between fuel poverty and ethnicity.
- Fuel poverty is concentrated in the older smaller, single pensioner and single adult households.
- Approximately 152,000 single person households are fuel poor.
- Approximately 30,000 fuel poor households contain children, compared to 255,000 that do not.
- The majority of fuel poor households have full central heating.
- The majority of fuel poor households have little or no loft insulation.
- The majority of fuel poor households have double or triple window glazing, but the risk of being fuel poor is higher for those with single glazing.
- The chances of a household being fuel poor increases as the bedroom standard increases.

Table 6.3 Fuel poverty by tenure

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Owner-occupier	1,165	85	177	13
LA/Other public	449	85	65	12
HA/Housing coop	115	90	10†	8
Private renter	122	72	34	20

Fuel Poverty in Scotland

Figure 6.2 Number and proportion of extremely fuel poor in each tenure category

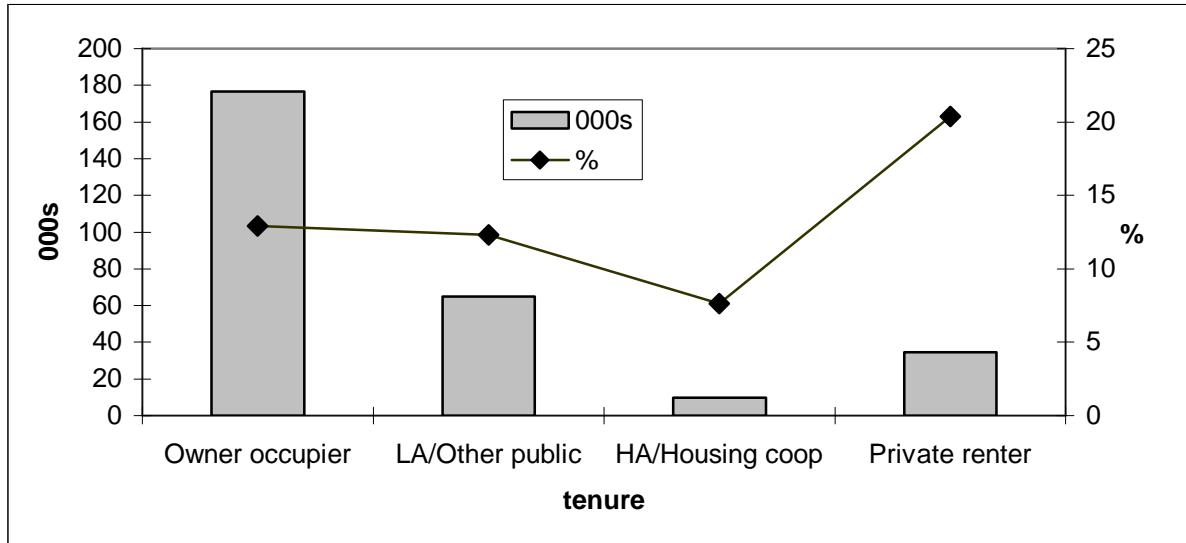


Table 6.4 Fuel poverty by location

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Rural	265	75	75	21
Urban	1,585	86	211	12

Table 6.5 Fuel poverty by sex of highest income householder (HIH)

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Male	1,164	87	140	11
Female	687	81	145	17

Table 6.6 Fuel poverty by ethnicity of respondent

	Not fuel poor		Fuel poor	
	000s	%	000s	%
White	1,827	85	282	13
Non white	23	73	*	11
Refused	*	58	*	19

Fuel Poverty in Scotland

Table 6.7 Fuel poverty by age of HH

	Not fuel poor		Fuel poor	
	000s	%	000s	%
16-24	73	80	11†	12
25-39	519	93	26	5
40-59	728	90	64	8
60-64	132	80	28	17
65-74	229	73	76	24
75-80	99	67	45	31
81+	72	65	34	31

Table 6.8 Fuel poverty by household type

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Single adult	280	83	46	14
Small adult	340	91	24	6
Single parent	118	90	9†	7
Small family	299	96	9†	3
Large family	147	92	9†	6
Large adult	193	87	20	9
Older smaller	245	77	63	20
Single pensioner	228	67	105	31

Table 6.9 Fuel poverty by number of people in household

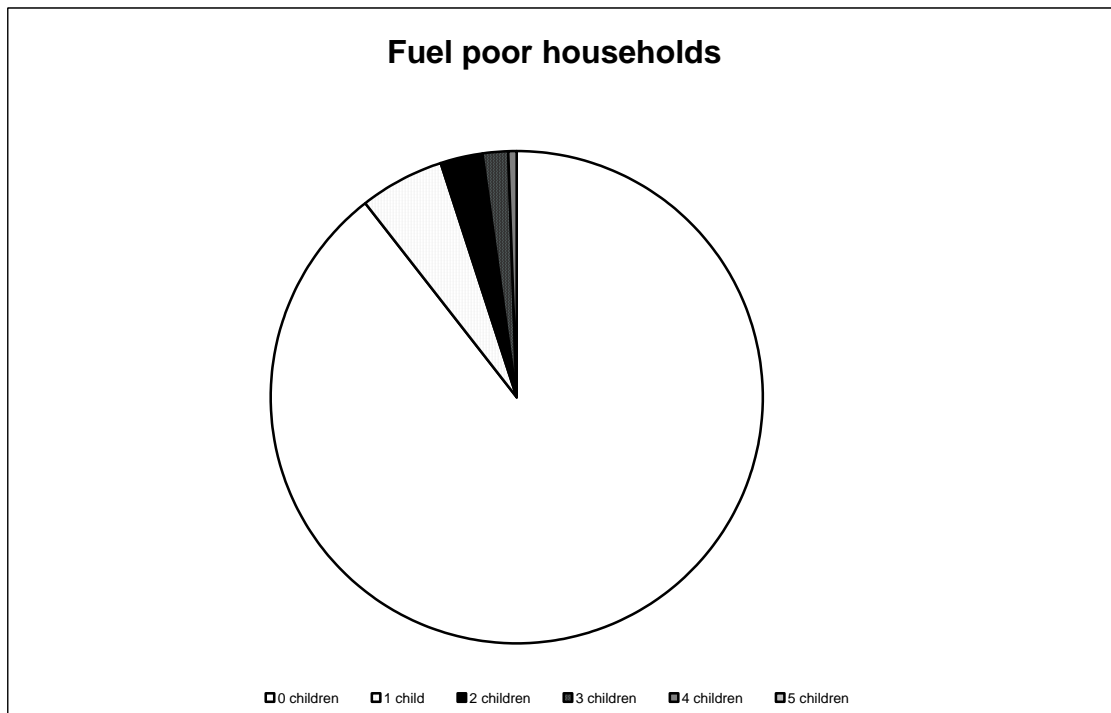
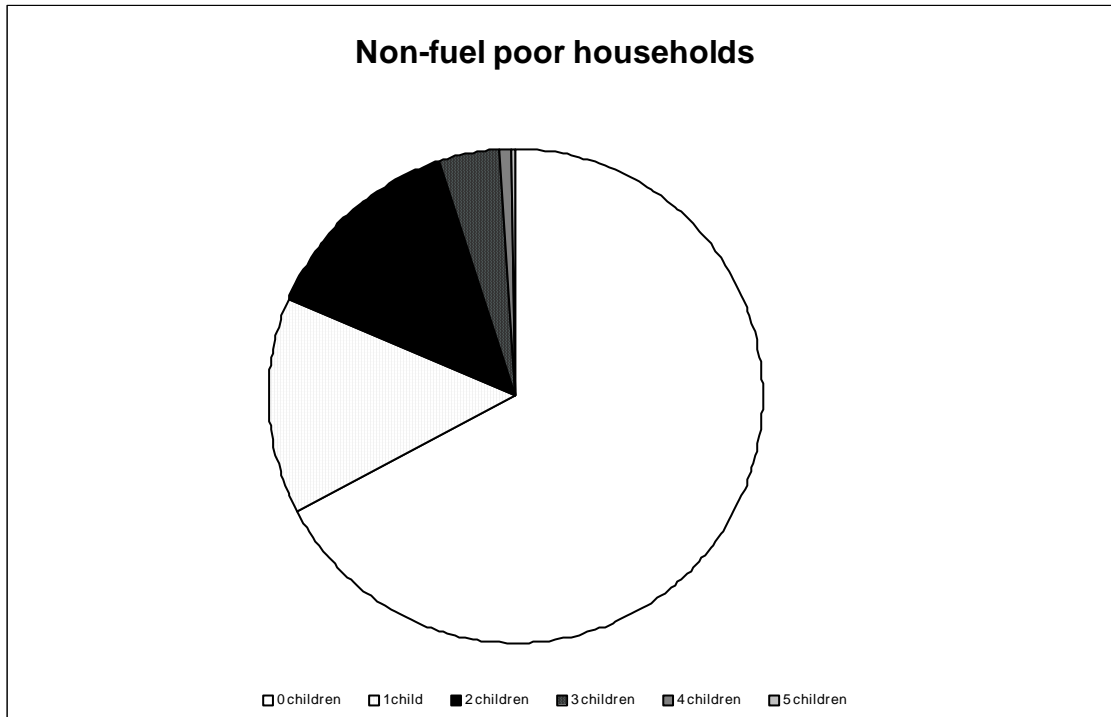
	Not fuel poor		Fuel poor	
	000s	%	000s	%
1	508	75	152	22
2	646	85	93	12
3	313	91	21	6
4	271	94	12†	4
5 or more	113	90	8†	6

Table 6.10 Fuel poverty by number of dependent children in household

	Not fuel poor		Fuel poor	
	000s	%	000s	%
0	1,241	81	255	17
1	267	92	17	6
2	250	96	8†	3
3	73	92	5†	6
4+	20	89	*	5

Fuel Poverty in Scotland

Figure 6.3 Fuel poverty by number of children in household



Fuel Poverty in Scotland

Table 6.11 Fuel poverty by age of dwelling

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Pre 1919	339	76	90	20
1919-1944	261	84	42	14
1945-1964	456	86	66	12
1965-1982	470	86	67	12
1983-1997	244	91	18	7
Post 1997	81	95	*	4

Table 6.12 Fuel poverty by type of dwelling

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Detached	326	79	76	19
Semi-detached	391	85	57	13
Terraced houses	432	87	53	11
Tenement	426	86	56	11
4-in-block	201	87	25	11
Flat in converted building	29	77	8†	20
Tower/Slab	47	78	11†	18

Table 6.13 Fuel poverty by external wall type

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Solid	420	76	111	20
Cavity pre-1975	932	86	130	12
Cavity post-1975	477	90	42	8
Other	21	85	*	11

Table 6.14 Fuel poverty by primary fuel source

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Mains gas	1,394	89	138	9
Electric	326	73	99	22
Other fuel	131	70	49	26

Table 6.15 Fuel poverty by extent of heating system

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Full central heating	1,649	87	212	11
Partial central heating	129	76	34	20
No central heating	69	59	40	34

Fuel Poverty in Scotland

Table 6.16 Fuel poverty by extent of loft insulation

	Not fuel poor		Fuel poor	
	000s	%	000s	%
None	92	67	38	28
25mm	49	80	11	18
50mm	144	84	25	14
75mm	135	84	22	13
100mm	499	85	70	12
150mm	302	87	40	12
200mm	114	89	11	9
> 200mm	46	87	6	11
Not Applicable	452	86	59	11

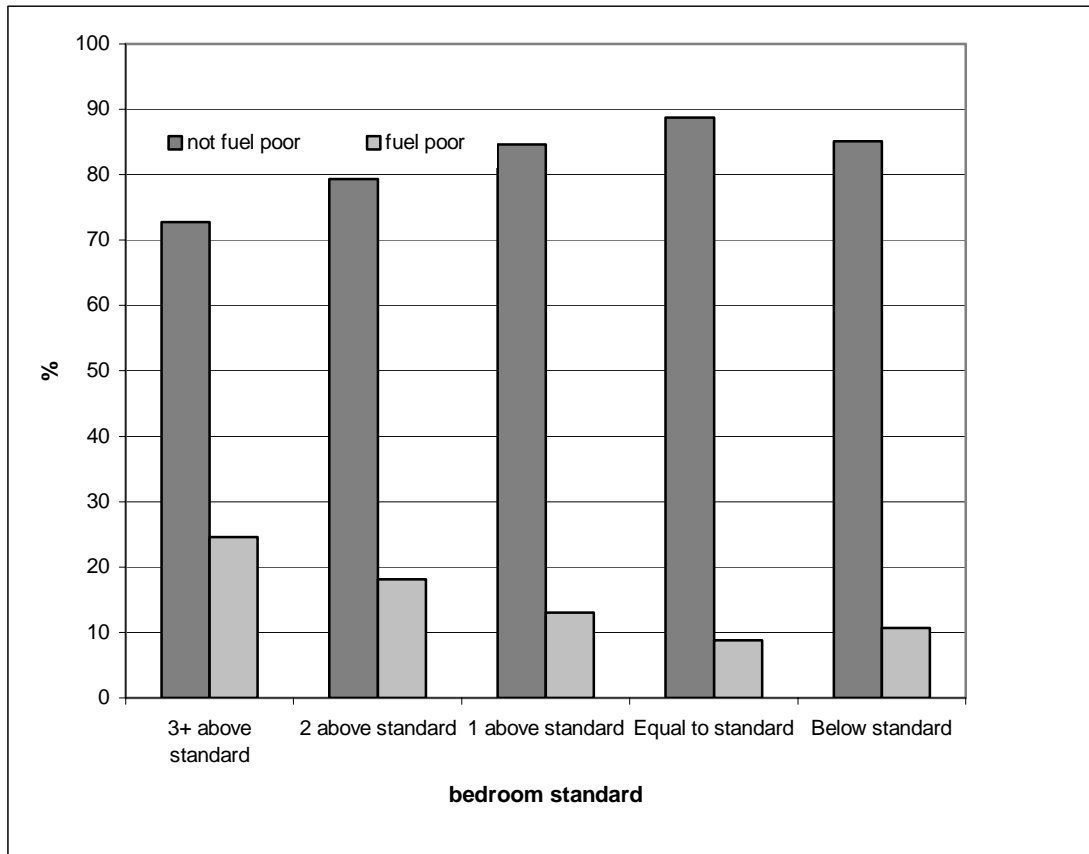
Table 6.17 Fuel poverty by type of glazing

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Single	314	76	84	20
Double or triple	1,537	86	202	11

Table 6.18 Fuel poverty by bedroom standard

	Not fuel poor		Fuel poor	
	000s	%	000s	%
3+ above standard	97	73	33	25
2 above standard	292	79	67	18
1 above standard	713	85	110	13
Equal to standard	654	89	65	9
Below standard	94	85	12†	11

Figure 6.4 **Fuel poverty by bedroom standard**



6.3.2 Income and benefits

Income variables were not included in the analysis reported in Section 6.2. To do so would have introduced circularity – clearly, as household income and receipt of benefits are used to calculate whether or not a household is fuel poor, it would be tautological to use income as a predictor variable for fuel poverty.

Income is obviously central to any measure or type of poverty and the association between income and fuel poverty is very strong, as shown in Figure 6.5.

Fuel Poverty in Scotland

Figure 6.5 Fuel poverty by average weekly household income

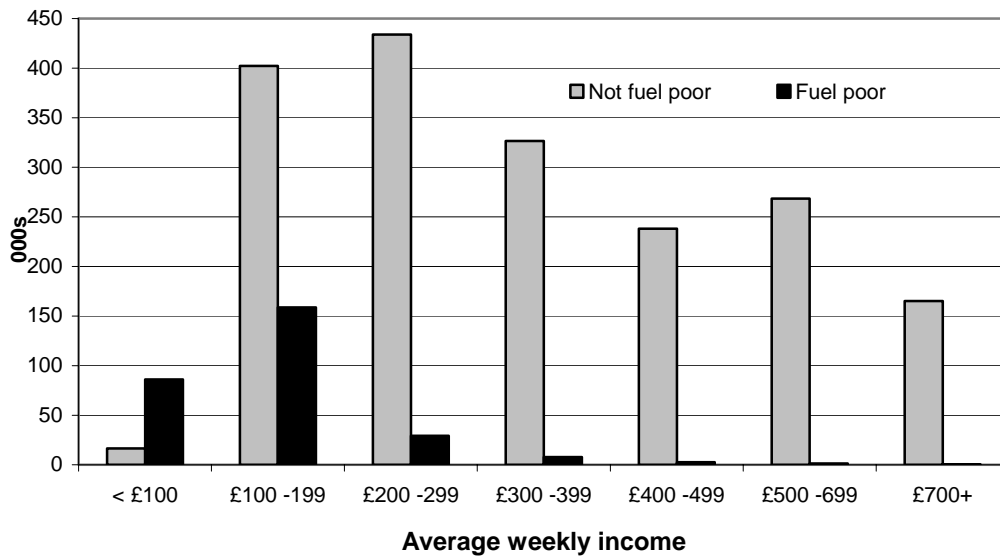


Table 6.19 overleaf sets out the frequency of fuel poverty in terms of income and the receipt of benefits. It shows that

- Approximately four out of five of households in the lowest income category are fuel poor; the same is true for approximately one-third of the second lowest category.
- There are almost no fuel poor households in the highest three income bands.
- One-fifth of households who receive benefits other than child benefit are fuel poor.
- Less than 10 per cent of households claiming Disability Living Allowance are fuel poor.

Fuel Poverty in Scotland

Table 6.19 Fuel poverty and income/benefits

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Household Income Band				
< £100	16†	14	86	72
£100 -199.99	402	71	159	28
£200 -299.99	434	92	29	6
£300 -399.99	326	97	8†	2
£400 -499.99	238	98	*	1
£500 -699.99	268	99	*	0
£700+	165	99	*	0
In receipt of any benefits				
Yes	1,280	82	243	16
No	541	91	37	6
Don't know	*	81	*	16
Refused	26	84	5†	15
Receives benefit other than child benefit				
No	947	92	59	6
Yes	904	78	227	20
Receives Disabled Living Allowance				
No	1,697	84	272	14
Yes	153	91	13†	8

Table 6.20 sets out the percentage of fuel poor households in receipt of benefits (approximately 49,000 fuel poor households do not receive benefits) who receive each benefit, and the percentage of households receiving each benefit who are fuel poor. For households in receipt of benefits, it shows that

- Almost two-thirds (63%) of fuel poor households receive State Retirement Pension.
- Almost a quarter (24%) of fuel poor households and just over a third (35%) receive Housing Benefit and Council Tax Benefit respectively.
- One third of households receiving Job Seekers Allowance are fuel poor.
- No more than one third of households receiving any benefit are fuel poor.

Overall, the analysis shows that households that receive the following benefits are significantly *more* likely to be fuel poor than households that do not: Jobseekers Allowance, State Retirement Pension and Widow's Pension.

Households that receive the following benefits are significantly *less* likely to be fuel poor than households that do not receive the benefit: Income Support, Working Families Tax Credit, Housing Benefit, Child Benefit, Incapacity Benefit, Disability Living – Care, Disability Living – Mobility, Invalid Care Allowance, Severe Disablement Benefit, Statutory Sick Pay, Disability Premium including IS/Housing Benefit.

For all other benefits, there is no association between receipt and fuel poverty.

Fuel Poverty in Scotland

Table 6.20 Households in receipt of benefits: fuel poverty by receipt of benefit

Benefit ^a	Not fuel poor		Fuel poor		% of households receiving benefit who are fuel poor
	000s	% of not fuel poor ^b	000s	% of fuel poor	
Income Support	240	19	34	14	12
Working Families Tax Credit	82	7	*	1	2
Jobseekers Allowance	30	2	16	7	33
Housing Benefit	370	29	56	24	13
Council Tax Benefit	427	34	83	35	16
Child Benefit	442	35	15	6	3
Child Benefit (1 parent rate)	136	11	12†	5	8
State Retirement Pension	448	36	150	63	25
Other state benefit	13	1	*	1	15
Widow's Pension	28	2	13†	5	21
Incapacity Benefit	150	12	17	7	10
Disability Living - Care	102	8	8†	3	7
Disability Living – Mobility	111	9	8†	3	7
Industrial Injury/Disablement	16	1	*	1	11
Invalid Care Allowance	24	2	*	1	9
Severe Disablement Benefit	15	1	*	1	8
War Disablement Benefit	11†	1	*	1	15
Disabled Premium including IS/Housing Benefit	10†	1	*	0	3
Attendance Allowance	55	4	7†	3	12
Other benefit for disabilities	*	0	*	0	15

a Benefits received by less than 1% of each subgroup are not included.

b Households can receive multiple benefits so column percentages will not sum to 100.

Table 6.21 shows the number and percentage of households who are fuel poor and receive, 0, 1 or more than 1 benefit.

Table 6.21 Fuel poverty by number of benefits received by household

	Not fuel poor		Fuel poor		% of households receiving benefit who are fuel poor
	000s	% of fuel poor	000s	% of fuel poor	
No benefits	596	32	48	17	7
1 benefit	634	34	124	44	16
More than 1 benefit	621	34	113	40	15

Fuel Poverty in Scotland

Table 6.21 shows that

- Approximately 84% of fuel poor households receive at least one state benefit compared to 68% of non-fuel poor households.
- Households that receive one or more benefit are twice as likely to be fuel poor as households that receive no benefit. As shown in Table 6.20, this is accounted for by households who receive Job Seekers Allowance, State Retirement Pension or Widow's Pension, as other benefit claimants are less likely to be fuel poor.

Table 6.22 sets out the benefits received by fuel poor households, limited to those who receive only one such benefit. It indicates that:

- 77% of fuel poor who receive only one benefit receive State Retirement Pension.
- 65% of households who receive only Income Support are fuel poor.

Table 6.22 Benefits received by fuel poor households receiving only one benefit

Benefit ^a	000s	% of fuel poor (one benefit)	% of households receiving benefit who are fuel poor
Income Support	*	1	65
Jobseekers Allowance (JSA)	*	2	28
Housing Benefit	*	1	27
Council Tax Benefit	*	1	6
Child Benefit	8†	7	3
Child Benefit (1 parent rate)	*	2	7
State Retirement Pension	96	77	31
Widow's Pension	5†	4	41
Incapacity Benefit	*	3	13
Disability Living - Care	*	1	33

a Benefits received by less than 1% of each subgroup are not included.

Table 6.23 sets out the prevalence of fuel poverty amongst households receiving different benefits, divided into income related and non-income related (see Box). It shows that:-

- 87% of fuel poor households, and 95% of non-fuel poor households receive a non-income related benefit.
- 15% of households who receive a non-income related benefit are fuel poor.
- 17% of households who receive an income related benefit are fuel poor.
- 71% of fuel poor households receive Retirement Pension and other benefits, compared to 40% of non fuel-poor household.

Income-related benefits are Income Support, Jobseekers Allowance, Housing Benefit and Council Tax Benefit
 Income-related state support refers to the above benefits with the addition of tax credits such as Working Family Tax Credit
Non-income related benefits are Child Benefit, Child Benefit at One-Parent Rate, Maternity Allowance, State Retirement Pension, Statutory Maternity Pay, Widows Payment, Widowed Mothers Allowance, Widows Pension, Incapacity Benefit, DLA-Care, DLA-Mobility, Industrial Injury Benefit, Invalid Care Allowance, Severe Disablement Benefit, Statutory Sick Pay, Attendance Allowance.

Fuel Poverty in Scotland

Table 6.23 Fuel poverty by benefit groups

	Not fuel poor		Fuel poor		% of households receiving benefit who are fuel poor
	000s	% of not fuel poor	000s	% of fuel poor	
Household receives income related benefit	480	38	101	43	17
Household receives income related state support	546	44	102	43	15
Household receives non-income related benefit	1,186	95	207	87	15
HIH spouse over-60 - Household receives Retirement Pension and other benefits	496	40	168	71	25
HIH/spouse under 60 -Household receives any working age benefit	720	57	65	27	8
HIH/spouse under 60 - Household receives any Sickness/Disability Benefit	173	14	18	8	9

Tables 6.24 and 6.25 show fuel poverty by benefit dependency. Benefit dependency was calculated by calculating the total income from benefits as a proportion of the household's total income. The classes used are independent/virtually independent (0-9 %), low (10-50 %), moderate (50-90 %), and high (90-100 %).

Child Benefit, because it is a universal payment to households with children, is often considered as confusing the benefit dependency issue. Benefit dependency, consequently, has been calculated both including and excluding Child Benefit. The tables show that:

- The majority of households which are not fuel poor are independent/virtually independent of benefits and only 5 % of households which are independent of benefits are fuel poor.
- Almost half (48 %) of fuel poor households are highly dependent on benefits as a source of income.
- When Child Benefit is excluded the profile of benefit dependency remains much the same with more than 40 % of fuel poor households highly dependent on benefits as a source of income.

Table 6.24 Fuel poverty by benefit dependency including Child Benefit

	Not fuel poor		Fuel poor		% of households in dependency category who are fuel poor
	000s	% of not fuel poor	000s	% of fuel poor	
Unavailable	22	1	9†	3	23
Independent / virtually independent	962	52	47	16	5
Low dependency	293	16	27	10	8
Moderate dependency	206	11	66	23	24
High dependency	368	20	137	48	26

Table 6.25 Fuel poverty by benefit dependency excluding Child Benefit

	Not fuel poor		Fuel poor		% of households in dependency category who are fuel poor
	000s	% of not fuel poor	000s	% of fuel poor	
Unavailable	22	1	9†	3	23
Independent / virtually independent	994	54	51	18	5
Low dependency	274	15	23	8	8
Moderate dependency	251	14	77	27	23
High dependency	310	17	126	44	28

6.3.3 Health status

As with the income variables, health was not included in the modelling of risk reported in section 6.2, again to avoid circularity. Households with a member who is long term sick or disabled are given a different heating regime within the calculation of fuel poverty, thus making it more likely that they will be fuel poor. It would therefore be tautological to use it as a predictor variable for fuel poverty.

Table 6.26 shows fuel poverty according to various self-reported measures of long-term sickness or disability. It indicates the following:

- Approximately 1/6 of households in which at least one person is long term sick or disabled are fuel poor.
- Households with a member who has a mobility or other physical impairment are more likely to be fuel poor than households with no such member.
- The same is true for households with a member who has a long-term circulatory problem.
- Households including a member who has a long-term mental health problem are no more likely to be fuel poor than households with no such member.
- The same is true for households with a member who has a long-term visual or hearing problem, a learning difficulty or a long-term respiratory problem.

Table 6.26 Fuel poverty and self-reported long-term illness/disability

	Not fuel poor		Fuel poor	
	000s	%	000s	%
Any sick/disabled in household?				
No	1,207	86	164	12
Yes	644	82	122	16
Vision				
No	1,799	85	275	13
Yes	51	80	11†	17
Hearing				
No	1,796	85	276	13
Yes	54	82	10†	15
Learning difficulty				
No	1,833	84	283	13
Yes	18	86	*	11
Mobility / other physical impairment				
No	1,549	85	230	13
Yes	302	83	56	15
Mental health problem				
No	1,798	84	279	13
Yes	53	84	7†	11
Respiratory problem				
No	1,644	84	255	13
Yes	207	86	31	13
Circulatory problem				
No	1,645	85	237	12
Yes	205	79	49	19
Other				
No	1,727	85	261	13
Yes	124	81	25	16

6.3.4 Fuel poverty in the over-sixties

Tables 6.27 to 6.31 are concerned only with households where the HIH or spouse are aged 60 years or over. They show:

- Approximately 84 % of over-60 households with an income of less than £100 a week are fuel poor.
- Almost two thirds of over-60 fuel poor households have a weekly income of £100-199.
- The chance of an over-60 household being fuel poor decreases as the number of bedroom relative to the standard decreases.
- Over-60 households are over twice as likely to be fuel poor if they live in owner-occupier or private rented dwellings than if they live in social tenures.
- There are approximately 138,000 fuel poor over-60 households living in owner-occupied dwellings.
- Approximately 59 % of fuel poor over-60 households are single person households.

Fuel Poverty in Scotland

Table 6.27 Fuel poverty by income band for households where HH/spouse are over-60

	Not fuel poor		Fuel poor		% of those in income band who are fuel poor
	000s	% of non fuel poor	000s	% of fuel poor	
< £100	4†	1	47	25	84
£100 –199.99	214	38	116	63	35
£200 –299.99	176	32	17	9	9
£300 –399.99	78	14	4†	2	4
£400 –499.99	39	7	*	1	3
£500 –699.99	30	5	*	0	1
£700+	14†	3	*	0	0

Table 6.28 Fuel poverty by bedroom standard for households where HH/spouse are over-60

	Not fuel poor		Fuel poor		% of those in bedroom standard who are fuel poor
	000s	% of non fuel poor	000s	% of fuel poor	
3+ above standard	29	5	22	12	41
2 above standard	119	22	53	29	30
1 above standard	246	44	80	43	24
Equal to standard	150	27	29	16	16
Below standard	12†	2	*	1	15

Table 6.29 Fuel poverty by tenure for households where HH/spouse are over-60

	Not fuel poor		Fuel poor		% of those in tenure who are fuel poor
	000s	% of non fuel poor	000s	% of fuel poor	
Owner-occupier	317	57	138	74	30
LA/Other public	177	32	29	16	14
HA/Housing coop	39	7	4†	2	10
Private renter	24	4	15†	8	36

Table 6.30 Fuel poverty by age of dwelling for households where HH/spouse are over-60

	Not fuel poor		Fuel poor		% of those in date category who are fuel poor
	000s	% of non fuel poor	000s	% of fuel poor	
Pre-1919	67	12	52	28	42
1919-1944	99	18	30	16	22
1945-1964	164	30	43	23	21
1965-1974	98	18	30	16	23
1975-1982	49	9	16	8	24
1983-1990	36	6	6†	3	15
1991-1997	27	5	6†	3	18
post-1997	16†	3	*	2	14

Fuel Poverty in Scotland

Table 6.31 Fuel poverty by single person household for households where HIH/spouse are over-60

	Not fuel poor		Fuel poor		% of those living alone/not alone who are fuel poor
	000s	% of non fuel poor	000s	% of fuel poor	
Alone	244	44	109	59	30
Not alone	312	56	76	41	19

Some over-60 households may live in underoccupied dwellings (eg. if adult children have left the family home). Table 6.32 summarises the position of over-60 households by age of dwelling, for underoccupied dwellings only. It shows that approximately 14% of fuel poor households where the HIH/spouse are over-60 and living in an underoccupied dwelling live in homes built before 1919. Only around 1% live in a dwelling constructed since 1997.

Table 6.32 Households where HIH/spouse are over-60 and live in underoccupied dwellings by age of dwelling

Age of dwelling	000s	% of all fuel poor households ^a
Pre – 1919	40	14
1919-1944	26	9
1945-1964	37	13
1965-1982	37	13
1983-1997	9†	3
Post 1997	*	1

a Includes those where HIH/spouse are not over-60 living in underoccupied dwellings and all under 60 fuel poor households

6.3.5 Non-elderly households living in private tenures

Of 286,000 fuel poor households, 59,000 live in privately rented or owner-occupied accommodation and have neither a HIH nor spouse who are aged 60 years or over. Most such households are not currently eligible for the Warm Deal programme (depending on any benefits they might receive). This section examines the characteristics of this particular subgroup (described throughout as “non-elderly, private tenures”).

Table 6.33 Fuel poor households according to age and tenure

	Owner - occupier		LA/Other public		HA/Housing coop		Private renter		total
	000s	%	000s	%	000s	%	000s	%	000s
Neither HIH nor spouse are aged 60 or over	39	39	36	36	5†	5	20	20	100
Either HIH or spouse are aged 60 or over	138	74	29	16	4†	2	15	8	186
Total	177	62	65	23	10	3	34	12	286

Fuel Poverty in Scotland

Table 6.34 Fuel poor households by household type (non-elderly, private tenures only)

Household type	000s	%
Single adult	22	37
Small adult	12†	21
Single parent	*	6
Small family	6†	9
Large family	7†	11
Large adult	9†	15
Older smaller	*	1

Table 6.35 Fuel poor households by tenure (non-elderly, private tenures only)

	000s	%
Owner-occupier	39	66
Private renter	20	34

Table 6.36 Fuel poor households by age of HIH (non-elderly, private tenures only)

Age of HIH	000s	%
16-24	*	10
25-39	15†	26
40-59	38	64

Table 6.37 Fuel poor households by long term sick or disabled household member (non-elderly, private tenures only)

Any long-term sick or disabled member in household?	000s	%
No	40	67
Yes	19	33

Table 6.38 Fuel poor households by single person household

Single person household?	000s	%
Yes	22	37
No	37	63

Table 6.39 Fuel poor households by presence of children under 5 (non-elderly, private tenures only)

Any children under 5 in household?	000s	%
No	53	91
Yes	5†	9

Table 6.40 Fuel poor households by sex of HIH (non-elderly, private tenures only)

	000s	%
Male	32	55
Female	27	45

Table 6.41 Fuel poor households by extent of central heating (non-elderly, private tenures only)

Extent of central heating	000s	%
Full	41	69
Partial	5†	9
None	13†	22

For this group of householders, then, it can be seen that:

- There are more fuel poor owner-occupiers than there are fuel poor private renters.
- There are more fuel poor households with HIH aged between 40 and 59 than there are aged 16 to 24 or 25 to 39.
- There are fewer fuel poor sick or disabled households than there are fuel poor households with no long-term sick or disabled members.
- There are less fuel poor households containing only one person than there are fuel poor households with more than one inhabitant.
- There are more fuel poor households with full central heating than there are with partial or no central heating.
- There are fewer fuel poor households with children under 5 years old than there are without.

6.4 Predictors of fuel poverty

This final section explores the combinations of household characteristics which are most likely to predict that a household is fuel poor. As noted in the opening section, this type of analysis may be particularly useful to organisations which are unable to conduct a full-scale survey exercise to produce fuel poverty estimates.

6.4.1 Identifying income groups

As previously mentioned income is central to any analysis of fuel poverty. The following analysis examines a number of key variables by both income level and fuel poverty as it is of

Fuel Poverty in Scotland

particular relevance when for consideration of possible interventions. Tables 6.42 to 6.47 set out the numbers of fuel poor households in terms of average weekly household income and various household or dwelling characteristics. They reveal that:

- The majority of fuel poor households in all income groups have full central heating.
- The majority of fuel poor households in all income groups have no children under age 5.
- In the higher income bands, the majority of fuel poor householders have an over-60 HHH or spouse but the same is not true in lower income bands.
- The majority of fuel poor households in all income groups are owner-occupiers.

Table 6.42 Fuel poor households by income band and level of central heating

	Full central heating		Partial central heating		No central heating	
	000s	%	000s	%	000s	%
Not fuel poor						
< £100	15†	92	*	6	*	2
£100 -199.99	349	87	34	8	19	5
£200 -299.99	371	86	39	9	22	5
£300 -399.99	288	88	25	8	14†	4
£400 -499.99	216	91	15	6	7†	3
£500 -699.99	251	94	12†	5	4†	2
£700+	159	96	3†	2	*	2
Fuel poor						
< £100	65	76	12†	14	9†	10
£100 -199.99	117	74	18	11	23	15
£200 -299.99	21	73	3†	11	5†	17
£300 -399.99	5†	69	*	6	*	25
£400 -499.99	*	69	*	14	*	17
£500 -699.99	*	67	*	17	*	16
£700+	*	100	*	0	*	0

Fuel Poverty in Scotland

Table 6.43 Fuel poor households by income band and presence of children under five years

	No children under five years		At least one child under five years	
	000s	%	000s	%
Not fuel poor				
< £100	16†	100	*	0
£100 -199.99	373	93	30	7
£200 -299.99	393	91	41	9
£300 -399.99	283	87	43	13
£400 -499.99	202	85	36	15
£500 -699.99	223	83	45	17
£700+	137	83	28	17
Fuel poor				
< £100	84	97	*	3
£100 -199.99	156	98	*	2
£200 -299.99	27	92	*	8
£300 -399.99	7†	94	*	6
£400 -499.99	*	76	*	24
£500 -699.99	*	83	*	17
£700+	*	100	*	0

Table 6.44 Fuel poor households by income band and HH/spouse age

	Neither HH nor spouse age 60 or over		Neither HH nor spouse age 60 or over	
	000s	%	000s	%
Not fuel poor				
< £100	12†	73	4†	27
£100 -199.99	189	47	214	53
£200 -299.99	258	59	176	41
£300 -399.99	248	76	78	24
£400 -499.99	199	84	39	16
£500 -699.99	238	89	30	11
£700+	151	92	14†	8
Fuel poor				
< £100	39	45	47	55
£100 -199.99	43	27	116	73
£200 -299.99	12†	41	17	59
£300 -399.99	4†	52	4†	48
£400 -499.99	*	51	*	49
£500 -699.99	*	65	*	35
£700+	*	100	*	0

Fuel Poverty in Scotland

Table 6.45 Fuel poor households by income band and presence of long-term sick or disabled person

	No sick or disabled inhabitants		At least one long-term sick or disabled resident	
	000s	%	000s	%
Not fuel poor				
< £100	10†	61	7†	39
£100 -199.99	206	51	197	49
£200 -299.99	241	56	192	44
£300 -399.99	223	68	103	32
£400 -499.99	176	74	62	26
£500 -699.99	214	80	54	20
£700+	136	82	30	18
Fuel poor				
< £100 p.w.	53	62	33	38
£100 -199.99 p.w.	87	55	72	45
£200 -299.99 p.w.	16	56	13	44
£300 -399.99 p.w.	5	65	*	35
£400 -499.99 p.w.	*	63	*	37
£500 -699.99 p.w.	*	56	*	44
£700+	*	0	*	100

Table 6.46 Fuel poor households by income band and tenure

	Owner-occupier		LA/other public		HA/housing coop		Private renter	
	000s	%	000s	%	000s	%	000s	%
Not fuel poor								
< £100	*	8	10†	62	*	13	*	17
£100 -199.99	119	30	209	52	44	11	30	8
£200 -299.99	216	50	140	32	40	9	38	9
£300 -399.99	227	69	56	17	18	5	25	8
£400 -499.99	198	83	21	9	6†	3	13†	6
£500 -699.99	247	92	10†	4	4†	1	8†	3
£700+	158	96	*	2	*	1	*	2
Fuel poor								
< £100	46	53	27	32	4†	5	9†	11
£100 -199.99	101	63	34	21	6†	3	19	12
£200 -299.99	21	73	*	12	*	1	*	14
£300 -399.99	6†	74	*	6	*	0	*	20
£400 -499.99	*	78	*	0	*	1	*	21
£500 -699.99	*	100	*	0	*	0	*	0
£700+	*	100	*	0	*	0		

Fuel Poverty in Scotland

Table 6.47 Fuel poor households by income band and single person household

	Single person household		More than one person in household	
	000s	%	000s	%
Not Fuel poor				
< £100	12†	74	*	26
£100 -199.99	235	58	167	42
£200 -299.99	148	34	286	66
£300 -399.99	69	21	257	79
£400 -499.99	23	10	215	90
£500 -699.99	15†	6	253	94
£700+	5†	3	160	97
Fuel poor				
< £100	57	66	29	34
£100 -199.99	85	53	74	47
£200 -299.99	8†	26	22	74
£300 -399.99	*	12	7†	88
£400 -499.99	*	32	*	68
£500 -699.99	*	0	*	100
£700+	*	0	*	100

6.4.2 Identifying fuel poor groups

In order to best identify groups of households who are most likely to be fuel poor, a series of logit loglinear analyses were conducted. This is a process by which the associations between fuel poverty and various other variables are tested in order to find the group of variables that have the best fit. The model which had the best fit included income band, extent of central heating and tenure. The results of the analyses are summarised in Table 6.48. The model shows that:

- All households with an average weekly income of less than £100 have a high probability of being fuel poor, regardless of tenure or central heating. Out of 119,000 households in this income band, 86,000 are fuel poor (72%). If only owner-occupiers are considered, there are 54,000 households, of which 44,000 (81%) are fuel poor.
- Amongst those households with an average weekly income of between £100 and £199, owner-occupiers and private renters are much more likely to be fuel poor, particularly those with partial or no central heating.
- Amongst households with incomes between £200 and £299, there are 18,000 fuel poor owner-occupiers with full central heating and 7,000 fuel poor households with partial or no central heating in all tenures.
- Amongst households with incomes over £300, most fuel poor households are owner-occupiers or private renters, although actual numbers are very small (less than 15,000).

Fuel Poverty in Scotland

Table 6.48 Fuel poverty by income, central heating and tenure.

Average weekly income of HH / spouse	Extent of central heating	Tenure	Number of fuel poor	% who are fuel poor
< £100	full	Owner-occupier	36	84
		LA/Other public	21	63
		HA/Housing coop	*	46
		Private renter	6†	46
	partial	Owner-occupier	5†	83
		LA/Other public	5†	94
		HA/Housing coop	*	67
		Private renter	*	53
	none	Owner-occupier	5†	86
		LA/Other public	*	100
		HA/Housing coop	*	100
		Private renter	*	73
£100 -199.99	full	Owner-occupier	81	44
		LA/Other public	23	11
		HA/Housing coop	3†	8
		Private renter	11†	32
	partial	Owner-occupier	9†	46
		LA/Other public	5†	24
		HA/Housing coop	*	21
		Private renter	*	40
	none	Owner-occupier	10†	59
		LA/Other public	6†	44
		HA/Housing coop	*	49
		Private renter	7†	54
£200 -299.99	full	Owner-occupier	18	9
		LA/Other public	*	1
		HA/Housing coop	*	1
		Private renter	*	7
	partial	Owner-occupier	*	7
		LA/Other public	*	7
		HA/Housing coop	*	3
		Private renter	*	11
	none	Owner-occupier	*	16
		LA/Other public	*	24
		HA/Housing coop	*	0
		Private renter	*	17
Over £300	full	Owner-occupier	7	1
		LA/Other public	*	0
		HA/Housing coop	*	0
		Private renter	*	3
	partial	Owner-occupier	*	3
		LA/Other public	*	0
		HA/Housing coop	*	0
		Private renter	*	0

Fuel Poverty in Scotland

	none	Owner-occupier	*	6
		LA/Other public	*	6
		HA/Housing coop	*	0
		Private renter	*	14

Chapter 7

Impact of Dwelling Improvements

7.1 Introduction

The preceding chapters have set forth a detailed analysis of the fuel poor, subgroups of fuel poor within the total, the potential impact of changes to contributory factors such as income, and the specific characteristics of the fuel poor. This final chapter addresses the question of *interventions*, focusing primarily on the impact of current Scottish Executive programmes, namely the Warm Deal and Central Heating Programme.

The analyses in this chapter were, broadly speaking, produced using a two stage process. Having identified a specific list of dwelling improvements within each package of possible intervention measures, each was then applied to the whole stock in a modelling process (eg. all partial systems in all households were replaced by full). Measures were only applied where they could be physically achieved (eg. cavity wall insulation was not applied to dwellings of solid wall construction). *AutoEvaluator* was used to produce revised running costs for the stock as it would look like as a result of this modelling exercise, and these costs were then used to generate new figures for the number of fuel poor after the modelled improvements had been carried out. Eligibility for the measures was also factored into this final stage, but not to the application of the improvements in the original dwelling model.

The following improvements/changes to the dwelling models were applied to all dwellings which required them. Where a dwelling already met the minimum requirement then no change was made.

For modelling the Warm Deal:

- 200 mm loft insulation
- 50 mm cavity wall insulation
- 80 mm jacket to hot water tank
- insulation to hot water pipes
- draught proofing to doors and windows

For modelling the Central Heating Program:

- all Warm Deal items as given above plus one of the following depending on the availability of the fuels and the type of dwelling
 - Full gas central heating with condensing combi boiler, radiators, room and radiator stats (if dwelling had access to mains gas)
 - Full oil central heating with condensing combi boiler, radiators, room and radiator (if no mains gas and not a flat)
 - Full electric storage heating (in all other cases).

The following was added to dwellings with no other enhancements

- UPVC double glazing with argon filled e glass units, 20mm gap.

7.2 Improvements under the Warm Deal (WD)

This section explores the requirement for WD improvements in the stock and their potential effect on estimates of fuel poverty, taking eligibility into consideration.

7.2.1 Modelling the WD

Under the Warm Deal, grants may be obtained to apply the following energy-saving measures:

- cavity wall insulation.
- loft, tank and pipe insulation.

Fuel Poverty in Scotland

- draughtproofing.
- four energy-efficient light bulbs.
- energy advice.

We were able to model the effects of applying the first 3 of these improvements. The use of lightbulbs does not have a significant impact, nor is it possible to model how householders might implement energy advice.

Within this analysis, it was also important to take account of the possibility that it will not be possible to install CWI in all blocks of flats which need the measure – eg. where individual owner-occupiers do not consent to the improvement works being carried out. The WD improvement/analysis model was therefore run under two sets of assumptions; (a) that CWI would be applied to 50% of all flats which require it (a reasonable assessment of the proportion of flats which would receive CWI in reality) and (b) that CWI would be applied to 100% of flats which require it.

After the dwelling models had been applied as outlined above, the new running costs generated as a result were applied to households. The same eligibility criteria were applied within the model as are used in the Warm Deal programme itself. A household qualifies for a grant of up to £500 if the HIH or spouse/partner is in receipt of one of the following state benefits:

- Attendance Allowance.
- Council Tax Benefit.
- Disability Living Allowance.
- Disability Working Allowance.
- Disabled Person's Tax Credit.
- Family Credit.
- Housing Benefit.
- Income-based Jobseeker's Allowance.
- Income Support.
- Industrial Injuries Disablement Benefit (which must include Constant Attendance Allowance).
- War Disablement Pension (which must include the mobility supplement or Constant Attendance Allowance).
- Working Families' Tax Credit.

The SHCS income data did not include Disability Working Allowance or Family Credit nor was any information collected on whether or not Jobseeker's Allowance was income-based. The receipt of all other benefits listed above, together with the receipt of any Jobseeker's Allowance, were used here to indicate eligibility for the Warm Deal.

If the HIH/spouse was 60 or over and not receiving any of the qualifying benefits, they were assumed to be entitled to a 25% grant of up to £125. When applying the WD improvements to the model, these households were assumed to be able to receive all required improvements.

7.2.2 Analysis of eligibility

Tables 7.1 and 7.2 illustrate the relationship between WD improvements, eligibility, and fuel poverty (with and without draughtproofing being included in the count of improvements required). Table 7.1 indicates that, of the 257,000 fuel poor households who require at least one WD improvement, 42,000 (around 16%) are not eligible, 102,000 (40%) are eligible for a full grant and 113,000 (44%) are eligible for a 25% grant.

Table 7.2 indicates that 237,000 fuel poor households (82%) require at least one WD improvement (other than draught proofing) to their dwelling. Around 78% (1,444,000) of non fuel poor households are in a similar position.

Fuel Poverty in Scotland

Table 7.1 Fuel poverty by requirement for WD improvements by eligibility

			Eligibility for Warm Deal			Total 000s
			Not eligible	Full grant	25% grant	
			000s	000s	000s	
Not fuel poor	Any Warm Deal improvement required	None	135	129	44	308
		At least one	797	493	252	1 543
	Total		932	623	296	1 851
Fuel poor	Any Warm Deal improvement required	None	*	13†	12†	29
		At least one	42	102	113	257
	Total		46	115	124	286

Table 7.2 Fuel poverty by requirement for WD improvements (excluding draughtproofing) by eligibility

			Eligibility for Warm Deal			Total 000s
			Not eligible	Full grant	25% grant	
			000s	000s	000s	
Not fuel poor	Any Warm Deal improvement required	None	190	162	54	406
		At least one	741	461	242	1 444
	Total		932	623	296	1 851
Fuel poor	Any Warm Deal improvement required	None	9†	23	16	48
		At least one	37	92	108	237
	Total		46	115	124	286

The following tables examine those fuel poor households who are not eligible for WD improvements but have a need for at least one of them, in terms of key household and dwelling characteristics.

Fuel Poverty in Scotland

Table 7.3 Fuel poor households which require a WD improvement but are not eligible by household type

	000s	%
Single adult	13†	31
Small adult	9†	22
Single parent	*	4
Small family	5†	12
Large family	4†	10
Large adult	8†	19
Older smaller	*	1
Total	42	100

Table 7.4 Fuel poor households which require a WD improvement but are not eligible by tenure

	000s	%
Owner-occupier	24	58
LA/Other public	6†	15
HA/Housing coop	*	2
Private renter	11†	26
Total	42	100

Table 7.5 Fuel poor households which require a WD improvement but are not eligible by age of dwelling

	000s	%
Pre 1919	21	50
1919-1944	5†	11
1945-1964	5†	12
1965-1982	8†	19
1983-1997	*	7
Post 1997	*	1
Total	42	100

Table 7.6 Fuel poor households which require a WD improvement but are not eligible by age of HH

	000s	%
16-24	*	12
25-39	10†	24
40-59	27	64
Total	42	100

Fuel Poverty in Scotland

Tables 7.3 to 7.6 indicate the following:

- Over half of fuel poor households who require WD improvements but are not eligible are single adult and small adult households.
- Almost 60% are owner-occupiers.
- Half (21 000 households) live in dwellings constructed before 1919.
- In almost two-thirds (64%) of cases the HIH is aged between 40 and 59 years.

7.2.3 Impact of WD measures on fuel poverty (CWI applied to 50% of dwellings)

In this section the modelled fuel costs used are those which are obtained when all households who are eligible for WD receive the improvements their dwelling requires. If CWI is given to 50% of flats without CWI, the results are as set out in Table 7.7.

Table 7.7 Modelled prevalence of fuel poverty after WD applied (50% of flats get CWI)

	000s	%
Not fuel Poor	1,899	87
Fuel poor	238	11

As Table 7.7 indicates, if all those who are eligible for WD improvements were to receive those they require, the number of fuel poor households would be 238,000. This fall of 48,000 from the present figure of 286,000 is a 17% decrease in the number of fuel poor households.

Tables 7.8 and 7.9 set out the changes in numbers of fuel poor and extremely fuel poor if WD improvements were applied where householders were eligible. This demonstrates that, of the 215,000 fuel poor households eligible for WD, 48,000 would be taken out of fuel poverty by receipt of WD improvements – this is 22% of the eligible fuel poor households. Similarly, 26% of the extremely fuel poor would be lifted out of extreme fuel poverty although they would remain fuel poor.

Table 7.8 Changes in fuel poverty if fuel poor households eligible for WD receive improvements (50% CWI)

	000s	%
No longer fuel poor	48	22
Remain fuel poor	167	78
Total	215	100

Table 7.9 Changes in extreme fuel poverty if fuel poor households eligible for WD receive improvements (50% CWI)

	000s	%
Now fuel poor but not Extremely fuel poor	14	26
Remain Extremely fuel poor	40	74
Total	54	100

7.2.4 Impact of WD measures on fuel poverty (CWI applied to 100% of dwellings)

Tables 7.10 and 7.11 show the modelled effects on fuel poverty of fully implementing the WD measures, including giving CWI to 100% of flats, to all those households who are eligible and whose dwellings are appropriate for WD measures. The tables show that:

Fuel Poverty in Scotland

- The number of fuel poor households in Scotland could be reduced from 286,000 to 234,000.
- Approximately 163,000 fuel poor households eligible for Warm Deal would remain fuel poor even if the programme were fully implemented including 100% CWI for flats.

Table 7.10 Modelled prevalence of fuel poverty after WD applied (100% of flats get CWI)

	000s	%
Not fuel poor	1,903	87
Fuel poor	234	11

Table 7.11 Changes in fuel poverty if fuel poor households eligible for WD receive improvements (100% CWI)

	000s	%
No longer fuel poor	52	24
Remain fuel poor	163	76
Total	215	100

From this point on, any analyses which include Warm Deal measures will have used the model with CWI given to 50% of flats.

7.3 Combining WD measures with loft insulation improvements to dwellings of solid wall construction

This section examines the effect of including 300mm of loft insulation in dwellings with solid walls in the package of WD measures on the number of households living in fuel poverty.

Table 7.12 shows that:

- of the 79,000 dwellings with solid walls where loft insulation could be added and the household is in fuel poverty, 61,000 are eligible for a grant under the Warm Deal.
- the majority of solid wall dwellings to which loft insulation could be added are not occupied by fuel poor households.

Table 7.12 Fuel poverty by solid wall dwellings to which loft insulation could be added by WD eligibility

		Not eligible for Warm Deal (000s)	Eligible for full grant (000s)	Eligible for 25% grant (000s)	Total (000s)
Not fuel poor	Not solid wall, cannot add loft insulation	765	576	254	1,595
	Solid wall, loft insulation can be added	167	47	41	255
	Total	932	623	296	1,851
Fuel poor	Not solid wall, cannot add loft insulation	28	91	87	206
	Solid wall, loft insulation can be added	19	24	37	79
	Total	46	115	124	286

Table 7.13 shows the possible effects of giving 300mm loft insulation to dwellings with solid walls through the WD. It shows that the number of fuel poor households could be reduced from 286,000 to 237,000, which is an addition of only 1,000 to the number of households that could be removed from fuel poverty if just the Warm Deal as it currently stands is applied to all eligible households.

Table 7.13 Modelled prevalence of fuel poverty if loft insulation to solid wall dwellings included in WD

	000s	%
Not fuel poor	1,899	87
Fuel poor	237	11

7.4 Improvements under the Central Heating Programme (CHP)

This section explores the potential for improvements under the CHP and their effect on estimates of fuel poverty.

7.4.1 Modelling the CHP

Under the CHP, a new central heating system can be installed into dwellings without central heating if the HH or their spouse is aged 60 or over and is an owner-occupier or rents from a private landlord. Households in the social rented sector (rent from Local Authorities or Housing Associations) without central heating can also have a system installed if they apply to their landlord.

7.4.2 Eligibility

Table 7.14 shows that of the 286,000 fuel poor households, 26,000 (9%) have no central heating and are eligible for CHP improvements.

Table 7.14 Fuel poverty by presence of central heating by CHP eligibility

			Eligibility for Central Heating Programme		Total
			Not eligible	Eligible	
Not fuel poor	Central Heating	Full/Partial	905	877	1 782
		None	42	27	69
	Total		947	904	1851
Fuel poor	Central Heating	Full/Partial	46	200	246
		None	13†	26	40
	Total		59	227	286

7.4.3 Impact of WD and CHP measures on fuel poverty

In this section, modelled fuel costs were used after *both* the Warm Deal and CHP improvements were applied to dwellings which required the improvements from either programme and where households were eligible to receive them.

Tables 7.15 and 7.16 highlight the effects on fuel poverty and extreme fuel poverty of implementing both sets of measures (WD and CHP). It shows that if both sets of improvements are made to dwellings the number of households in fuel poverty would be 225,000 (10%), a decrease of 61,000 from the current figure of 286,000. The prevalence of extreme fuel poverty would be 51,000, rather than 69,000.

Table 7.15 Modelled prevalence of fuel poverty after WD and CHP applied

	000s	%
Not fuel poor	1,912	87
Fuel poor	225	10

Table 7.16 Modelled prevalence of extreme fuel poverty after WD and CHP applied

	000s
Fuel poor but not Extreme fuel poor	174
Extreme fuel poor	51

Table 7.17 Changes in fuel poverty if households remaining fuel poor after WD improvements then receive CHP (if eligible)

	000s	%
Not fuel poor after CHP	13†	60
Remain fuel poor After CHP	9†	40
Total	22	100

7.5 Replacing Partial Central Heating with Full

Another measure which can be considered in terms of alleviating fuel poverty is the upgrading of partial central heating systems to full systems. In the analyses which follow, this measure is considered in conjunction with the application of the WD on the same basis as previous sections (ie those WD measures required in the dwelling were applied when householder was eligible).

7.5.1 Eligibility

In this section, the eligibility criteria for the CHP were used to determine eligibility for partial systems upgrade, in order to facilitate the analysis. Table 7.18 sets out the relationships between fuel poverty, presence of partial systems and CHP eligibility.

Fuel Poverty in Scotland

Table 7.18 Fuel poverty by presence of partial central heating by CHP eligibility

			Eligibility for Central Heating Programme		
			Not eligible	Eligible	Total
			000s	000s	000s
Not fuel poor	Has Partial Central Heating	No	894	828	1,721
		Yes	53	76	129
		Total	947	904	1,851
Fuel poor	Has Partial Central Heating	No	54	198	252
		Yes	*	29	34
		Total	59	227	286

7.5.2 Impact of upgrading partial systems on fuel poverty

In this section, the modelled fuel costs used are those resulting from the following improvements to the dwelling:

- Partial central heating has been replaced by full central heating for those eligible for CHP and these households have also received any Warm Deal improvements required;
- WD has been given to all other households eligible for and requiring the improvements.

Table 7.19 Modelled prevalence of fuel poverty after partial CH replaced by full and WD applied

	000s	%
Not fuel poor	1,907	87
Fuel poor	230	11

Table 7.20 Modelled prevalence of extreme fuel poverty after partial CH replaced by full and WD applied

	000s
Fuel poor but not Extreme fuel poor	179
Extreme fuel poor	51

Table 7.21 Changes in fuel poverty if households remaining fuel poor after WD improvements then have partial CH upgraded to full if eligible for CHP

	000s	%
No longer fuel poor	8†	35
Remain fuel poor	16	65
Total	24	100

7.6 Replacing single glazing with double glazing

The final measure which will be considered here is the replacement of single glazing with double glazing.

7.6.1 Eligibility

In this section, the eligibility criteria for the WD were used to determine eligibility for glazing upgrade, in order to facilitate the analysis. Table 7.22 sets out the relationships between fuel poverty, presence of single glazing and WD eligibility.

Table 7.22 For households requiring double glazing: Fuel Poverty by Warm Deal Eligibility

	Eligibility for Warm Deal					
	Not eligible		Full grant		25% grant	
	000s	%	000s	%	000s	%
Not fuel poor	172	90	103	73	40	57
Fuel poor	18	10	38	27	30	43

7.6.2 Impact on fuel poverty of double glazing

Tables 7.23 and 7.24 set out the impact on modelled estimates of the fuel poor and extremely fuel poor if double glazing is applied.

Table 7.23 Modelled prevalence of Fuel Poverty after Double Glazing applied using Warm Deal eligibility criteria

	000s	%
Not fuel poor	1,861	85
Fuel poor	275	13

Table 7.24 Modelled prevalence of Extreme Fuel Poverty after Double Glazing applied using Warm Deal eligibility criteria

	000s
Fuel poor but not Extremely fuel poor	210
Extremely fuel poor	65

Table 7.25 Changes in fuel poverty if households with single glazing which are eligible for WD improvements receive double glazing

	000s	%
No longer fuel poor	11†	16
Remain fuel poor	57	84
Total	68	100

7.7 Summary

The following table summarises the reduction in the fuel poverty estimate resulting from our models of each package of improvements.

Table 7.26 Summary of reduction in Fuel Poverty estimate resulting from modelled interventions

Modelled Package of Improvements	Reduction in FP estimate (000s)
Warm Deal (WD) – Model with CWI to 50% of flats	48
Warm Deal – Model with CWI to 100% of flats	52
WD + loft insulation for dwellings with solid walls	49
WD + CHP	61
WD + Upgrade partial central heating	56
Double glazing	11

ⁱ BREDEM – BRE Domestic Energy Model: background, philosophy and description by B.R.Anderson, A.J. Clark, R Baldwin and N.O. Milbank; 1985

Annex A: Sampling error

Introduction

All sample surveys produce estimates of the proportions within the population as a whole. These estimates may differ from the true rate of prevalence in the population. It is important to know the extent of this possible divergence – known as **sampling error** – when interpreting the estimates.

The large size of the total sample for the SHCS results in minimal sampling error overall, such that a fair degree of confidence may be expressed in the majority of estimates reported here. However, for subgroups, particularly small categories such as the private rented sector, or subcategories of variables, it may have a greater impact, affecting the conclusions which may be drawn from the figures in this report.

One approach to assessing sampling error is to calculate a **confidence interval**. This is a range around the estimate within which there is a specified probability that the true value lies. For example, there is a 95% chance that the true figure lies within the boundaries of the 95% confidence interval.

Using confidence intervals

It is important to take sampling error into account when comparing two estimates. In particular it should be noted that where one reported figure or percentage is only slightly higher or lower than another, it is not possible to conclude from that that the difference is real. For example, in **Chapter 7**, it is reported that approximately 6% of households that have no children and 5% of households with three or more children live in dwellings where some dampness is present. It would not be valid to state that households with no children are more likely to live in dwellings with damp than those households with three or more children, however, because of the confidence interval around the difference between the two estimates.

Calculating whether or not two confidence intervals from two estimates overlap is not a valid way to test if the difference between two estimates is real. Instead, the confidence interval surrounding the **difference** should be calculated.

The report does not state confidence intervals for every result. Instead, the sections below explain how users can roughly estimate the relevant confidence interval for any of the statistics listed in the main report (except where an alternative approach is specified in the text). It is important to note that as all reported figures have been rounded to the nearest 1,000, confidence intervals surrounding the figures will inevitably be compromised. Furthermore, the confidence intervals given assume a normal distribution, which may not always be the case: for example, financial estimates are not normally distributed (these estimates are therefore reported in terms of median, mean and percentile distributions).

Percentages

The confidence interval for a percentage can be calculated by adding and subtracting a number from the estimated percentage quoted in the text. The number is obtained from the look-up table provided on the facing page. It depends on the value of the estimated percentage and the unweighted number of dwellings on which the percentage is based (all sample bases are listed in the next section).

Table T4.1 is a look-up table for calculating confidence intervals. The figure given is one side of an estimated 95% confidence interval surrounding that percentage and should be both subtracted from and added to each reported percentage to give a confidence interval.

Look-up table for calculating confidence intervals

Unweighted number of dwellings	Percentages												
	1	5	10	20	30	40	50	60	70	80	90	95	99
15,168	0.16	0.35	0.48	0.64	0.73	0.78	0.80	0.78	0.73	0.64	0.48	0.35	0.16
5,000	0.16	0.35	0.48	0.64	0.73	0.78	0.80	0.78	0.73	0.64	0.48	0.35	0.16
12,500	0.17	0.38	0.53	0.70	0.80	0.86	0.88	0.86	0.80	0.70	0.53	0.38	0.17
10,000	0.20	0.43	0.59	0.78	0.90	0.96	0.98	0.96	0.90	0.78	0.59	0.43	0.20
9,000	0.21	0.45	0.62	0.83	0.95	1.01	1.03	1.01	0.95	0.83	0.62	0.45	0.21
8,000	0.22	0.48	0.66	0.88	1.00	1.07	1.10	1.07	1.00	0.88	0.66	0.48	0.22
7,000	0.23	0.51	0.70	0.94	1.07	1.15	1.17	1.15	1.07	0.94	0.70	0.51	0.23
6,000	0.25	0.55	0.76	1.01	1.16	1.24	1.27	1.24	1.16	1.01	0.76	0.55	0.25
5,000	0.28	0.60	0.83	1.11	1.27	1.36	1.39	1.36	1.27	1.11	0.83	0.60	0.28
4,000	0.31	0.68	0.93	1.24	1.42	1.52	1.55	1.52	1.42	1.24	0.93	0.68	0.31
3,000	0.36	0.78	1.07	1.43	1.64	1.75	1.79	1.75	1.64	1.43	1.07	0.78	0.36
2,000	0.44	0.96	1.31	1.75	2.01	2.15	2.19	2.15	2.01	1.75	1.31	0.96	0.44
1,000	0.62	1.35	1.86	2.48	2.84	3.04	3.10	3.04	2.84	2.48	1.86	1.35	0.62
900	0.65	1.42	1.96	2.61	2.99	3.20	3.27	3.20	2.99	2.61	1.96	1.42	0.65
800	0.69	1.51	2.08	2.77	3.18	3.39	3.46	3.39	3.18	2.77	2.08	1.51	0.69
700	0.74	1.61	2.22	2.96	3.39	3.63	3.70	3.63	3.39	2.96	2.22	1.61	0.74
600	0.80	1.74	2.40	3.20	3.67	3.92	4.00	3.92	3.67	3.20	2.40	1.74	0.80
500	0.87	1.91	2.63	3.51	4.02	4.29	4.38	4.29	4.02	3.51	2.63	1.91	0.87
400	0.98	2.14	2.94	3.92	4.49	4.80	4.90	4.80	4.49	3.92	2.94	2.14	0.98
300	1.13	2.47	3.39	4.53	5.19	5.54	5.66	5.54	5.19	4.53	3.39	2.47	1.13
200	1.38	3.02	4.16	5.54	6.35	6.79	6.93	6.79	6.35	5.54	4.16	3.02	1.38
100	1.95	4.27	5.88	7.84	8.98	9.60	9.80	9.60	8.98	7.84	5.88	4.27	1.95

Annex B: Sample Bases

Chapter 2

Fuel poverty by banded NHER

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
poor	739	590	16
moderate	7698	1333	114
good	4226	203	46

Fuel poverty by age of dwelling

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Pre 1919	2035	631	111
1919-1944	1822	322	62
1945-1964	3316	487	75
1965-1982	3377	524	81
1982-1997	1658	142	42
Post 1997	455	20	8

Fuel poverty by type of dwelling

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Detached houses	2483	727	93
Semi-detached hses	2930	456	87
Terraced houses	3169	391	69
Tenement	2337	296	81
4-in-block	1321	152	31
Flat converted bld	174	48	6
Tower/Slab	249	56	12

Central heating and fuel type by fuel poverty

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Full gas CH	8775	835	155
Full elec CH	1421	367	71
Full other fuel CH	1111	376	43
Part gas or other CH	253	69	10
Partial elec CH	693	211	35
Gas fires	154	36	14
Elec heaters	166	147	25
Other heaters	66	82	23
Unobserved	24	3	3

Loft insulation (including imputed) by fuel poverty

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
None	596	297	48
25mm	353	82	8
50mm	1030	200	27
75mm	936	158	27
100mm	3644	571	112
150mm	2265	331	39
200mm	848	101	19
>200mm	333	40	10
Not Applicable	2559	324	86
Unobtainable	99	22	3

Fuel poor households by glazing

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Single	1986	546	94
Double/Triple	10677	1580	285

Fuel poverty by tenure

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Owner occupier	7759	1368	205
LA/Other public	3353	473	85
HA/Housing coop	904	85	24
Private renter	647	200	65

Fuel poverty by location of dwelling

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Rural	2374	756	130
Urban	10289	1370	249

Fuel poverty by household type

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Single adult	1692	308	70
Small adult	2293	177	50
Single parent	778	64	25
Small family	2119	68	26
Large family	1083	68	25
Large adult	1375	157	54
Older smaller	1738	512	65
Single pensioner	1585	772	64

Fuel poverty by grouped age of HH

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
16-24	409	59	32
25-39	3362	166	66
40-59	5141	490	126
60-64	942	225	34
65-74	1615	596	57
75-80	691	343	34
81+	503	247	30

Fuel poverty by income band

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
< £100 p.w.	98	579	105
£100 -199.99 p.w.	2724	1211	59
£200 -299.99 p.w.	2955	239	60
£300 -399.99 p.w.	2268	63	31
£400 -499.99 p.w.	1647	24	19
£500 -699.99 p.w.	1860	9	16
£700+	1111	1	7

Extreme Fuel Poverty by banded NHER

	Extreme Fuel Poor
poor	196
moderate	298
good	34
total	528

Extreme Fuel Poverty by tenure

	Extreme Fuel Poor	
Owner occupier	394	9127
LA/Other public	64	3826
HA/Housing coop	9	989
Private renter	61	847
Total	528	14789

Extreme Fuel Poverty by household type

	Extreme Fuel Poor
Single adult	65
Small adult	46
Single parent	9
Small family	9
Large family	13
Large adult	45
Older smaller	125
Single pensioner	216
Total	528

Extreme Fuel Poverty by banded household income

	Extreme Fuel Poor
< £100 p.w.	295
£100 -199.99 p.w.	201
£200 -299.99 p.w.	26
£300 -399.99 p.w.	2
£400 -499.99 p.w.	3
£500 -699.99 p.w.	1
£700+	0
Total	528

Extreme Fuel Poverty by grouped age of HH

	Extreme Fuel Poor
16-24	16
25-39	24
40-59	108
60-64	61
65-74	154
75-80	100
81+	65
Total	528

Extreme Fuel Poverty by age of dwelling

	Extreme Fuel Poor
Pre 1919	207
1919-1944	95
1945-1964	92
1965-1982	106
1983-1997	26
Post 1997	2
Total	528

Extreme Fuel Poverty by type of dwelling

	Extreme Fuel Poor
Detached houses	271
Semi-detached hses	68
Terraced houses	82
Tenement	56
4-in-block	30
Flat converted bld	11
Tower/Slab	10
Total	528

Extreme Fuel Poverty by location of dwelling

	Extreme Fuel Poor
Rural	241
Urban	287
Total	528

Extreme Fuel Poverty by type of heating

	Extreme Fuel Poor
Full gas CH	172
Full elec CH	72
Full other fuel CH	114
Part gas or other CH	19
Partial elec CH	61
Gas fires	7
Elec heaters	39
Other heaters	44
Unobserved	0
Total	528

Extreme Fuel Poverty by extent of loft insulation

	Extreme Fuel Poor
None	119
25mm	25
50mm	56
75mm	47
100mm	132
150mm	62
200mm	18
>200mm	6
Not Applicable	59
Unobtainable	4
Total	528

Extreme Fuel Poverty by extent of glazing

	Extreme Fuel Poor
Single	165
Double or more	363
Total	528

Chapter 3

Sample bases are not provided for the estimates of individual effects of changes in fuel costs and income, as the adjustments made to obtain those estimates will be subject to error in addition to sampling error.

Fuel Poverty in 2002 using 1996 definition

Not fuel poor	13312
Fuel poor	1489
Missing	367
Total	15168

Chapter 4

Prevalence of fuel poor if HB and ISMI excluded from income

Fuel Poor	2656
-----------	------

Fuel poverty (exc HB and ISMI) by banded NHER

	Fuel Poor
poor	637
moderate	1665
good	354
total	2656

Fuel poverty (exc. HB and ISMI) by tenure

	Not Fuel Poor	Fuel Poor
Owner occupier	7751	1376
LA/Other public	2963	863
HA/Housing coop	819	170
Private renter	600	247
Total	12133	2656

Fuel poverty (exc. HB and ISMI) by household type

	Not Fuel Poor	Fuel Poor
Single adult	1520	480
Small adult	2269	201
Single parent	691	151
Small family	2092	95
Large family	1071	80
Large adult	1362	170
Older smaller	1709	541
Single pensioner	1419	938
Total	12133	2656

Fuel poverty (exc. HB and ISMI) by grouped age of HH

	Not Fuel Poor	Fuel Poor
16-24	371	97
25-39	3251	277
40-59	4972	659
60-64	906	261
65-74	1535	676
75-80	640	394
81+	458	292
Total	12133	2656

Fuel poverty (exc. HB and ISMI) by age of dwelling

	Not Fuel Poor	Fuel Poor
Pre 1919	1987	679
1919-1944	1736	408
1945-1964	3103	700
1965-1982	3235	666
1983-1997	1621	179
Post 1997	451	24
Total	12133	2656

Fuel poverty (exc. HB and ISMI) by type of dwelling

	Not Fuel Poor	Fuel Poor
Detached houses	2472	738
Semi-detached hses	2830	556
Terraced houses	3042	518
Tenement	2169	464
4-in-block	1240	233
Flat converted bld	172	50
Tower/Slab	208	97
Total	12133	2656

Fuel poverty (exc. HB and ISMI) by location

		Not Fuel Poor	Fuel Poor
Rural	Count	2311	819
Urban	Count	9822	1837
Total	Count	12133	2656

Fuel poverty (exc. HB and ISMI) by central heating type

	Not Fuel Poor	Fuel Poor
Full gas CH	8488	1122
Full elec CH	1298	490
Full other fuel CH	1086	401
Part gas or other CH	241	81
Partial elec CH	647	257
Gas fires	139	51
Elec heaters	145	168
Other heaters	66	82
Unobserved	23	4
Total	12133	2656

Fuel poverty (exc. HB and ISMI) by extent of loft insulation

	Not Fuel Poor	Fuel Poor
None	574	319
25mm	347	88
50mm	999	231
75mm	910	184
100mm	3531	684
150mm	2193	403
200mm	797	152
>200mm	316	57
Not Applicable	2371	512
Unobtainable	95	26
Total	12133	2656

Fuel poverty (exc. HB and ISMI) by extent of glazing

	FP (excluding ismi/hb)	
	Not Fuel Poor	Fuel Poor
Single	1871	661
Double or more	10262	1995
Total	12133	2656

Prevalence of fuel poverty if all housing costs deducted

Not Fuel Poor	11558
Fuel Poor	3231
Missing	379
Total	15168

Prevalence of fuel poverty if DLA excluded from income

Not Fuel Poor	12541
Fuel Poor	2241
Missing	386
Total	15168

Prevalence of fuel poverty with underoccupancy adjustment

Not Fuel Poor	12842
Fuel Poor	1947
Missing	379
Total	15168

Prevalence of fuel poverty with underoccupancy adjustment by household type

Single adult	291
Small adult	160
Single parent	63
Small family	60
Large family	57
Large adult	148
Older smaller	450
Single pensioner	718

Chapter 5

Households with modelled fuel costs of 8-10% of income by household type

Single adult	189
Small adult	96
Single parent	68
Small family	73
Large family	44
Large adult	89
Older smaller	249
Single pensioner	359
Total	1167

Households with modelled fuel costs of 8-10% of income by tenure

Owner occupier	579
LA/Other public	421
HA/Housing coop	67
Private renter	100
Total	1167

Households with modelled fuel costs of 8-10% of income by age of dwelling

Pre 1919	211
1919-1944	213
1945-1964	360
1965-1982	287
1983-1997	78
Post 1997	18
Total	1167

Households with modelled fuel costs of 8-10% of income by age of HH

16-24	35
25-39	156
40-59	298
60-64	125
65-74	286
75-80	158
81+	109
Total	1167

Households with modelled fuel costs of 10-13% of income by household type

	Count
Single adult	136
Small adult	77
Single parent	38
Small family	35
Large family	31
Large adult	60
Older smaller	193
Single pensioner	296
Total	866

Households with modelled fuel costs of 10-13% of income by tenure

Owner occupier	494
LA/Other public	257
HA/Housing coop	45
Private renter	70
Total	866

Households with modelled fuel costs of 10-13% of income by age of dwelling

Pre 1919	213
1919-1944	131
1945-1964	236
1965-1982	218
1983-1997	55
Post 1997	13
Total	866

Households with modelled fuel costs of 10-13% of income by age of HiH

16-24	19
25-39	84
40-59	234
60-64	85
65-74	212
75-80	128
81+	104
Total	866

Chapter 6

Fuel poverty by number of people in household, number of dependent children and bedroom standard

Number of people in household, grouped	1	3277	1080
	2	4434	731
	3	2143	167
	4	1985	95
	5 or more	824	53
Number of dependent children	0	8357	1907
	1	1828	113
	2	1787	62
	3	551	35
	4+	140	9
Bedroom standard	3+ above standard	699	249
	2 above standard	2131	565
	1 above standard	4863	798
	Equal to standard	4345	442
	Below standard	622	72
	Unknown	3	

Fuel poverty and benefits

		Not fuel poor	Fuel poor
In receipt of any benefits	Yes	8974	1819
	No	3498	270
	Don't know	26	6
	Refused	165	31
receives benefit other than child benefit	no	6347	421
	yes	6316	1705
receives Disabled Living Allowance	no	11562	2027
	yes	1101	99

Fuel poverty by receipt of benefits

	Not fuel poor	Fuel poor
Income Support	1662	272
Working Families tax credit	594	15
Jobseekers Allowance	196	111
Housing Benefit	2604	391
Council Tax Benefit	2929	609
Earnings Top-Up	1	0
Child Benefit	3180	112
Child Ben (1 parent rate)	919	82
Maternity Allowance	11	1
State Retirement Pension	3163	1168
Statutory Maternity Pay	30	1
Other state benefit	103	20
Widow's payment	26	11
Widowed mother's allowance	23	1
Widow's pension	205	96
Incapacity Benefit	1037	120
Disabled person's tax credit	19	1
Disability Living - Care	727	58
Disability Living -Mobility	816	59
Industrial injury/disablement ben	118	16
Invalid care allowance	177	16
Severe Disablement benefit	117	10
Statutory Sick Pay	44	0
War Disablement benefit	74	14
Disability premium including IS/HB	76	2
Attendance allowance	400	62
Other benefit for disabilities	22	4

Fuel poverty by number of benefits received by household

	Not fuel poor	Fuel poor
No benefits	3845	345
1 benefit	4465	946
More than 1 benefit	4353	835

Benefits received by fuel poor households receiving only 1 benefit

	Not fuel poor	Fuel poor
Income Support	935	11
Working Families tax credit	946	0
Jobseekers Allowance	930	16
Housing Benefit	940	6
Council Tax Benefit	934	12
Earnings Top-Up	946	0
Child Benefit	884	62
Child Ben (1 parent rate)	932	14
Maternity Allowance	946	0
State Retirement Pension	205	741
Statutory Maternity Pay	945	1
other state benefit	943	3
Widow's payment	944	2
Widowed mother's allowance	946	0
Widow's pension	908	38
Incapacity Benefit	919	27
Disabled person's tax credit	946	0
Disability Living - Care	941	5
Disability Living -Mobility	944	2
Industrial injury/disablement ben	945	1
Invalid care allowance	945	1
Severe Disablement benefit	946	0
Statutory Sick Pay	946	0
War Disablement benefit	944	2
Disability premium inc IS/HB	946	0
Attendance allowance	944	2
Other benefit for disabilities	946	0

Fuel poverty by benefit groups

	Not fuel poor	Fuel poor
Household receives income related benefit	3299	743
Household receives income related state support	3787	754
Household receives non-income related benefit	8379	1575
HIH spouse over 60 - Household receives Retirement pension and other benefits	3495	1300
HIH/spouse under 60 -Household receives any working age benefit	5024	449
HIH/spouse under 60 - Household receives any sickness/disability benefit	1203	123

Fuel poverty by benefit dependency

		Not fuel poor	Fuel poor
Benefit dependency	Unavailable	147	62
	Independent	6438	349
	Low dependency	2082	217
	Moderate dependency	1455	491
	High dependency	2541	1007
Benefit dependency - excluding CB	Unavailable	147	62
	Independent	6666	382
	Low dependency	1955	188
	Moderate dependency	1743	557
	High dependency	2152	937

Fuel poverty by self-reported long-term illness/disability

		Not fuel poor	Fuel poor
Any long term sick-disabled	No	8109	1206
	Yes	4554	920
vision	No	12285	2044
	Yes	378	82
hearing	No	12274	2048
	Yes	389	78
learning difficulty	No	12530	2106
	Yes	133	20
mobility / other physical impairment	No	10498	1694
	Yes	2165	432
mental health problem	No	12296	2074
	Yes	367	52
respiratory problem	No	11213	1900
	Yes	1450	226
circulatory problem	No	11209	1748
	Yes	1454	378
other	No	11772	1946
	Yes	891	180

Fuel poverty by income for households where HH/spouse are over 60

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
< £100	30	336	38
£100 -199.99	1488	905	34
£200 -299.99	1259	147	29
£300 -399.99	559	30	7
£400 -499.99	276	11	2
£500 -699.99	223	3	6
£700+	99	0	2

Fuel poverty by bedroom standard for households where HH/spouse are over 60

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
3+ above standard	208	173	16
2 above standard	883	450	36
1 above standard	1690	585	66
Equal to standard	1067	210	36
Below standard	86	14	4

Fuel poverty by tenure for households where HH/spouse are over 60

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Owner occupier	2138	1070	95
LA/Other public	1333	232	36
HA/Housing coop	325	38	12
Private renter	138	92	15

Fuel poverty by age of dwelling for households where HIH/spouse are over 60

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Pre-1919	436	385	34
1919-1944	692	237	32
1945-1964	1193	330	35
1965-1974	709	228	21
1975-1982	363	138	10
1983-1990	266	52	16
1991-1997	186	46	3
post-1997	89	16	7

Fuel poverty by householder lives alone where HIH/spouse are over 60

	Fuel poverty flag		
	Not fuel poor	Fuel poor	Missing
Yes	1696	802	68
No	2238	630	90

HIH over 60 in under-occupied dwellings

pre-1919	301
1919-1944	214
1945-1964	288
1965-1982	302
1983-1997	72
Post 1997	13

Fuel poor households according to HIH age and tenure

	Tenure			
	Owner occupier	LA/Other public	HA/Housing coop	Private renter
Neither HIH nor spouse are age 60 or over	298	241	47	108
either HIH nor spouse are age 60 or over	1070	232	38	92

Fuel poor households by household type (non-elderly, private rented tenures only)

Single adult	138
Small adult	91
Single parent	24
Small family	43
Large family	46
Large adult	57
Older smaller	7

Fuel poor households by tenure (non-elderly, private rented tenures only)

Owner occupier	298
Private renter	108

Fuel poor households by HIH age (non-elderly, private rented tenures only)

Age of HIH: 16-24	28
Age of HIH: 25-39	89
Age of HIH: 40-59	289

Fuel poor households LTS/D (non-elderly, private rented tenures only)

No sick-disabled	275
Yes sick-disabled	131

Fuel poor households by single person household (non-elderly, private rented tenures only)

Respondent lives alone	138
Respondent does not live alone	268

Fuel poor households by children under 5 (non-elderly, private rented tenures only)

No children under 5	367
At least one child under 5	39

Fuel poor households by HIH sex (non-elderly, private rented tenures only)

Male HIH	230
Female HIH	176

Fuel poor households by central heating (non-elderly, private rented tenures only)

Full central heating	285
Partial central heating	43
none	78

Fuel poor households by income band and level of central heating

		Full CH	Partial CH	No CH	unknown
Not fuel poor	< £100	93	4	1	
	£100 -199.99	2398	220	102	4
	£200 -299.99	2547	278	121	9
	£300 -399.99	1994	196	75	3
	£400 -499.99	1483	122	39	3
	£500 -699.99	1730	96	30	4
	£700+	1062	30	18	1
Fuel poor	< £100	440	86	52	1
	£100 -199.99	902	152	155	2
	£200 -299.99	172	31	36	
	£300 -399.99	40	6	17	
	£400 -499.99	16	4	4	
	£500 -699.99	7	1	1	
	£700+	1			

Fuel poor households by income band and presence of children under five years

		No children under 5	At least 1 child under 5
Not fuel poor	< £100	97	1
	£100 -199.99	2527	197
	£200 -299.99	2683	272
	£300 -399.99	1951	317
	£400 -499.99	1389	258
	£500 -699.99	1541	319
	£700+	919	192
Fuel poor	< £100	568	11
	£100 -199.99	1187	24
	£200 -299.99	224	15
	£300 -399.99	57	6
	£400 -499.99	18	6
	£500 -699.99	8	1
	£700+	1	

Fuel poor households by income band and HH/spouse age

		No over 60s	Over 60
Not fuel poor	< £100	68	30
	£100 -199.99	1236	1488
	£200 -299.99	1696	1259
	£300 -399.99	1709	559
	£400 -499.99	1371	276
	£500 -699.99	1637	223
	£700+	1012	99
Fuel poor	< £100	243	336
	£100 -199.99	306	905
	£200 -299.99	92	147
	£300 -399.99	33	30
	£400 -499.99	13	11
	£500 -699.99	6	3
	£700+	1	

Fuel poor households by income band and presence of long-term sick or disabled person

		No LTI/disabled	At least 1 LTI/D
Not fuel poor	< £100	59	39
	£100 -199.99	1372	1352
	£200 -299.99	1599	1356
	£300 -399.99	1513	755
	£400 -499.99	1210	437
	£500 -699.99	1451	409
	£700+	905	206
Fuel poor	< £100	354	225
	£100 -199.99	659	552
	£200 -299.99	133	106
	£300 -399.99	39	24
	£400 -499.99	15	9
	£500 -699.99	6	3
	£700+		1

Fuel poor households by income band and tenure

		Owner occupier	LA/other social	HA/housing coop	Private renter
Not fuel poor	< £100	6	64	15	13
	£100 -199.99	732	1504	332	156
	£200 -299.99	1410	1043	310	192
	£300 -399.99	1516	467	146	139
	£400 -499.99	1355	166	51	75
	£500 - 699.99	1682	88	40	50
	£700+	1058	21	10	22
Fuel poor	< £100	317	181	32	49
	£100 -199.99	785	265	49	112
	£200 299.99	185	24	3	27
	£300 -399.99	51	3	0	9
	£400 -499.99	20	0	1	3
	£500 -699.99	9	0	0	0
	£700+	1	0	0	0

Fuel poor households by income band and single person household

		Single person household	More than one person in household
Not fuel poor	< £100	74	24
	£100 -199.99	1583	1141
	£200 -299.99	947	2008
	£300 -399.99	416	1852
	£400 -499.99	140	1507
	£500 -699.99	85	1775
	£700+	32	1079
Fuel poor	< £100	382	197
	£100 -199.99	628	583
	£200 -299.99	60	179
	£300 -399.99	5	58
	£400 -499.99	5	19
	£500 -699.99	0	9
	£700+	0	1

Fuel poverty by income, central heating and tenure

income	extent of central heating	Tenure	Fuel poverty	Count
<£100	full	Owner occupier	Not fuel poor	6
			Fuel poor	247
			Missing	37
		LA/Other public	Not fuel poor	64
			Fuel poor	142
			Missing	19
		HA/Housing coop	Not fuel poor	15
			Fuel poor	25
			Missing	10
	Private renter	Not fuel poor	12	
		Fuel poor	30	
		Missing	19	
	partial	Owner occupier	Not fuel poor	2
			Fuel poor	42
			Missing	6
		LA/Other public	Not fuel poor	2
			Fuel poor	34
			Missing	3
HA/Housing coop		Not fuel poor	2	
		Fuel poor	7	
		Missing	2	
Private renter	Not fuel poor	2		
	Fuel poor	7		
	Missing	6		
none	Owner occupier	Not fuel poor		1

			Fuel poor	30
			Missing	9
		LA/Other public	Not fuel poor	1
			Fuel poor	8
			Missing	1
		HA/Housing coop	Not fuel poor	1
			Fuel poor	3
			Missing	1
		Private renter	Not fuel poor	2
			Fuel poor	15
			Missing	4
£100-199	full	Owner occupier	Not fuel poor	630
			Fuel poor	624
			Missing	16
		LA/Other public	Not fuel poor	1355
			Fuel poor	185
			Missing	18
		HA/Housing coop	Not fuel poor	299
			Fuel poor	32
			Missing	4
		Private renter	Not fuel poor	118
			Fuel poor	65
			Missing	3
	partial	Owner occupier	Not fuel poor	68
			Fuel poor	85
			Missing	3
		LA/Other public	Not fuel poor	111
			Fuel poor	46
			Missing	3
		HA/Housing coop	Not fuel poor	29
			Fuel poor	12
			Missing	1
		Private renter	Not fuel poor	16
			Fuel poor	13
			Missing	4
	none	Owner occupier	Not fuel poor	37
			Fuel poor	77
			Missing	7
		LA/Other public	Not fuel poor	37
			Fuel poor	37
			Missing	5
		HA/Housing coop	Not fuel poor	7
			Fuel poor	8
			Missing	3
		Private renter	Not fuel poor	25
			Fuel poor	37
			Missing	3
£200-299	full	Owner occupier	Not fuel poor	1233

			Fuel poor	146
			Missing	17
		LA/Other public	Not fuel poor	905
			Fuel poor	8
			Missing	13
		HA/Housing coop	Not fuel poor	269
			Fuel poor	3
			Missing	3
		Private renter	Not fuel poor	144
			Fuel poor	19
			Missing	6
	partial	Owner occupier	Not fuel poor	123
			Fuel poor	22
			Missing	7
		LA/Other public	Not fuel poor	106
			Fuel poor	8
			Missing	3
		HA/Housing coop	Not fuel poor	29
			Fuel poor	2
			Missing	2
		Private renter	Not fuel poor	24
			Fuel poor	3
			Missing	3
	none	Owner occupier	Not fuel poor	54
			Fuel poor	20
			Missing	7
		LA/Other public	Not fuel poor	32
			Fuel poor	11
			Missing	3
		HA/Housing coop	Not fuel poor	15
			Fuel poor	1
			Missing	2
		Private renter	Not fuel poor	24
			Fuel poor	8
			Missing	5
£300+	full	Owner occupier	Not fuel poor	5191
			Fuel poor	56
			Missing	31
		LA/Other public	Not fuel poor	644
			Fuel poor	3
			Missing	11
		HA/Housing coop	Not fuel poor	223
			Fuel poor	2
			Missing	3
		Private renter	Not fuel poor	215
			Fuel poor	7
			Missing	4
	partial	Owner occupier	Not fuel poor	300

			Fuel poor	12
			Missing	10
		LA/Other public	Not fuel poor	80
			Fuel poor	1
			Missing	1
		HA/Housing coop	Not fuel poor	24
			Fuel poor	1
			Missing	1
		Private renter	Not fuel poor	44
			Fuel poor	1
			Missing	1
	none	Owner occupier	Not fuel poor	114
			Fuel poor	16
			Missing	13
		LA/Other public	Not fuel poor	20
			Fuel poor	2
			Missing	4
		HA/Housing coop	Not fuel poor	2
			Fuel poor	1
			Missing	1
		Private renter	Not fuel poor	30
			Fuel poor	7
			Missing	4

Chapter 7

Any Warm Deal improvement required by Eligibility for Warm Deal by fuel poverty

			Eligibility for Warm Deal			Total
			Not eligible	Full grant	25% grant	
Not fuel poor	Any Warm Deal improvement required	None	788	845	279	1912
		At least one	5469	3497	1785	10751
Total			6257	4342	2064	12663
Fuel poor	Any Warm Deal improvement required	None	29	82	79	190
		At least one	300	761	875	1936
Total			329	843	954	2126

Any Warm Deal improvement required (excluding draught-proofing) by Eligibility for Warm Deal by fuel poverty

			Eligibility for Warm Deal			Total
			Not eligible	Full grant	25% grant	
Not fuel poor	Any Warm Deal improvement required (excluding draught-proofing)	None	1048	1029	341	2418
		At least one	5209	3313	1723	10245
Total			6257	4342	2064	12663
Fuel poor	Any Warm Deal improvement required (excluding draught-proofing)	None	52	139	101	292
		At least one	277	704	853	1834
Total			329	843	954	2126

Fuel Poor households which require a Warm Deal improvement but are not eligible by household type

Single adult	91
Small adult	70
Single parent	11
Small family	38
Large family	31
Large adult	53
Older smaller	6
Total	300

Fuel Poor households which require a Warm Deal improvement but are not eligible by tenure

Owner occupier	188
LA/Other public	43
HA/Housing coop	8
Private renter	38
Total	277

Fuel Poor households which require a Warm Deal improvement but are not eligible by date of construction

Pre 1919	118
1919-1944	35
1945-1964	38
1965-1982	57
1983-1997	25
Post 1997	4
Total	277

Fuel Poor households which require a Warm Deal improvement but are not eligible by age gp of HH

16-24	14
25-39	56
40-59	207
Total	277

Number of Fuel Poor households after Warm Deal applied

Not Fuel Poor	13010
Fuel Poor	1779
Missing	379
Total	15168

Analysis of whether Fuel Poor households eligible for Warm Deal are taken out of Fuel Poverty after Warm Deal applied

Not Fuel Poor	347
Fuel Poor	1289
Total	1636

Analysis of whether Extreme Fuel Poor households eligible for Warm Deal are taken out of Extreme Fuel Poverty after Warm Deal applied

Fuel Poor but not Extreme Fuel Poor	101
Extreme Fuel Poor	328
Total	429

Number of Fuel Poor households after Warm Deal (with CWI to 100% of flats) applied

Not Fuel Poor	13036
Fuel Poor	1753
Missing	379
Total	15168

Analysis of whether Fuel Poor households eligible for Warm Deal are taken out of Fuel Poverty after Warm Deal (100% CWI to flats) applied

Not Fuel Poor	373
Fuel Poor	1263
Total	1636

Fuel poverty by solid wall dwellings to which loft insulation could be added by WD eligibility

			Eligibility for Warm Deal			Total
			Not eligible	Full grant	25% grant	
Not fuel poor	Solid wall dwellings for improvement	Not solid wall/cannot add loft insulation	5071	3999	1762	10832
		Solid wall and loft insulation can be added	1186	343	302	1831
	Total		6257	4342	2064	12663
Fuel poor	Solid wall dwellings for improvement	Not solid wall/cannot add loft insulation	193	644	645	1482
		Solid wall and loft insulation can be added	136	199	309	644
	Total		329	843	954	2126

Number of fuel poor households after Warm Deal and solid wall improvement applied

Not Fuel Poor	13016
Fuel Poor	1773
Missing	379
Total	15168

Full Central Heating needed by Eligibility for Central Heating Programme by Fuel poverty

Fuel poverty flag			Eligibility for Central Heating Programme		Total
			Not eligible	Eligible	
Not fuel poor	Full Central Heating needed	Not required	5915	6362	12277
		Required	215	171	386
	Total			6130	6533
Fuel poor	Full Central Heating needed	Not required	328	1533	1861
		Required	78	187	265
	Total			406	1720

Number of fuel poor households after CHP and Warm Deal applied

Not Fuel Poor	13103
Fuel Poor	1686
Missing	379
Total	15168

Number of extremely fuel poor households after CHP and Warm Deal applied

Fuel Poor but not Extreme Fuel Poor	1302
Extreme Fuel Poor	384

Analysis of whether Fuel Poor after Warm Deal only and eligible for CHP are taken out of Fuel Poverty after CHP applied

Not Fuel Poor	93
Fuel Poor	68
Total	161

Has Partial Central Heating needs Full by Eligibility for Central Heating Programme by Fuel poverty

Fuel poverty			Eligibility for Central Heating Programme		Total
			Not eligible	Eligible	
Not fuel poor	Has Partial Central Heating needs Full	Not required	5742	5975	11717
		Required	388	558	946
	Total		6130	6533	12663
Fuel poor	Has Partial Central Heating needs Full	Not required	363	1483	1846
		Required	43	237	280
	Total		406	1720	2126

Number of fuel poor households after partial central heating and Warm Deal applied

Not Fuel Poor	13093
Fuel Poor	1696
Missing	379
Total	15168

Analysis of whether Fuel Poor after Warm Deal only and eligible for CHP and have partial central heating would taken out of Fuel Poverty if given full central heating

Not Fuel Poor	83
Fuel Poor	117
Total	200

Households requiring double glazing: Fuel Poverty by Warm Deal Eligibility

		Eligibility for Warm Deal		
		Not eligible	Full grant	25% grant
Fuel poverty flag	Not fuel poor	1047	679	266
	Fuel poor	106	244	214

Number of fuel poor households after Double Glazing applied

Not Fuel Poor	12735
Fuel Poor	2054
Missing	379
Total	15168

Number of extremely fuel poor households after Double Glazing applied

Not Fuel Poor	12735
Fuel Poor but not Extremely Fuel Poor	1548
Extremely Fuel Poor	506
Missing	379
Total	15168

Analysis of whether Fuel Poor eligible for Warm Deal and need double glazing would be taken out of Fuel Poverty if given double glazing

Not Fuel Poor	72
Fuel Poor	386
Total	458

Revised main report Chapter 11 Sample Bases

(note the majority of the sample bases for Chapter 11 of the main report are to be found in the sample bases for Chapter 2 of this report as the same analysis was conducted for both.)

NHER by fuel poverty using 96 definition

	Fuel poverty using 96 definition		
	Not fuel poor	Fuel poor	Missing
Poor	835	494	16
Moderate	8161	880	104
Good	4316	115	44

Age of dwelling by fuel poverty using 96 definition

	Fuel poverty using 96 definition		
	Not fuel poor	Fuel poor	Missing
Pre 1919	2196	475	106
1919-1944	1919	226	61
1945-1964	3480	325	73
1965-1982	3542	361	79
1982-1997	1709	91	42
Post 1997	466	11	6

Type of dwelling by Fuel poverty using 96 definition

	Fuel poverty using 96 definition		
	Not fuel poor	Fuel poor	Missing
Detached houses	2691	525	87
Semi-detached hses	3097	292	84
Terraced houses	3315	246	68
Tenement	2395	239	80
4-in-block	1364	110	30
Flat converted bld	189	33	6
Tower/Slab	261	44	12

Tenure by Fuel poverty using 96 definition

	Fuel poverty using 96 definition		
	Not fuel poor	Fuel poor	Missing
Owner occupier	8233	906	193
LA/Other public	3464	362	85
HA/Housing coop	930	59	24
Private renter	685	162	65

CS Rurality by Fuel poverty using 96 definition

	Fuel poverty using 96 definition		
	Not fuel poor	Fuel poor	Missing
Rural	2583	551	126
Urban	10729	938	241

Household type by Fuel poverty using 96 definition

	Fuel poverty using 96 definition		
	Not fuel poor	Fuel poor	Missing
Single adult	1747	255	68
Small adult	2351	121	48
Single parent	789	54	24
Small family	2137	50	26
Large family	1103	48	25
Large adult	1416	117	53
Older smaller	1949	305	61
Single pensioner	1820	539	62

Grouped age of HIH by Fuel poverty using 96 definition Crosstabulation

	Fuel poverty using 96 definition		
	Not fuel poor	Fuel poor	Missing
16-24	414	54	32
25-39	3398	131	65
40-59	5265	370	122
60-64	1033	139	29
65-74	1857	355	56
75-80	779	255	34
81+	566	185	29

Household Income Band by Fuel poverty using 96 definition

	Fuel poverty using 96 definition		
	Not fuel poor	Fuel poor	Missing
< £100 p.w.	151	538	93
£100 -199.99 p.w.	3137	798	59
£200 -299.99 p.w.	3082	112	60
£300 -399.99 p.w.	2304	27	31
£400 -499.99 p.w.	1662	9	19
£500 -699.99 p.w.	1865	4	16
£700+	1111	1	7

Revised Chapter 8 Unitary Authority Report

	NHER banded		
	0 - 2	3 - 6	7 - 10
Aberdeen City	47	281	126
Aberdeenshire	89	290	64
Angus	41	258	99
Argyll & Bute	69	252	74
Borders	41	240	101
Clackmannan	14	203	186
Dumfries & Galloway	39	290	75
Dundee City	48	224	127
East Ayrshire	9	247	142
East Dunbartonshire	8	300	97
East Lothian	24	245	134
East Renfrewshire	12	274	111
Edinburgh City	63	553	314
Falkirk	9	243	162
Fife	28	369	180
Glasgow City	111	746	414
Highland	67	301	48
Inverclyde	25	210	164
Midlothian	13	236	151
Moray	29	268	102
North Ayrshire	26	206	161
North Lanarkshire	19	299	283
Orkney	119	267	17
Perthshire&Kinross	49	248	94
Renfrewshire	18	243	139
Shetland	139	242	11
South Ayrshire	24	252	126
South Lanarkshire	33	402	242
Stirling	26	270	111
West Dunbartonshire	9	205	198
West Lothian	7	202	196
Western Isles	90	279	26
Scotland	1345	9145	4475

	Tenure (banded)			
	Private		Public	
	NHER (banded)		NHER – (banded)	
	1-5	6-10	1-5	6-10
Aberdeen City	183	119	65	87
Aberdeenshire	247	90	66	40
Angus	169	94	59	76
Argyll & Bute	210	71	59	55
Borders	166	110	50	56
Clackmannan	93	145	42	123
Dumfries & Galloway	198	92	65	49
Dundee City	133	93	76	97
East Ayrshire	104	121	37	136
East Dunbartonshire	163	173	22	47
East Lothian	124	146	52	81
East Renfrewshire	156	175	20	46
Edinburgh City	373	369	45	143
Falkirk	94	146	57	117
Fife	197	196	64	120
Glasgow City	286	382	293	310
Highland	235	75	78	28
Inverclyde	113	140	57	89
Midlothian	117	149	38	96
Moray	184	87	45	83
North Ayrshire	92	146	53	102
North Lanarkshire	121	230	67	183
Orkney	300	41	57	5
Perthshire&Kinross	200	100	41	50
Renfrewshire	112	151	55	82
Shetland	227	31	132	2
South Ayrshire	155	129	32	86
South Lanarkshire	219	252	88	118
Stirling	160	128	41	78
West Dunbartonshire	78	145	50	139
West Lothian	102	162	18	123
Western Isles	262	46	63	24
	5573	4534	1987	2871

	Dwelling type (banded)			
	Houses		Flats	
	1-5	6-10	1-5	6-10
Aberdeen City	137	110	111	96
Aberdeenshire	288	102	25	28
Angus	181	113	47	57
Argyll & Bute	187	78	82	48
Borders	161	115	55	51
Clackmannan	107	205	28	63
Dumfries & Galloway	236	118	27	23
Dundee City	82	87	127	103
East Ayrshire	120	187	21	70
East Dunbartonshire	160	164	25	56
East Lothian	141	172	35	55
East Renfrewshire	143	150	33	71
Edinburgh City	186	196	232	316
Falkirk	108	180	43	83
Fife	208	215	53	101
Glasgow City	143	215	436	477
Highland	288	88	25	15
Inverclyde	78	117	92	112
Midlothian	138	192	17	53
Moray	212	147	17	23
North Ayrshire	105	191	40	57
North Lanarkshire	130	290	58	123
Orkney	344	42	13	4
Perthshire&Kinross	189	112	52	38
Renfrewshire	96	135	71	98
Shetland	331	32	28	1
South Ayrshire	146	149	41	66
South Lanarkshire	220	264	87	106
Stirling	158	154	43	52
West Dunbartonshire	64	143	64	141
West Lothian	100	223	20	62
Western Isles	321	60	4	10
Scotland	5508	4746	2052	2659

	Age of dwelling (banded)			
	pre-war		post-war	
	NHER (banded)		NHER (banded)	
	1-5	6-10	1-5	6-10
Aberdeen City	107	29	141	177
Aberdeenshire	132	13	181	117
Angus	79	28	149	142
Argyll & Bute	123	32	146	94
Borders	121	41	95	125
Clackmannan	50	63	85	205
Dumfries & Galloway	119	27	144	114
Dundee City	104	64	105	126
East Ayrshire	60	45	81	212
East Dunbartonshire	70	34	115	186
East Lothian	76	52	100	175
East Renfrewshire	96	65	80	156
Edinburgh City	247	181	171	331
Falkirk	49	61	102	202
Fife	108	77	153	239
Glasgow City	267	319	312	373
Highland	121	11	192	92
Inverclyde	83	59	87	170
Midlothian	45	39	110	206
Moray	111	20	118	150
North Ayrshire	48	32	97	216
North Lanarkshire	52	87	136	326
Orkney	176	6	181	40
Perthshire&Kinross	118	21	123	129
Renfrewshire	64	43	103	190
Shetland	100		259	33
South Ayrshire	70	54	117	161
South Lanarkshire	96	63	211	307
Stirling	87	48	114	158
West Dunbartonshire	48	64	80	220
West Lothian	34	31	86	254
Western Isles	107	7	218	63
Scotland	3168	1716	4392	5689

	Type of household (banded)					
	Families		Pensioners		Other	
	NHER (banded)		NHER (banded)		NHER (banded)	
	1-5	6-10	1-5	6-10	1-5	6-10
Aberdeen City	85	80	72	51	91	75
Aberdeenshire	125	69	108	29	80	32
Angus	73	64	82	65	73	41
Argyll & Bute	86	44	104	47	79	35
Borders	61	57	81	65	74	44
Clackmannan	52	106	39	72	44	90
Dumfries & Galloway	92	62	109	43	62	36
Dundee City	64	72	64	67	81	51
East Ayrshire	41	109	46	67	54	81
East Dunbartonshire	76	114	58	57	51	49
East Lothian	62	93	53	75	61	59
East Renfrewshire	69	101	60	58	47	62
Edinburgh City	135	169	139	152	144	191
Falkirk	55	116	51	76	45	71
Fife	90	125	102	94	69	97
Glasgow City	177	267	178	209	224	216
Highland	111	36	107	30	95	37
Inverclyde	48	101	59	67	63	61
Midlothian	61	124	52	62	42	59
Moray	81	71	79	59	69	40
North Ayrshire	64	102	39	74	42	72
North Lanarkshire	76	190	65	116	47	107
Orkney	138	26	110	6	109	14
Perthshire&Kinross	65	60	93	60	83	30
Renfrewshire	50	104	66	61	51	68
Shetland	135	24	101	1	123	8
South Ayrshire	70	74	61	72	56	69
South Lanarkshire	128	169	96	100	83	101
Stirling	75	91	52	51	74	64
West Dunbartonshire	40	115	49	69	39	100
West Lothian	45	140	30	69	45	76
Western Isles	131	34	110	20	84	16
Scotland	2661	3109	2515	2144	2384	2152

	Type of heating			
	Full/partial Central Heating		No central heating	
	NHER (banded)		NHER (banded)	
	1-5	6-10	1-5	6-10
Aberdeen City	221	203	27	3
Aberdeenshire	287	130	26	
Angus	211	169	17	1
Argyll & Bute	250	124	19	2
Borders	203	163	13	3
Clackmannan	132	267	3	1
Dumfries & Galloway	249	139	14	2
Dundee City	170	187	39	3
East Ayrshire	136	256	5	1
East Dunbartonshire	180	220	5	
East Lothian	162	226	14	1
East Renfrewshire	165	221	11	
Edinburgh City	339	507	79	5
Falkirk	148	262	3	1
Fife	250	316	11	
Glasgow City	438	679	141	13
Highland	300	103	13	
Inverclyde	156	227	14	2
Midlothian	148	245	7	
Moray	220	168	9	2
North Ayrshire	139	248	6	
North Lanarkshire	182	413	6	
Orkney	327	43	30	3
Perthshire&Kinross	226	149	15	1
Renfrewshire	153	233	14	
Shetland	338	33	21	
South Ayrshire	178	214	9	1
South Lanarkshire	292	366	15	4
Stirling	195	206	6	
West Dunbartonshire	121	282	7	2
West Lothian	112	284	8	1
Western Isles	296	70	29	
Scotland	6924	7353	636	52

	Heating system		
	Full CH	Partial CH	Room heaters/Other
Aberdeen City	385	42	29
Aberdeenshire	393	28	22
Angus	344	40	20
Argyll & Bute	331	46	18
Borders	341	39	17
Clackmannan	382	17	4
Dumfries & Galloway	370	28	18
Dundee City	315	43	42
East Ayrshire	390	3	6
East Dunbartonshire	393	7	5
East Lothian	370	20	12
East Renfrewshire	385	10	11
Edinburgh City	781	70	86
Falkirk	391	22	3
Fife	537	33	11
Glasgow City	979	146	163
Highland	335	87	17
Inverclyde	366	18	18
Midlothian	376	18	7
Moray	376	14	12
North Ayrshire	367	22	6
North Lanarkshire	571	26	6
Orkney	299	83	40
Perthshire&Kinross	334	46	18
Renfrewshire	354	33	14
Shetland	235	140	26
South Ayrshire	372	24	9
South Lanarkshire	644	27	16
Stirling	384	20	7
West Dunbartonshire	364	41	10
West Lothian	383	14	9
Western Isles	307	64	31
Scotland	13154	1271	713

	Satisfaction with heating		
	Satisfied	Dissatisfied	Neutral/Don't Know
Aberdeen City	485	57	28
Aberdeenshire	459	48	16
Angus	445	35	11
Argyll & Bute	415	47	19
Borders	406	54	29
Clackmannan	446	42	16
Dumfries & Galloway	428	54	15
Dundee City	394	67	34
East Ayrshire	436	32	14
East Dunbartonshire	459	22	5
East Lothian	432	36	18
East Renfrewshire	451	27	11
Edinburgh City	1050	82	36
Falkirk	434	45	14
Fife	619	58	31
Glasgow City	1253	274	74
Highland	441	60	24
Inverclyde	440	50	17
Midlothian	444	32	5
Moray	423	40	18
North Ayrshire	419	47	21
North Lanarkshire	619	73	23
Orkney	425	46	31
Perthshire&Kinross	421	35	24
Renfrewshire	454	35	6
Shetland	410	41	32
South Ayrshire	445	32	14
South Lanarkshire	724	81	30
Stirling	447	38	12
West Dunbartonshire	446	47	10
West Lothian	436	36	11
Western Isles	389	73	27
Scotland	15995	1746	676

	Difficulty heating home	
	No	Yes
Aberdeen City	363	207
Aberdeenshire	330	193
Angus	394	97
Argyll & Bute	311	170
Borders	352	137
Clackmannan	394	110
Dumfries & Galloway	324	173
Dundee City	332	163
East Ayrshire	333	149
East Dunbartonshire	367	119
East Lothian	336	150
East Renfrewshire	384	105
Edinburgh City	847	321
Falkirk	345	148
Fife	489	219
Glasgow City	962	639
Highland	351	174
Inverclyde	376	131
Midlothian	350	131
Moray	337	144
North Ayrshire	345	142
North Lanarkshire	531	184
Orkney	265	237
Perthshire&Kinross	369	111
Renfrewshire	373	122
Shetland	251	232
South Ayrshire	342	149
South Lanarkshire	578	257
Stirling	362	135
West Dunbartonshire	377	126
West Lothian	363	120
Western Isles	281	208
Scotland	12714	5703

	Fuel poverty –2002 definition		
	Not fuel poor	Fuel poor	Missing
Aberdeen City	410	39	8
Aberdeenshire	366	75	7
Angus	328	65	11
Argyll & Bute	308	84	8
Borders	310	67	20
Clackmannan	360	41	2
Dumfries & Galloway	308	90	18
Dundee City	343	50	7
East Ayrshire	346	45	9
East Dunbartonshire	371	28	6
East Lothian	351	47	7
East Renfrewshire	346	45	15
Edinburgh City	799	109	31
Falkirk	371	42	4
Fife	507	68	6
Glasgow City	1059	183	48
Highland	321	92	27
Inverclyde	355	41	7
Midlothian	367	30	4
Moray	317	77	9
North Ayrshire	347	43	5
North Lanarkshire	535	61	7
Orkney	273	128	21
Perthshire&Kinross	327	59	13
Renfrewshire	355	45	1
Shetland	290	99	12
South Ayrshire	341	55	10
South Lanarkshire	596	75	20
Stirling	354	45	12
West Dunbartonshire	374	35	7
West Lothian	376	26	4
Western Isles	252	137	13
Scotland	12663	2126	379

	Fuel poverty 1996 definition		
	Not fuel poor	Fuel poor	Missing
Aberdeen City	423	27	7
Aberdeenshire	383	58	7
Angus	346	47	11
Argyll & Bute	332	60	8
Borders	332	46	19
Clackmannan	373	29	1
Dumfries & Galloway	334	65	17
Dundee City	357	36	7
East Ayrshire	367	25	8
East Dunbartonshire	387	12	6
East Lothian	371	27	7
East Renfrewshire	362	30	14
Edinburgh City	831	79	29
Falkirk	390	23	4
Fife	529	46	6
Glasgow City	1104	139	47
Highland	346	69	25
Inverclyde	365	31	7
Midlothian	384	13	4
Moray	337	57	9
North Ayrshire	356	34	5
North Lanarkshire	555	41	7
Orkney	303	98	21
Perthshire&Kinross	350	36	13
Renfrewshire	368	32	1
Shetland	312	77	12
South Ayrshire	362	34	10
South Lanarkshire	621	50	20
Stirling	372	28	11
West Dunbartonshire	389	20	7
West Lothian	389	13	4
Western Isles	282	107	13
Scotland	13312	1489	367

Annexe C: Revised Tables from 2002 SHCS Main Report and 2002 SHCS Local Authority Report

Revised Energy Efficiency and Fuel Poverty Tables from Chapter 11 of 2002 SHCS Main Report

Table 11.1
Frequency distribution of NHER

NHER category	000s	%
0	13†	1
1	50	2
2	113	5
3	187	9
4	292	14
5	397	18
6	434	20
7	385	18
8	218	10
9	69	3
10	7†	0

Table 11.2
Median and banded NHER by key dwelling characteristics

	NHER rating – banded groups						Median NHER
	Poor		Moderate		Good		
	000s	% within category	000s	% within category	000s	% within category	
Pre-1919	84	19	318	73	36	8	4
1919-1944	18	6	190	62	98	32	6
1945-1964	31	6	295	56	200	38	6
1965-1974	29	8	231	65	97	27	5
1975-1982	7†	4	126	68	52	28	6
1983-1990	4†	3	77	59	50	38	6
1991-1997	*	1	55	41	78	58	7
post-1997	*	1	18	21	67	78	7
Detached	46	11	283	69	78	19	5
Semi-detached	31	7	328	73	93	21	5
Terraced houses	22	5	253	52	214	44	6
Tenement	55	11	266	54	172	35	6
4-in-block	10†	4	106	47	112	49	6
Flat in converted building	4†	11	31	81	*	7	4
Tower/Slab	8†	13	42	72	9	15	4
Rural	59	17	233	68	51	15	4
Urban	117	6	1 076	59	628	34	6

Table 11.3
Median and banded NHER by key household characteristics

	NHER rating – banded groups						Median NHER
	Poor		Moderate		Good		
	000s	% within category	000s	% within category	000s	% within category	
Owner occupier	97	7	881	65	378	28	5
LA/Other public	33	6	267	52	218	42	6
HA/Housing coop	7†	5	62	49	58	46	6
Private renter	40	24	100	61	25	15	4
Single adult	46	14	187	56	99	30	5
Small adult	29	8	229	62	111	30	6
Single parent	9†	7	66	51	55	42	6
Small family	14	4	184	59	113	36	6
Large family	8†	5	95	61	53	34	6
Large adult	13	6	142	65	62	29	6
Older smaller	24	8	204	65	84	27	5
Single pensioner	34	10	201	60	102	30	5
< 100	17	1	67	3	34	2	5
100 -199.99	57	3	315	15	190	9	6
200 -299.99	38	2	272	13	154	7	6
300 -399.99	27	1	196	9	111	5	6
400 -499.99	16	1	159	7	66	3	6
500 -699.99	14	1	179	8	77	4	6
700+	7†	0	113	5	45	2	5

Table 11.4
Median NHER by type and age

	Type of dwelling						
	Detached houses	Semi-detached houses	Terraced houses	Tenement	4-in-block	Conv'ns	Tower/slab
	Median	Median	Median	Median	Median	Median	Median
Pre-1919	3	4	5	5	5	4	*
1919-1944	4	5	6	6	7	*	*
1945-1964	4	6	7	6	7	*	4
1965-1974	5	5	6	6	6†	*	5
1975-1982	5	6	6	7	7†	*	*
1983-1990	6	6	7	7	5†	*	*
1991-1997	7	7	7	6	7†	*	*
post-1997	7	7	8†	9†	8†	*	*

Table 11.5
Median NHER by tenure and type

	Type of dwelling						
	Detached houses	Semi-detached houses	Terraced houses	Tenement	4-in-block	Conv'ns	Tower/slab
	Median	Median	Median	Median	Median	Median	Median
Owner occupier	5	5	6	5	6	4	*
LA/Other public	3†	5	6	6	7	*	5
HA/Housing coop	*	6	7	6	8†	*	4†
Private renter	3	4	5	5	5†	5†	*

Table 11.6
Median NHER by tenure and age

	Tenure			
	Owner occupier	LA/Other public	HA/Housing coop	Private renter
Date of construction	Median	Median	Median	Median
Pre-1919	4	5†	5	3
1919-1944	5	6	6†	5†
1945-1964	6	6	7	5
1965-1974	5	6	5	5†
1975-1982	6	6	7†	6†
1983-1990	6	6	7	6†
1991-1997	7	7†	7	6†
post-1997	7	*	8†	*

Table 11.7
Median NHER by tenure and weekly household income

	Tenure			
	Owner occupier	LA/Other public	HA/Housing coop	Private renter
Weekly income (£)	Median	Median	Median	Median
< 100	5	6	6†	4†
100 -199.99	5	6	6	4
200 -299.99	5	6	6	4
300 -399.99	6	6	6	4
400 -499.99	6	6	6†	4†
500 -699.99	6	6†	7†	4†
700+	5	*	*	*

Table 11.8 Overview of heating systems

Full gas CH boiler	9628
Full gas CH other	137
Full elec CH off peak	1843
Full elec CH other	16
Full CH LPG	127
Full CH Oil	918
Full CH solid	485
Part gas CH boiler	137
Part gas CH other	68
Part elec CH off peak	924
Part elec CH other	15
Part CH other	127
Mains gas fires	204
Elec heaters	338
Other heaters	171
Total	15138
Unobserved	30

Type of water heating

Primary boiler	11722
Off-peak immersion	2036
Peak immersion	996
Separate boiler	127
Other	267
Total	15148
Unobserved	20
	15168

Table 11.9 & 11.10 Extent of heating systems by key dwelling and household characteristics

	Full gas CH	Full elec CH	Full other fuel CH	Part gas or other CH	Partial elec CH	Gas fires	Elec heaters	Other heaters	Unobserved
Pre-1919	1501	228	500	72	158	95	127	93	3
1919-1944	1643	143	191	54	87	29	28	29	2
1945-1964	2699	467	270	76	195	56	83	27	5
1965-1974	1609	417	164	65	223	14	53	11	6
1975-1982	855	180	175	40	135	4	22	6	3
1983-1990	564	173	101	20	68	4	15	4	5
1991-1997	538	188	88	3	55	1	8	1	6

Detached houses	1719	261	960	77	162	4	20	96	4
Semi-detached hses	2458	330	335	80	173	15	49	29	4
Terraced houses	2611	426	169	83	213	45	49	26	7
Tenement	1625	509	16	43	233	111	160	7	10
4-in-block	1150	149	38	42	67	25	25	7	1
Flat converted bld	146	34	11	3	15	4	8	6	1
Rural	942	576	1168	117	279	12	42	113	11
Owner occupier	6307	807	1158	192	478	125	154	96	15
LA/Other public	2467	698	198	90	297	40	92	18	11
HA/Housing coop	635	221	23	23	77	13	18	2	1
Single adult	1170	357	132	44	197	49	90	26	5
Small adult	1653	260	304	40	142	27	61	28	5
Single parent	589	116	40	25	57	8	28	3	1
Small family	1613	168	236	43	93	18	24	13	5
Large family	778	88	181	34	57	9	19	10	
Large adult	1111	132	189	39	57	12	27	18	1
Older smaller	1481	274	266	58	128	31	39	33	5
Single pensioner	1370	464	182	49	208	50	50	40	8

		full	partial	none	unknown
		Count	Count	Count	Count
Date of construction (2002 codes)	Pre-1919	2229	230	315	3
	1919-1944	1977	141	86	2
	1945-1964	3436	271	166	5
	1965-1974	2190	288	78	6
	1975-1982	1210	175	32	3
	1983-1990	838	88	23	5
	1991-1997	814	58	10	6
	post-1997	460	20	3	
Type of dwelling	Detached houses	2940	239	120	4
	Semi-detached hses	3123	253	93	4
	Terraced houses	3206	296	120	7

	Tenement	2150	276	278	10
	4-in-block	1337	109	57	1
	Flat converted bld	191	18	18	1
	Tower/Slab	207	80	27	3
CS Rurality	Rural	2686	396	167	11
	Urban	10468	875	546	19
Tenure	Owner occupier	8272	670	375	15
	LA/Other public	3363	387	150	11
	HA/Housing coop	879	100	33	1
	Private renter	640	114	155	3
Household type	Single adult	1659	241	165	5
	Small adult	2217	182	116	5
	Single parent	745	82	39	1
	Small family	2017	136	55	5
	Large family	1047	91	38	
	Large adult	1432	96	57	1
	Older smaller	2021	186	103	5
	Single pensioner	2016	257	140	8

Table 11.11 Extent of loft insulation

None	941
25mm	443
50mm	1257
75mm	1121
100mm	4327
150mm	2635
200mm	968
>200mm	383
Not Applicable	2969
Unobtainable	124
Total	15168

Table 11.12 Extent of loft insulation by age of dwelling

	Pre-1919	1919-1944	1945-1964	1965-1974	1975-1982	1983-1990	1991-1997	post-1997
None	421	188	177	103	25	15	4	8
25mm	69	70	122	113	45	17	4	3
50mm	196	168	341	275	166	72	27	12
75mm	170	137	327	211	147	70	41	18
100mm	614	607	1161	680	529	378	277	81
150mm	348	330	667	447	243	187	260	153
200mm	92	116	269	150	91	69	85	96
>200mm	46	42	66	73	37	22	49	48
Not Applicable	799	543	721	460	124	120	138	64
Unobtainable	22	5	27	50	13	4	3	

Table 11.13 Extent of loft insulation by type of dwelling

	Detached houses	Semi-detached hses	Terraced houses	Tenement	4-in-block	Flat converted bld	Tower/Slab
None	313	221	197	106	69	22	13
25mm	122	129	137	21	28	5	1
50mm	315	396	382	78	68	15	3
75mm	287	327	364	61	73	6	3
100mm	1189	1287	1297	273	245	28	8
150mm	728	750	796	160	169	22	10
200mm	222	272	291	89	88	3	3
>200mm	115	84	113	41	25	3	2
Not Applicable		2	8	1847	735	117	260
Unobtainable	12	5	44	38	4	7	14

Table 11.14 Extent of loft insulation by tenure

	Owner occupier	LA/Other public	HA/Housing coop	Private renter
None	693	109	29	110
25mm	345	60	11	27
50mm	919	228	39	71
75mm	827	208	40	46
100mm	2998	926	196	207
150mm	1644	703	164	124
200mm	490	340	97	41
>200mm	209	114	49	11
Not Applicable	1138	1187	379	265
Unobtainable	69	36	9	10

Table 11.15 Extent of wall insulation by age of dwelling

			Insulation added to walls		Total
			Cavity fill	External/internal	
Presence of wall insulation	Post-1975 with extra ins	Count	218	34	252
	Pre-1975 with extra ins	Count	1923	546	2469
Total		Count	2141	580	2721

Table 11.16 & 11.17 Type of glazing by key dwelling and household characteristics

		Detached houses	Semi-detached hses	Terraced houses	Tenement	Other flat
Double glazing	Single	466	503	568	685	404
	Double	2837	2970	3061	2029	1645
Total		3303	3473	3629	2714	2049

	Pre-1919	1919-1944	1945-1964	1965-1974	1975-1982	1983-1990	1991-1997	post-1997
Single	1104	354	586	277	157	105	34	9
Double	1673	1852	3292	2285	1263	849	854	474
Total	2777	2206	3878	2562	1420	954	888	483

	Owner occupier	LA/Other public	HA/Housing coop	Private renter
Single	1466	516	272	372
Double	7866	3395	741	540
Total	9332	3911	1013	912

	Rural	Urban
Single	613	2013
Double	2647	9895
Total	3260	11908

	Single adult	Small adult	Single parent	Small family	Large family	Large adult	Older smaller	Single pensioner
Single	491	440	149	305	192	275	336	438
Double	1579	2080	718	1908	984	1311	1979	1983
Total	2070	2520	867	2213	1176	1586	2315	2421

	< £100 p.w.	£100 – 199.99 p.w.	£200 - 299.99 p.w.	£300 - 399.99 p.w.	£400 - 499.99 p.w.	£500 - 699.99 p.w.	£700+
Single	199	731	560	377	253	292	197
Double	583	3263	2694	1985	1437	1593	922
Total	782	3994	3254	2362	1690	1885	1119

Table 11.19
Satisfaction with heating by NHER

NHER	Very satisfied		Fairly satisfied		Neither satisfied nor dissatisfied		Fairly dissatisfied		Very dissatisfied	
	Count	%	Count	%	Count	%	Count	%	Count	%
0	*	29	*	30	*	5	*	22	*	14
1	16	32	14	28	5†	9	8†	17	7†	13
2	37	33	40	35	8†	7	13†	12	14†	13
3	83	45	58	31	12†	6	17	9	17	9
4	167	57	78	27	11†	4	22	7	13†	4
5	247	62	105	27	13†	3	20	5	10†	3
6	299	69	99	23	8†	2	17	4	10†	2
7	272	71	45	21	4†	2	11†	3	7†	2
8	157	72	45	21	4†	2	7†	3	*	2
9	53	77	12†	17	*	2	*	2	*	2
10	*	65	*	32	*	0	*	0	*	2
NHER banded										
Poor	57	33	58	33	13	7	24	14	23	13
Moderate	796	61	341	26	45	3	72	6	50	4
good	486	72	147	22	12†	2	20	3	13†	2

Table 11.22
Number of households in fuel poverty

	000s	%
Under SHCS 1996 definition	201	9
Under Fuel Poverty Statement definition	286	13

Table 11.23
Fuel poverty by banded NHER category

	NHER category (banded)								
	Poor			Moderate			Good		
Fuel poor households	000s	% of FP	% NHER category	000s	% of FP	% NHER category	000s	% of FP	% NHER category
SHCS 1996 definition	63	31	36	120	60	9	19	9	3
FPS definition	74	26	42	181	63	14	31	11	5

Table 11.24
Fuel poor households by key dwelling characteristics

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Date of construction						
Pre-1919	67	34	15	90	31	20
1919-1944	29	15	9	42	15	14
1945-1964	45	22	8	66	23	12
1965-1982	46	23	8	67	24	12
1982-1997	11†	6	4	18	12	2
post-1997	*	1	3	*	3	2
Type of dwelling						
Detached	54	27	13	76	27	19
Semi-detached	37	18	8	57	20	13
Terraced houses	33	17	7	53	19	11
Tenement	45	22	9	56	20	11
4-in-block	18	9	8	25	9	11
Flat in converted building	5†	3	14	8†	3	20
Tower/Slab	9†	4	14	11†	4	18
Location						
Rural	54	27	15	75	26	21
Urban	147	73	8	211	74	12

Table 11.25
Fuel poor households by type of heating and insulation

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Heating type						
Full gas CH	77	38	5	128	45	9
Full electric CH	35	17	14	47	17	19
Full other fuel CH	26	13	16	37	13	23
Part gas/other CH	*	3	14	8†	3	19
Part electric CH	21	11	17	26	9	20
Other	36	18	29	40	14	34
Extent of loft insulation						
None	30	15	22	38	14	28
25mm	7†	4	12	11†	4	18
50mm	17	9	10	25	9	14
75mm	14	7	9	22	8	13
100mm	48	24	8	70	25	12
150mm	25	12	7	40	14	12
200mm	7†	4	6	11	4	9
> 200mm	*	2	7	6†	2	11
Unobtainable	*	1	14	*	1	17
Glazing						
Single	66	33	16	84	29	20
Double/triple	135	67	8	202	71	13

Table 11.26
Fuel poor households by key household characteristics

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Tenure						
Owner occupier	115	57	8	177	62	13
LA/Other public	51	25	10	65	23	12
HA/Housing coop	7†	3	5	10†	3	8
Private renter	28	14	17	34	12	20
Household type						
Single adult	39	19	11	46	16	14
Small adult	17	8	5	24	8	6
Single parent	8†	4	6	9†	3	7
Small family	7†	4	2	9†	3	3
Large family	6†	3	4	9†	3	6
Large adult	15	7	7	20	7	9
Older smaller	37	19	12	63	22	20

Single pensioner	72	36	21	105	37	31
Weekly household income (£)						
< 100	79	39	66	86	30	72
100 -199.99	103	51	18	159	56	28
200 -299.99	14	7	3	29	10	6
300 -399.99	*	1	1	8†	3	2
400 -499.99	*	1	0	*	1	1
500 -699.99	*	0	0	*	0	0
700+	*	0	0	*	0	0
Age of HIH						
16-24	10†	5	11	11†	4	12
25-39	21	11	4	26	9	5
40-59	49	25	6	64	22	8
60-64	18	9	11	28	10	17
65-74	43	22	14	76	27	24
75-80	33	17	22	45	16	31
81+	25	13	23	34	12	31

**SHCS 2002 LOCAL AUTHORITY REPORT
REVISED FIGURES
Chapter 8 - Energy Efficiency and Fuel Poverty**

**Table 8.1
NHER profile of stock (banded)**

	NHER Score (banded)					
	0 - 2		3 - 6		7 - 10	
	000s	%	000s	%	000s	%
Aberdeen City	11†	12	58	61	25	27
Aberdeenshire	18†	20	59	66	13†	14
Angus	5†	12	30	63	12†	25
Argyll & Bute	7†	18	25	64	7†	18
Borders	5†	11	29	63	13	27
Clackmannan	*	4	11	50	10	46
Dumfries & Galloway	6†	10	46	72	11†	18
Dundee City	9†	13	39	57	20	30
East Ayrshire	*	2	32	62	18	36
East Dunbartonshire	*	2	32	74	11†	24
East Lothian	2†	6	23	60	13	34
East Renfrewshire	*	3	24	69	10	28
Edinburgh City	15†	7	119	60	66	33
Falkirk	*	2	36	58	25	40
Fife	7†	5	93	64	45	31
Glasgow City	24	9	157	59	86	32
Highland	14†	16	60	72	10†	12
Inverclyde	3†	7	19	52	15	41
Midlothian	*	3	19	56	14	41
Moray	3†	9	25	68	9	23
North Ayrshire	4†	7	30	52	24	41
North Lanarkshire	*	3	63	49	60	47
Orkney	3	31	6	65	*	4
Perthshire & Kinross	8†	14	36	62	14†	24
Renfrewshire	*	5	45	60	26	35
Shetland	3	35	6	62	*	3
South Ayrshire	3†	6	32	65	14	29
South Lanarkshire	6†	5	75	59	46	36
Stirling	2†	7	24	66	10	28
West Dunbartonshire	*	2	21	50	20	48
West Lothian	*	2	30	49	31	50
Western Isles	3†	24	8	68	1†	7
Scotland	176	8	1,309	60	679	31

Table 8.2
NHER by tenure

	Tenure (banded)							
	Private				Public			
	NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	
Aberdeen City	40	43	26	28	12†	13	16†	17
Aberdeenshire	52	59	19†	22	10†	12	7†	8
Angus	22	47	13†	28	5†	11	7†	14
Argyll & Bute	23	58	8†	20	5†	12	4†	11
Borders	21	45	14	30	5†	12	6†	13
Clackmannan	5†	24	8	39	2†	10	6	28
Dumfries & Galloway	33	54	16†	25	7†	12	6†	9
Dundee City	26	38	18†	27	11†	16	13†	19
East Ayrshire	15	29	17	34	4†	7	15	30
East Dunbartonshire	17	40	19	44	2†	5	5†	11
East Lothian	13	33	15	39	4†	11	7†	18
East Renfrewshire	14	40	16	46	2†	5	3†	9
Edinburgh City	82	41	81	41	8†	4	27	14
Falkirk	15†	24	24	39	8†	12	16	25
Fife	52	36	51	35	14†	10	28	19
Glasgow City	65	24	85	32	58	22	59	22
Highland	48	57	17†	20	14†	17	5†	6
Inverclyde	11	30	14	36	5†	13	8†	21
Midlothian	10	29	13	40	3†	8	8†	23
Moray	19	52	9†	24	3†	8	6†	16
North Ayrshire	15†	26	23	40	7†	12	13	22
North Lanarkshire	26	20	48	38	14†	11	39	31
Orkney	7	74	1†	10	1†	15	*	1
Perthshire & Kinross	31	53	15	26	5†	9	7†	12
Renfrewshire	22	30	30	39	9†	12	14†	19
Shetland	6	61	1†	9	3	29	*	0
South Ayrshire	21	42	18	36	3†	6	8†	16
South Lanarkshire	42	33	49	38	16†	12	20	16
Stirling	15	42	12	34	3†	8	6†	16
West Dunbartonshire	8†	20	15	37	5†	11	13	32
West Lothian	15	25	25	40	*	4	19	31
Western Isles	8	68	1†	12	2†	14	1†	6
Scotland	799	37	722	33	253	12	391	18

Table 8.3
NHER by type of dwelling

	Type of dwelling							
	Houses				Flats			
	NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	
Aberdeen City	26	28	21	22	26	28	21†	22
Aberdeenshire	57	64	21	23	6†	6	6†	6
Angus	21	44	14	29	6†	13	6†	14
Argyll & Bute	19	48	7†	18	9†	22	5†	12
Borders	17	37	12	27	9†	20	8†	17
Clackmannan	5	25	10	47	2†	9	4†	20
Dumfries & Galloway	35	57	18	29	5†	8	4†	6
Dundee City	14†	20	14†	21	23	34	17	25
East Ayrshire	15	30	23	44	3†	7	10†	19
East Dunbartonshire	17	39	17	40	3†	6	6†	15
East Lothian	13	32	16	41	4†	11	6†	16
East Renfrewshire	13	37	14	40	3†	7	5†	15
Edinburgh City	36	18	37	19	55	28	71	36
Falkirk	16	26	27	43	7†	11	13†	20
Fife	52	36	53	37	14†	10	26	18
Glasgow City	27	10	44	17	96	36	100	38
Highland	56	67	18†	21	6†	7	*	4
Inverclyde	7†	19	11	29	9†	24	10	28
Midlothian	11	32	15	45	*	5	6†	18
Moray	20	54	12	33	*	6	3†	7
North Ayrshire	16	26	28	48	7†	11	9†	15
North Lanarkshire	26	21	60	47	14†	11	27	22
Orkney	7	83	1†	10	*	6	*	1
Perthshire & Kinross	27	45	16	27	10†	17	6†	11
Renfrewshire	18†	24	26	34	13†	18	18†	24
Shetland	8	82	1†	9	1†	9	*	0
South Ayrshire	19	38	19	37	5†	10	7†	15
South Lanarkshire	40	32	49	39	17†	14	20	16
Stirling	14	38	13	36	4†	12	5†	14
West Dunbartonshire	6†	15	15	36	6†	16	14	33
West Lothian	15	24	34	56	3†	5	9†	15
Western Isles	9	80	2†	14	*	2	*	3
Scotland	680	31	667	31	371	17	446	21

Table 8.4
NHER by age of dwelling

	Age of dwelling (banded)							
	pre-war				post-war			
	NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	
Aberdeen City	24	25	7†	7	29	30	35	37
Aberdeenshire	27	31	*	3	35	40	24	27
Angus	11†	23	3†	7	17	35	17	35
Argyll & Bute	13	33	3†	8	14	36	9†	23
Borders	16	33	6†	12	11†	23	15	31
Clackmannan	3†	13	3†	16	4†	20	11	51
Dumfries & Galloway	19	31	4†	7	21	34	17	28
Dundee City	19	29	11†	16	17	25	20	30
East Ayrshire	9†	17	6†	12	10†	19	27	52
East Dunbartonshire	8†	17	4†	9	12	28	20	46
East Lothian	8†	20	5†	13	9	23	17	43
East Renfrewshire	9†	25	5†	16	7†	20	14	40
Edinburgh City	56	28	41	20	35	17	68	34
Falkirk	8†	12	9†	14	15	24	31	50
Fife	28	19	19†	13	38	26	60	41
Glasgow City	58	22	67	25	64	24	77	29
Highland	25	29	2†	3	38	45	19†	23
Inverclyde	8†	22	5†	14	8†	21	16	43
Midlothian	4†	11	4†	11	9	26	18	52
Moray	11	31	2†	5	11	29	13	35
North Ayrshire	8†	13	5†	8	14†	24	32	54
North Lanarkshire	11†	8	18†	14	30	23	69	54
Orkney	4	44	*	1	4	45	1†	9
Perthshire & Kinross	19	33	3†	5	17	29	19	32
Renfrewshire	13†	17	8†	10	19	25	36	48
Shetland	2	26	*	0	6	64	1†	9
South Ayrshire	9†	19	6†	13	14	29	19	39
South Lanarkshire	18†	14	11†	9	39	31	58	46
Stirling	8†	23	4†	11	10	28	14	38
West Dunbartonshire	5†	12	6†	15	8†	19	22	54
West Lothian	5†	8	5†	7	13†	21	39	63
Western Isles	3	28	*	2	6	54	2†	16
Scotland	469	22	275	13	583	27	838	39

Table 8.5
NHER by household type

	Type of household											
	Families				Pensioners				Other			
	NHER (banded)				NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	
Aberdeen City	17†	18	16†	17	14†	15	10†	10	21†	23	16†	17
Aberdeenshire	25	28	14†	16	21	24	6†	6	17†	19	7†	7
Angus	9†	18	8†	16	9†	19	7†	15	10†	20	5†	11
Argyll & Bute	9†	24	4†	10	10	25	5†	12	8†	21	3†	8
Borders	7†	15	7†	15	9†	19	8†	16	10†	22	6†	12
Clackmannan	3†	12	5	25	2†	9	4†	17	2†	12	5†	24
Dumfries & Galloway	14†	23	9†	15	16	27	6†	10	10†	16	6†	9
Dundee City	11†	16	12†	18	10†	15	10†	15	15†	23	9†	13
East Ayrshire	5†	10	14	27	6†	12	8†	16	7†	15	10†	20
East Dunbartonshire	8†	18	12	28	6†	14	6†	14	5†	13	6†	13
East Lothian	6†	15	9†	23	5†	13	7†	18	6†	16	6†	16
East Renfrewshire	6†	18	9	26	5†	15	5†	14	4†	12	5†	16
Edinburgh City	28	14	35	18	29	14	30	15	34	17	43	22
Falkirk	8†	13	17	28	7†	12	11†	17	7†	12	12†	19
Fife	23†	16	31	22	25	17	23†	16	18†	13	25†	17
Glasgow City	36	14	56	21	35	13	41	15	51	19	48	18
Highland	22	26	7†	9	21	25	6†	7	20†	23	8†	10
Inverclyde	5†	12	9	25	5†	14	6†	16	6†	16	6†	16
Midlothian	5†	14	10	31	4†	13	5†	15	3†	10	6†	17
Moray	8†	21	6†	15	7†	20	5†	15	7†	20	4†	10
North Ayrshire	10†	16	15	25	6†	10	11†	18	7†	11	11†	19
North Lanarkshire	15†	12	40	31	14†	11	24	18	11†	9	24	19
Orkney	3	33	1†	6	2	27	*	2	3	29	*	3
Perthshire&Kinross	9†	16	9	15	13†	23	9†	15	14†	24	5†	8
Renfrewshire	9†	12	19	26	12†	16	11†	15	10†	13	13†	18
Shetland	3	33	1†	7	2	25	*	0	3	33	*	2
South Ayrshire	9†	18	9†	18	7†	15	8†	17	7†	15	9†	18
South Lanarkshire	24	19	32	25	18†	14	18	14	16†	13	20	16
Stirling	6†	18	8†	22	5†	13	4†	11	7†	20	6†	16
West Dunbartonshire	4†	10	12	28	5†	12	7†	16	4†	10	11	25
West Lothian	7†	11	22	36	5†	8	10†	16	7†	11	12†	19
Western Isles	4	32	1†	8	3	27	1†	5	3†	23	*	4
Scotland	356	16	459	21	340	16	309	14	355	16	345	16

Table 8.6
NHER by heating system

	Type of heating							
	Full/partial CH				No central heating			
	NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	
Aberdeen City	45	48	41	44	7†	7	*	1
Aberdeenshire	58	65	26	30	5†	6	*	0
Angus	25	52	20	42	*	5	*	0
Argyll & Bute	25	64	12	30	*	6	*	1
Borders	25	53	20	43	*	4	*	1
Clackmannan	7	32	14	66	*	1	*	0
Dumfries & Galloway	38	62	21	34	*	4	*	0
Dundee City	29	44	30	45	7†	11	*	1
East Ayrshire	18	35	32	63	*	2	*	0
East Dunbartonshire	19	44	24	55	*	1	*	0
East Lothian	15	39	22	56	*	4	*	0
East Renfrewshire	15	42	19	55	*	3	*	0
Edinburgh City	72	36	107	54	19†	9	*	1
Falkirk	22	36	40	63	*	1	*	0
Fife	63	44	79	54	*	2	*	0
Glasgow City	92	35	141	53	30	11	*	1
Highland	60	71	22	26	*	3	*	0
Inverclyde	15	39	21	57	*	4	*	0
Midlothian	12	35	21	63	*	2	*	0
Moray	21	57	14	39	*	3	*	0
North Ayrshire	21	36	37	62	*	2	*	0
North Lanarkshire	38	30	87	69	*	1	*	0
Orkney	7	81	1†	10	1†	8	*	1
Perthshire&Kinross	34	57	22	37	*	5	*	0
Renfrewshire	29	38	44	58	*	4	*	0
Shetland	8	85	1†	9	1†	5	*	0
South Ayrshire	23	46	26	52	*	2	*	0
South Lanarkshire	54	43	69	54	*	2	*	1
Stirling	18	49	18	49	*	2	*	0
West Dunbartonshire	12	29	28	68	*	2	*	0
West Lothian	17	27	44	71	*	2	*	0
Western Isles	9	74	2†	18	1†	8	*	0
Scotland	945	44	1,105	51	106	5	8†	0

Table 8.7
Heating systems in use

	Heating system					
	Full CH		Partial CH		Heaters/Fires/Other	
	000s	%	000s	%	000s	%
Aberdeen City	78	83	9†	9	7†	7
Aberdeenshire	79	88	6†	6	5†	5
Angus	41	84	5†	9	3†	6
Argyll & Bute	33	83	5†	12	*	5
Borders	41	85	5†	10	*	5
Clackmannan	20	95	*	4	*	1
Dumfries & Galloway	56	89	4†	7	*	4
Dundee City	53	79	7†	10	8†	11
East Ayrshire	50	97	*	1	*	2
East Dunbartonshire	42	97	*	2	*	1
East Lothian	35	91	2†	5	*	3
East Renfrewshire	34	95	*	2	*	2
Edinburgh City	164	82	16†	8	20†	10
Falkirk	59	94	4†	6	*	1
Fife	135	92	8†	6	*	2
Glasgow City	206	76	29	11	34	13
Highland	68	76	17†	20	*	4
Inverclyde	34	91	*	4	*	5
Midlothian	31	93	*	5	*	2
Moray	34	93	*	3	*	4
North Ayrshire	55	93	3†	6	*	2
North Lanarkshire	121	94	6†	4	*	1
Orkney	6	70	2†	20	1†	10
Perthshire&Kinross	49	83	7†	11	*	6
Renfrewshire	66	88	6†	8	*	4
Shetland	6	58	3	35	1†	7
South Ayrshire	46	92	3†	6	*	2
South Lanarkshire	120	94	5†	4	*	3
Stirling	34	93	2†	5	*	2
West Dunbartonshire	37	88	4†	10	*	3
West Lothian	58	94	*	3	*	2
Western Isles	9	76	2†	15	1†	9
Scotland	1,901	87	169	8	117	5

Table 8.8
Satisfaction with heating

	Satisfaction with heating					
	Satisfied		Dissatisfied		Neutral/Don't Know	
	000s	%	000s	%	000s	%
Aberdeen City	81	85	10†	10	5†	5
Aberdeenshire	79	88	8†	9	*	3
Angus	44	91	3†	7	*	3
Argyll & Bute	35	87	4†	9	*	4
Borders	40	83	5†	11	3†	6
Clackmannan	19	88	2†	9	*	3
Dumfries & Galloway	55	87	7†	10	*	3
Dundee City	54	81	9†	13	4†	7
East Ayrshire	47	91	3†	6	*	3
East Dunbartonshire	41	94	2†	5	*	1
East Lothian	35	89	3†	7	*	4
East Renfrewshire	33	92	2†	6	*	2
Edinburgh City	180	89	15†	7	7†	3
Falkirk	56	88	6†	9	*	3
Fife	128	88	12†	8	6†	4
Glasgow City	213	79	45	17	12	5
Highland	75	84	10†	11	4†	5
Inverclyde	33	87	4†	10	*	3
Midlothian	31	92	2†	6	*	1
Moray	32	88	3†	8	*	4
North Ayrshire	51	86	6†	10	3†	5
North Lanarkshire	110	86	13†	10	4†	3
Orkney	8	84	1†	10	1†	6
Perthshire&Kinross	52	88	4†	7	3†	5
Renfrewshire	68	92	5†	7	*	1
Shetland	8	85	1†	8	1†	6
South Ayrshire	46	91	3†	6	*	3
South Lanarkshire	112	87	12†	10	5†	4
Stirling	32	89	3†	8	*	3
West Dunbartonshire	37	89	4†	9	*	2
West Lothian	55	90	5†	7	*	2
Western Isles	9	79	2†	16	1†	5
Scotland	1,900	87	212	10	80	4

Table 8.9
Difficulty in heating home

	Difficulty heating home			
	No		Yes	
	000s	%	000s	%
Aberdeen City	60	63	35	37
Aberdeenshire	57	63	33	37
Angus	39	80	9†	20
Argyll & Bute	26	65	14	35
Borders	35	73	13	27
Clackmannan	16	77	5	23
Dumfries & Galloway	42	66	21	34
Dundee City	46	68	22	32
East Ayrshire	36	70	15	30
East Dunbartonshire	33	76	11	24
East Lothian	27	70	12	30
East Renfrewshire	28	79	8	21
Edinburgh City	144	72	57	28
Falkirk	45	70	19	30
Fife	102	69	45	31
Glasgow City	164	61	107	39
Highland	60	67	29	33
Inverclyde	28	75	10	25
Midlothian	24	72	9	28
Moray	25	69	11	31
North Ayrshire	42	71	17	29
North Lanarkshire	94	74	33	26
Orkney	5	53	4	47
Perthshire&Kinross	46	77	14	23
Renfrewshire	56	76	18	24
Shetland	5	53	5	47
South Ayrshire	35	70	15	30
South Lanarkshire	90	69	40	31
Stirling	26	72	10	28
West Dunbartonshire	32	76	10	24
West Lothian	46	75	15	25
Western Isles	7	57	5	43
Scotland	1,522	69	670	31

Table 8.10
Fuel poor^a households

	Fuel poverty –2002 Definition					
	Not fuel poor		Fuel poor		Unobtainable	
	000s	%	000s	%	000s	%
Aberdeen City	85	90	8†	8	*	2
Aberdeenshire	74	82	15†	17	*	2
Angus	39	81	8†	16	*	3
Argyll & Bute	31	77	8†	21	*	2
Borders	38	78	8†	17	3†	5
Clackmannan	19	89	2†	10	*	1
Dumfries & Galloway	46	73	14†	23	*	4
Dundee City	58	85	9†	13	*	2
East Ayrshire	45	87	6†	11	*	2
East Dunbartonshire	40	92	3†	7	*	2
East Lothian	34	87	4†	11	*	2
East Renfrewshire	30	85	4†	11	*	4
Edinburgh City	170	85	24	12	7†	3
Falkirk	56	89	6†	10	*	1
Fife	127	87	17†	12	*	1
Glasgow City	222	82	38	14	11†	4
Highland	65	73	18†	21	6†	6
Inverclyde	33	88	4†	10	*	2
Midlothian	31	92	2†	7	*	1
Moray	28	76	8†	21	*	3
North Ayrshire	52	87	7†	11	*	1
North Lanarkshire	113	89	13†	10	*	1
Orkney	6	65	3	31	0†	5
Perthshire&Kinross	49	82	9†	14	*	3
Renfrewshire	66	88	8†	11	*	0
Shetland	7	73	2†	25	*	3
South Ayrshire	42	83	7†	14	*	2
South Lanarkshire	112	87	14†	11	4†	3
Stirling	31	86	4†	11	*	3
West Dunbartonshire	38	90	3†	8	*	2
West Lothian	57	93	4†	6	*	1
Western Isles	7	63	4	34	*	3
Scotland	1,851	84	286	13	56	3

a This refers to fuel poverty as defined in the Fuel Poverty Statement of August 2002 (see page 213 of the national report for details).

Table 8.11
Fuel poor^a households

	Fuel poverty - 96 definition					
	Not fuel poor		Fuel poor		Unobtainable	
	000s	%	000s	%	000s	%
Aberdeen City	87	92	6†	6	*	2
Aberdeenshire	77	85	12†	13	*	2
Angus	41	85	6†	12	*	3
Argyll & Bute	33	83	6†	15	*	2
Borders	41	84	5†	11	*	5
Clackmannan	19	92	2†	8	*	0
Dumfries & Galloway	50	80	11†	17	*	4
Dundee City	60	89	6†	9	*	2
East Ayrshire	47	92	3†	6	*	2
East Dunbartonshire	41	96	*	3	*	2
East Lothian	36	92	3†	7	*	2
East Renfrewshire	32	89	3†	7	*	4
Edinburgh City	177	88	17†	9	6†	3
Falkirk	59	93	3†	5	*	1
Fife	133	91	12†	8	*	1
Glasgow City	231	86	29	11	10†	4
Highland	70	78	14†	16	5†	6
Inverclyde	34	90	3†	8	*	2
Midlothian	32	95	*	3	*	1
Moray	30	82	6†	16	*	3
North Ayrshire	53	89	5†	9	*	1
North Lanarkshire	117	92	9†	7	*	1
Orkney	7	71	2†	24	0†	5
Perthshire&Kinross	52	88	5†	9	*	3
Renfrewshire	69	92	6†	8	*	0
Shetland	8	78	2†	19	*	3
South Ayrshire	44	89	4†	9	*	2
South Lanarkshire	117	90	9†	7	4†	3
Stirling	33	90	3†	7	*	3
West Dunbartonshire	39	94	2†	5	*	2
West Lothian	59	96	*	3	*	1
Western Isles	8	71	3	26	*	3
Scotland	1,938	88	201	9	54	2

^a This refers to fuel poverty as defined in the 1996 SHCS Fuel Poverty Report (see page 213 of the national report for details).

Annexe C: Revised Tables from 2002 SHCS Main Report and 2002 SHCS Local Authority Report

Revised Energy Efficiency and Fuel Poverty Tables from Chapter 11 of 2002 SHCS Main Report

**Table 11.1
Frequency distribution of NHER**

NHER category	000s	%
0	13†	1
1	50	2
2	113	5
3	187	9
4	292	14
5	397	18
6	434	20
7	385	18
8	218	10
9	69	3
10	7†	0

**Table 11.2
Median and banded NHER by key dwelling characteristics**

	NHER rating – banded groups						Median NHER
	Poor		Moderate		Good		
	000s	% within category	000s	% within category	000s	% within category	
Pre-1919	84	19	318	73	36	8	4
1919-1944	18	6	190	62	98	32	6
1945-1964	31	6	295	56	200	38	6
1965-1974	29	8	231	65	97	27	5
1975-1982	7†	4	126	68	52	28	6
1983-1990	4†	3	77	59	50	38	6
1991-1997	*	1	55	41	78	58	7
post-1997	*	1	18	21	67	78	7
Detached	46	11	283	69	78	19	5
Semi-detached	31	7	328	73	93	21	5
Terraced houses	22	5	253	52	214	44	6
Tenement	55	11	266	54	172	35	6
4-in-block	10†	4	106	47	112	49	6
Flat in converted building	4†	11	31	81	*	7	4
Tower/Slab	8†	13	42	72	9	15	4
Rural	59	17	233	68	51	15	4
Urban	117	6	1 076	59	628	34	6

Table 11.3
Median and banded NHER by key household characteristics

	NHER rating – banded groups						Median NHER
	Poor		Moderate		Good		
	000s	% within category	000s	% within category	000s	% within category	
Owner occupier	97	7	881	65	378	28	5
LA/Other public	33	6	267	52	218	42	6
HA/Housing coop	7†	5	62	49	58	46	6
Private renter	40	24	100	61	25	15	4
Single adult	46	14	187	56	99	30	5
Small adult	29	8	229	62	111	30	6
Single parent	9†	7	66	51	55	42	6
Small family	14	4	184	59	113	36	6
Large family	8†	5	95	61	53	34	6
Large adult	13	6	142	65	62	29	6
Older smaller	24	8	204	65	84	27	5
Single pensioner	34	10	201	60	102	30	5
< 100	17	1	67	3	34	2	5
100 -199.99	57	3	315	15	190	9	6
200 -299.99	38	2	272	13	154	7	6
300 -399.99	27	1	196	9	111	5	6
400 -499.99	16	1	159	7	66	3	6
500 -699.99	14	1	179	8	77	4	6
700+	7†	0	113	5	45	2	5

Table 11.4
Median NHER by type and age

	Type of dwelling						
	Detached houses	Semi-detached houses	Terraced houses	Tenement	4-in-block	Conv'ns	Tower/slab
	Median	Median	Median	Median	Median	Median	Median
Pre-1919	3	4	5	5	5	4	*
1919-1944	4	5	6	6	7	*	*
1945-1964	4	6	7	6	7	*	4
1965-1974	5	5	6	6	6†	*	5
1975-1982	5	6	6	7	7†	*	*
1983-1990	6	6	7	7	5†	*	*
1991-1997	7	7	7	6	7†	*	*
post-1997	7	7	8†	9†	8†	*	*

Table 11.5
Median NHER by tenure and type

	Type of dwelling						
	Detached houses	Semi-detached houses	Terraced houses	Tenement	4-in-block	Conv'ns	Tower/slab
	Median	Median	Median	Median	Median	Median	Median
Owner occupier	5	5	6	5	6	4	*
LA/Other public	3†	5	6	6	7	*	5
HA/Housing coop	*	6	7	6	8†	*	4†
Private renter	3	4	5	5	5†	5†	*

Table 11.6
Median NHER by tenure and age

	Tenure			
	Owner occupier	LA/Other public	HA/Housing coop	Private renter
Date of construction	Median	Median	Median	Median
Pre-1919	4	5†	5	3
1919-1944	5	6	6†	5†
1945-1964	6	6	7	5
1965-1974	5	6	5	5†
1975-1982	6	6	7†	6†
1983-1990	6	6	7	6†
1991-1997	7	7†	7	6†
post-1997	7	*	8†	*

Table 11.7
Median NHER by tenure and weekly household income

	Tenure			
	Owner occupier	LA/Other public	HA/Housing coop	Private renter
Weekly income (£)	Median	Median	Median	Median
< 100	5	6	6†	4†
100 -199.99	5	6	6	4
200 -299.99	5	6	6	4
300 -399.99	6	6	6	4
400 -499.99	6	6	6†	4†
500 -699.99	6	6†	7†	4†
700+	5	*	*	*

Table 11.19
Satisfaction with heating by NHER

NHER	Very satisfied		Fairly satisfied		Neither satisfied nor dissatisfied		Fairly dissatisfied		Very dissatisfied	
	Count	%	Count	%	Count	%	Count	%	Count	%
0	*	29	*	30	*	5	*	22	*	14
1	16	32	14	28	5†	9	8†	17	7†	13
2	37	33	40	35	8†	7	13†	12	14†	13
3	83	45	58	31	12†	6	17	9	17	9
4	167	57	78	27	11†	4	22	7	13†	4
5	247	62	105	27	13†	3	20	5	10†	3
6	299	69	99	23	8†	2	17	4	10†	2
7	272	71	45	21	4†	2	11†	3	7†	2
8	157	72	45	21	4†	2	7†	3	*	2
9	53	77	12†	17	*	2	*	2	*	2
10	*	65	*	32	*	0	*	0	*	2
NHER banded										
Poor	57	33	58	33	13	7	24	14	23	13
Moderate	796	61	341	26	45	3	72	6	50	4
good	486	72	147	22	12†	2	20	3	13†	2

Table 11.22
Number of households in fuel poverty

	000s	%
Under SHCS 1996 definition	201	9
Under Fuel Poverty Statement definition	286	13

Table 11.23
Fuel poverty by banded NHER category

	NHER category (banded)								
	Poor			Moderate			Good		
Fuel poor households	000s	% of FP	% NHER category	000s	% of FP	% NHER category	000s	% of FP	% NHER category
SHCS 1996 definition	63	31	36	120	60	9	19	9	3
FPS definition	74	26	42	181	63	14	31	11	5

Table 11.24
Fuel poor households by key dwelling characteristics

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Date of construction						
Pre-1919	67	34	15	90	31	20
1919-1944	29	15	9	42	15	14
1945-1964	45	22	8	66	23	12
1965-1982	46	23	8	67	24	12
1982-1997	11†	6	4	18	12	2
post-1997	*	1	3	*	3	2
Type of dwelling						
Detached	54	27	13	76	27	19
Semi-detached	37	18	8	57	20	13
Terraced houses	33	17	7	53	19	11
Tenement	45	22	9	56	20	11
4-in-block	18	9	8	25	9	11
Flat in converted building	5†	3	14	8†	3	20
Tower/Slab	9†	4	14	11†	4	18
Location						
Rural	54	27	15	75	26	21
Urban	147	73	8	211	74	12

Table 11.25
Fuel poor households by type of heating and insulation

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Heating type						
Full gas CH	77	38	5	128	45	9
Full electric CH	35	17	14	47	17	19
Full other fuel CH	26	13	16	37	13	23
Part gas/other CH	*	3	14	8†	3	19
Part electric CH	21	11	17	26	9	20
Other	36	18	29	40	14	34
Extent of loft insulation						
None	30	15	22	38	14	28
25mm	7†	4	12	11†	4	18
50mm	17	9	10	25	9	14
75mm	14	7	9	22	8	13
100mm	48	24	8	70	25	12
150mm	25	12	7	40	14	12
200mm	7†	4	6	11	4	9
> 200mm	*	2	7	6†	2	11
Unobtainable	*	1	14	*	1	17
Glazing						
Single	66	33	16	84	29	20
Double/triple	135	67	8	202	71	13

Table 11.26
Fuel poor households by key household characteristics

	Fuel poor households					
	SHCS 1996 definition			FPS definition		
	000s	% of FP households	% within category	000s	% of FP households	% within category
Tenure						
Owner occupier	115	57	8	177	62	13
LA/Other public	51	25	10	65	23	12
HA/Housing coop	7†	3	5	10†	3	8
Private renter	28	14	17	34	12	20
Household type						
Single adult	39	19	11	46	16	14
Small adult	17	8	5	24	8	6
Single parent	8†	4	6	9†	3	7
Small family	7†	4	2	9†	3	3
Large family	6†	3	4	9†	3	6
Large adult	15	7	7	20	7	9
Older smaller	37	19	12	63	22	20
Single pensioner	72	36	21	105	37	31
Weekly household income (£)						
< 100	79	39	66	86	30	72
100 -199.99	103	51	18	159	56	28
200 -299.99	14	7	3	29	10	6
300 -399.99	*	1	1	8†	3	2
400 -499.99	*	1	0	*	1	1
500 -699.99	*	0	0	*	0	0
700+	*	0	0	*	0	0
Age of HIH						
16-24	10†	5	11	11†	4	12
25-39	21	11	4	26	9	5
40-59	49	25	6	64	22	8
60-64	18	9	11	28	10	17
65-74	43	22	14	76	27	24
75-80	33	17	22	45	16	31
81+	25	13	23	34	12	31

**SHCS 2002 LOCAL AUTHORITY REPORT
REVISED FIGURES
Chapter 8 - Energy Efficiency and Fuel Poverty**

**Table 8.1
NHER profile of stock (banded)**

	NHER Score (banded)					
	0 - 2		3 - 6		7 - 10	
	000s	%	000s	%	000s	%
Aberdeen City	11†	12	58	61	25	27
Aberdeenshire	18†	20	59	66	13†	14
Angus	5†	12	30	63	12†	25
Argyll & Bute	7†	18	25	64	7†	18
Borders	5†	11	29	63	13	27
Clackmannan	*	4	11	50	10	46
Dumfries & Galloway	6†	10	46	72	11†	18
Dundee City	9†	13	39	57	20	30
East Ayrshire	*	2	32	62	18	36
East Dunbartonshire	*	2	32	74	11†	24
East Lothian	2†	6	23	60	13	34
East Renfrewshire	*	3	24	69	10	28
Edinburgh City	15†	7	119	60	66	33
Falkirk	*	2	36	58	25	40
Fife	7†	5	93	64	45	31
Glasgow City	24	9	157	59	86	32
Highland	14†	16	60	72	10†	12
Inverclyde	3†	7	19	52	15	41
Midlothian	*	3	19	56	14	41
Moray	3†	9	25	68	9	23
North Ayrshire	4†	7	30	52	24	41
North Lanarkshire	*	3	63	49	60	47
Orkney	3	31	6	65	*	4
Perthshire & Kinross	8†	14	36	62	14†	24
Renfrewshire	*	5	45	60	26	35
Shetland	3	35	6	62	*	3
South Ayrshire	3†	6	32	65	14	29
South Lanarkshire	6†	5	75	59	46	36
Stirling	2†	7	24	66	10	28
West Dunbartonshire	*	2	21	50	20	48
West Lothian	*	2	30	49	31	50
Western Isles	3†	24	8	68	1†	7
Scotland	176	8	1,309	60	679	31

Table 8.2
NHER by tenure

	Tenure (banded)							
	Private				Public			
	NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	
Aberdeen City	40	43	26	28	12†	13	16†	17
Aberdeenshire	52	59	19†	22	10†	12	7†	8
Angus	22	47	13†	28	5†	11	7†	14
Argyll & Bute	23	58	8†	20	5†	12	4†	11
Borders	21	45	14	30	5†	12	6†	13
Clackmannan	5†	24	8	39	2†	10	6	28
Dumfries & Galloway	33	54	16†	25	7†	12	6†	9
Dundee City	26	38	18†	27	11†	16	13†	19
East Ayrshire	15	29	17	34	4†	7	15	30
East Dunbartonshire	17	40	19	44	2†	5	5†	11
East Lothian	13	33	15	39	4†	11	7†	18
East Renfrewshire	14	40	16	46	2†	5	3†	9
Edinburgh City	82	41	81	41	8†	4	27	14
Falkirk	15†	24	24	39	8†	12	16	25
Fife	52	36	51	35	14†	10	28	19
Glasgow City	65	24	85	32	58	22	59	22
Highland	48	57	17†	20	14†	17	5†	6
Inverclyde	11	30	14	36	5†	13	8†	21
Midlothian	10	29	13	40	3†	8	8†	23
Moray	19	52	9†	24	3†	8	6†	16
North Ayrshire	15†	26	23	40	7†	12	13	22
North Lanarkshire	26	20	48	38	14†	11	39	31
Orkney	7	74	1†	10	1†	15	*	1
Perthshire & Kinross	31	53	15	26	5†	9	7†	12
Renfrewshire	22	30	30	39	9†	12	14†	19
Shetland	6	61	1†	9	3	29	*	0
South Ayrshire	21	42	18	36	3†	6	8†	16
South Lanarkshire	42	33	49	38	16†	12	20	16
Stirling	15	42	12	34	3†	8	6†	16
West Dunbartonshire	8†	20	15	37	5†	11	13	32
West Lothian	15	25	25	40	*	4	19	31
Western Isles	8	68	1†	12	2†	14	1†	6
Scotland	799	37	722	33	253	12	391	18

Table 8.3
NHER by type of dwelling

	Type of dwelling							
	Houses				Flats			
	NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	
Aberdeen City	26	28	21	22	26	28	21†	22
Aberdeenshire	57	64	21	23	6†	6	6†	6
Angus	21	44	14	29	6†	13	6†	14
Argyll & Bute	19	48	7†	18	9†	22	5†	12
Borders	17	37	12	27	9†	20	8†	17
Clackmannan	5	25	10	47	2†	9	4†	20
Dumfries & Galloway	35	57	18	29	5†	8	4†	6
Dundee City	14†	20	14†	21	23	34	17	25
East Ayrshire	15	30	23	44	3†	7	10†	19
East Dunbartonshire	17	39	17	40	3†	6	6†	15
East Lothian	13	32	16	41	4†	11	6†	16
East Renfrewshire	13	37	14	40	3†	7	5†	15
Edinburgh City	36	18	37	19	55	28	71	36
Falkirk	16	26	27	43	7†	11	13†	20
Fife	52	36	53	37	14†	10	26	18
Glasgow City	27	10	44	17	96	36	100	38
Highland	56	67	18†	21	6†	7	*	4
Inverclyde	7†	19	11	29	9†	24	10	28
Midlothian	11	32	15	45	*	5	6†	18
Moray	20	54	12	33	*	6	3†	7
North Ayrshire	16	26	28	48	7†	11	9†	15
North Lanarkshire	26	21	60	47	14†	11	27	22
Orkney	7	83	1†	10	*	6	*	1
Perthshire & Kinross	27	45	16	27	10†	17	6†	11
Renfrewshire	18†	24	26	34	13†	18	18†	24
Shetland	8	82	1†	9	1†	9	*	0
South Ayrshire	19	38	19	37	5†	10	7†	15
South Lanarkshire	40	32	49	39	17†	14	20	16
Stirling	14	38	13	36	4†	12	5†	14
West Dunbartonshire	6†	15	15	36	6†	16	14	33
West Lothian	15	24	34	56	3†	5	9†	15
Western Isles	9	80	2†	14	*	2	*	3
Scotland	680	31	667	31	371	17	446	21

Table 8.4
NHER by age of dwelling

	Age of dwelling (banded)							
	pre-war				post-war			
	NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	
Aberdeen City	24	25	7†	7	29	30	35	37
Aberdeenshire	27	31	*	3	35	40	24	27
Angus	11†	23	3†	7	17	35	17	35
Argyll & Bute	13	33	3†	8	14	36	9†	23
Borders	16	33	6†	12	11†	23	15	31
Clackmannan	3†	13	3†	16	4†	20	11	51
Dumfries & Galloway	19	31	4†	7	21	34	17	28
Dundee City	19	29	11†	16	17	25	20	30
East Ayrshire	9†	17	6†	12	10†	19	27	52
East Dunbartonshire	8†	17	4†	9	12	28	20	46
East Lothian	8†	20	5†	13	9	23	17	43
East Renfrewshire	9†	25	5†	16	7†	20	14	40
Edinburgh City	56	28	41	20	35	17	68	34
Falkirk	8†	12	9†	14	15	24	31	50
Fife	28	19	19†	13	38	26	60	41
Glasgow City	58	22	67	25	64	24	77	29
Highland	25	29	2†	3	38	45	19†	23
Inverclyde	8†	22	5†	14	8†	21	16	43
Midlothian	4†	11	4†	11	9	26	18	52
Moray	11	31	2†	5	11	29	13	35
North Ayrshire	8†	13	5†	8	14†	24	32	54
North Lanarkshire	11†	8	18†	14	30	23	69	54
Orkney	4	44	*	1	4	45	1†	9
Perthshire & Kinross	19	33	3†	5	17	29	19	32
Renfrewshire	13†	17	8†	10	19	25	36	48
Shetland	2	26	*	0	6	64	1†	9
South Ayrshire	9†	19	6†	13	14	29	19	39
South Lanarkshire	18†	14	11†	9	39	31	58	46
Stirling	8†	23	4†	11	10	28	14	38
West Dunbartonshire	5†	12	6†	15	8†	19	22	54
West Lothian	5†	8	5†	7	13†	21	39	63
Western Isles	3	28	*	2	6	54	2†	16
Scotland	469	22	275	13	583	27	838	39

Table 8.5
NHER by household type

	Type of household											
	Families				Pensioners				Other			
	NHER (banded)				NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	
Aberdeen City	17†	18	16†	17	14†	15	10†	10	21†	23	16†	17
Aberdeenshire	25	28	14†	16	21	24	6†	6	17†	19	7†	7
Angus	9†	18	8†	16	9†	19	7†	15	10†	20	5†	11
Argyll & Bute	9†	24	4†	10	10	25	5†	12	8†	21	3†	8
Borders	7†	15	7†	15	9†	19	8†	16	10†	22	6†	12
Clackmannan	3†	12	5	25	2†	9	4†	17	2†	12	5†	24
Dumfries & Galloway	14†	23	9†	15	16	27	6†	10	10†	16	6†	9
Dundee City	11†	16	12†	18	10†	15	10†	15	15†	23	9†	13
East Ayrshire	5†	10	14	27	6†	12	8†	16	7†	15	10†	20
East Dunbartonshire	8†	18	12	28	6†	14	6†	14	5†	13	6†	13
East Lothian	6†	15	9†	23	5†	13	7†	18	6†	16	6†	16
East Renfrewshire	6†	18	9	26	5†	15	5†	14	4†	12	5†	16
Edinburgh City	28	14	35	18	29	14	30	15	34	17	43	22
Falkirk	8†	13	17	28	7†	12	11†	17	7†	12	12†	19
Fife	23†	16	31	22	25	17	23†	16	18†	13	25†	17
Glasgow City	36	14	56	21	35	13	41	15	51	19	48	18
Highland	22	26	7†	9	21	25	6†	7	20†	23	8†	10
Inverclyde	5†	12	9	25	5†	14	6†	16	6†	16	6†	16
Midlothian	5†	14	10	31	4†	13	5†	15	3†	10	6†	17
Moray	8†	21	6†	15	7†	20	5†	15	7†	20	4†	10
North Ayrshire	10†	16	15	25	6†	10	11†	18	7†	11	11†	19
North Lanarkshire	15†	12	40	31	14†	11	24	18	11†	9	24	19
Orkney	3	33	1†	6	2	27	*	2	3	29	*	3
Perthshire&Kinross	9†	16	9	15	13†	23	9†	15	14†	24	5†	8
Renfrewshire	9†	12	19	26	12†	16	11†	15	10†	13	13†	18
Shetland	3	33	1†	7	2	25	*	0	3	33	*	2
South Ayrshire	9†	18	9†	18	7†	15	8†	17	7†	15	9†	18
South Lanarkshire	24	19	32	25	18†	14	18	14	16†	13	20	16
Stirling	6†	18	8†	22	5†	13	4†	11	7†	20	6†	16
West Dunbartonshire	4†	10	12	28	5†	12	7†	16	4†	10	11	25
West Lothian	7†	11	22	36	5†	8	10†	16	7†	11	12†	19
Western Isles	4	32	1†	8	3	27	1†	5	3†	23	*	4
Scotland	356	16	459	21	340	16	309	14	355	16	345	16

Table 8.6
NHER by heating system

	Type of heating							
	Full/partial CH				No central heating			
	NHER (banded)				NHER (banded)			
	1-5		6-10		1-5		6-10	
000s	%	000s	%	000s	%	000s	%	
Aberdeen City	45	48	41	44	7†	7	*	1
Aberdeenshire	58	65	26	30	5†	6	*	0
Angus	25	52	20	42	*	5	*	0
Argyll & Bute	25	64	12	30	*	6	*	1
Borders	25	53	20	43	*	4	*	1
Clackmannan	7	32	14	66	*	1	*	0
Dumfries & Galloway	38	62	21	34	*	4	*	0
Dundee City	29	44	30	45	7†	11	*	1
East Ayrshire	18	35	32	63	*	2	*	0
East Dunbartonshire	19	44	24	55	*	1	*	0
East Lothian	15	39	22	56	*	4	*	0
East Renfrewshire	15	42	19	55	*	3	*	0
Edinburgh City	72	36	107	54	19†	9	*	1
Falkirk	22	36	40	63	*	1	*	0
Fife	63	44	79	54	*	2	*	0
Glasgow City	92	35	141	53	30	11	*	1
Highland	60	71	22	26	*	3	*	0
Inverclyde	15	39	21	57	*	4	*	0
Midlothian	12	35	21	63	*	2	*	0
Moray	21	57	14	39	*	3	*	0
North Ayrshire	21	36	37	62	*	2	*	0
North Lanarkshire	38	30	87	69	*	1	*	0
Orkney	7	81	1†	10	1†	8	*	1
Perthshire&Kinross	34	57	22	37	*	5	*	0
Renfrewshire	29	38	44	58	*	4	*	0
Shetland	8	85	1†	9	1†	5	*	0
South Ayrshire	23	46	26	52	*	2	*	0
South Lanarkshire	54	43	69	54	*	2	*	1
Stirling	18	49	18	49	*	2	*	0
West Dunbartonshire	12	29	28	68	*	2	*	0
West Lothian	17	27	44	71	*	2	*	0
Western Isles	9	74	2†	18	1†	8	*	0
Scotland	945	44	1,105	51	106	5	8†	0

Table 8.7
Heating systems in use

	Heating system					
	Full CH		Partial CH		Heaters/Fires/Other	
	000s	%	000s	%	000s	%
Aberdeen City	78	83	9†	9	7†	7
Aberdeenshire	79	88	6†	6	5†	5
Angus	41	84	5†	9	3†	6
Argyll & Bute	33	83	5†	12	*	5
Borders	41	85	5†	10	*	5
Clackmannan	20	95	*	4	*	1
Dumfries & Galloway	56	89	4†	7	*	4
Dundee City	53	79	7†	10	8†	11
East Ayrshire	50	97	*	1	*	2
East Dunbartonshire	42	97	*	2	*	1
East Lothian	35	91	2†	5	*	3
East Renfrewshire	34	95	*	2	*	2
Edinburgh City	164	82	16†	8	20†	10
Falkirk	59	94	4†	6	*	1
Fife	135	92	8†	6	*	2
Glasgow City	206	76	29	11	34	13
Highland	68	76	17†	20	*	4
Inverclyde	34	91	*	4	*	5
Midlothian	31	93	*	5	*	2
Moray	34	93	*	3	*	4
North Ayrshire	55	93	3†	6	*	2
North Lanarkshire	121	94	6†	4	*	1
Orkney	6	70	2†	20	1†	10
Perthshire&Kinross	49	83	7†	11	*	6
Renfrewshire	66	88	6†	8	*	4
Shetland	6	58	3	35	1†	7
South Ayrshire	46	92	3†	6	*	2
South Lanarkshire	120	94	5†	4	*	3
Stirling	34	93	2†	5	*	2
West Dunbartonshire	37	88	4†	10	*	3
West Lothian	58	94	*	3	*	2
Western Isles	9	76	2†	15	1†	9
Scotland	1,901	87	169	8	117	5

Table 8.8
Satisfaction with heating

	Satisfaction with heating					
	Satisfied		Dissatisfied		Neutral/Don't Know	
	000s	%	000s	%	000s	%
Aberdeen City	81	85	10†	10	5†	5
Aberdeenshire	79	88	8†	9	*	3
Angus	44	91	3†	7	*	3
Argyll & Bute	35	87	4†	9	*	4
Borders	40	83	5†	11	3†	6
Clackmannan	19	88	2†	9	*	3
Dumfries & Galloway	55	87	7†	10	*	3
Dundee City	54	81	9†	13	4†	7
East Ayrshire	47	91	3†	6	*	3
East Dunbartonshire	41	94	2†	5	*	1
East Lothian	35	89	3†	7	*	4
East Renfrewshire	33	92	2†	6	*	2
Edinburgh City	180	89	15†	7	7†	3
Falkirk	56	88	6†	9	*	3
Fife	128	88	12†	8	6†	4
Glasgow City	213	79	45	17	12	5
Highland	75	84	10†	11	4†	5
Inverclyde	33	87	4†	10	*	3
Midlothian	31	92	2†	6	*	1
Moray	32	88	3†	8	*	4
North Ayrshire	51	86	6†	10	3†	5
North Lanarkshire	110	86	13†	10	4†	3
Orkney	8	84	1†	10	1†	6
Perthshire&Kinross	52	88	4†	7	3†	5
Renfrewshire	68	92	5†	7	*	1
Shetland	8	85	1†	8	1†	6
South Ayrshire	46	91	3†	6	*	3
South Lanarkshire	112	87	12†	10	5†	4
Stirling	32	89	3†	8	*	3
West Dunbartonshire	37	89	4†	9	*	2
West Lothian	55	90	5†	7	*	2
Western Isles	9	79	2†	16	1†	5
Scotland	1,900	87	212	10	80	4

Table 8.9
Difficulty in heating home

	Difficulty heating home			
	No		Yes	
	000s	%	000s	%
Aberdeen City	60	63	35	37
Aberdeenshire	57	63	33	37
Angus	39	80	9†	20
Argyll & Bute	26	65	14	35
Borders	35	73	13	27
Clackmannan	16	77	5	23
Dumfries & Galloway	42	66	21	34
Dundee City	46	68	22	32
East Ayrshire	36	70	15	30
East Dunbartonshire	33	76	11	24
East Lothian	27	70	12	30
East Renfrewshire	28	79	8	21
Edinburgh City	144	72	57	28
Falkirk	45	70	19	30
Fife	102	69	45	31
Glasgow City	164	61	107	39
Highland	60	67	29	33
Inverclyde	28	75	10	25
Midlothian	24	72	9	28
Moray	25	69	11	31
North Ayrshire	42	71	17	29
North Lanarkshire	94	74	33	26
Orkney	5	53	4	47
Perthshire&Kinross	46	77	14	23
Renfrewshire	56	76	18	24
Shetland	5	53	5	47
South Ayrshire	35	70	15	30
South Lanarkshire	90	69	40	31
Stirling	26	72	10	28
West Dunbartonshire	32	76	10	24
West Lothian	46	75	15	25
Western Isles	7	57	5	43
Scotland	1,522	69	670	31

Table 8.10
Fuel poor^a households

	Fuel poverty –2002 Definition					
	Not fuel poor		Fuel poor		Unobtainable	
	000s	%	000s	%	000s	%
Aberdeen City	85	90	8†	8	*	2
Aberdeenshire	74	82	15†	17	*	2
Angus	39	81	8†	16	*	3
Argyll & Bute	31	77	8†	21	*	2
Borders	38	78	8†	17	3†	5
Clackmannan	19	89	2†	10	*	1
Dumfries & Galloway	46	73	14†	23	*	4
Dundee City	58	85	9†	13	*	2
East Ayrshire	45	87	6†	11	*	2
East Dunbartonshire	40	92	3†	7	*	2
East Lothian	34	87	4†	11	*	2
East Renfrewshire	30	85	4†	11	*	4
Edinburgh City	170	85	24	12	7†	3
Falkirk	56	89	6†	10	*	1
Fife	127	87	17†	12	*	1
Glasgow City	222	82	38	14	11†	4
Highland	65	73	18†	21	6†	6
Inverclyde	33	88	4†	10	*	2
Midlothian	31	92	2†	7	*	1
Moray	28	76	8†	21	*	3
North Ayrshire	52	87	7†	11	*	1
North Lanarkshire	113	89	13†	10	*	1
Orkney	6	65	3	31	0†	5
Perthshire&Kinross	49	82	9†	14	*	3
Renfrewshire	66	88	8†	11	*	0
Shetland	7	73	2†	25	*	3
South Ayrshire	42	83	7†	14	*	2
South Lanarkshire	112	87	14†	11	4†	3
Stirling	31	86	4†	11	*	3
West Dunbartonshire	38	90	3†	8	*	2
West Lothian	57	93	4†	6	*	1
Western Isles	7	63	4	34	*	3
Scotland	1,851	84	286	13	56	3

a This refers to fuel poverty as defined in the Fuel Poverty Statement of August 2002 (see page 213 of the national report for details).

Table 8.11
Fuel poor^a households

	Fuel poverty - 96 definition					
	Not fuel poor		Fuel poor		Unobtainable	
	000s	%	000s	%	000s	%
Aberdeen City	87	92	6†	6	*	2
Aberdeenshire	77	85	12†	13	*	2
Angus	41	85	6†	12	*	3
Argyll & Bute	33	83	6†	15	*	2
Borders	41	84	5†	11	*	5
Clackmannan	19	92	2†	8	*	0
Dumfries & Galloway	50	80	11†	17	*	4
Dundee City	60	89	6†	9	*	2
East Ayrshire	47	92	3†	6	*	2
East Dunbartonshire	41	96	*	3	*	2
East Lothian	36	92	3†	7	*	2
East Renfrewshire	32	89	3†	7	*	4
Edinburgh City	177	88	17†	9	6†	3
Falkirk	59	93	3†	5	*	1
Fife	133	91	12†	8	*	1
Glasgow City	231	86	29	11	10†	4
Highland	70	78	14†	16	5†	6
Inverclyde	34	90	3†	8	*	2
Midlothian	32	95	*	3	*	1
Moray	30	82	6†	16	*	3
North Ayrshire	53	89	5†	9	*	1
North Lanarkshire	117	92	9†	7	*	1
Orkney	7	71	2†	24	0†	5
Perthshire&Kinross	52	88	5†	9	*	3
Renfrewshire	69	92	6†	8	*	0
Shetland	8	78	2†	19	*	3
South Ayrshire	44	89	4†	9	*	2
South Lanarkshire	117	90	9†	7	4†	3
Stirling	33	90	3†	7	*	3
West Dunbartonshire	39	94	2†	5	*	2
West Lothian	59	96	*	3	*	1
Western Isles	8	71	3	26	*	3
Scotland	1,938	88	201	9	54	2

^a This refers to fuel poverty as defined in the 1996 SHCS Fuel Poverty Report (see page 213 of the national report for details).



SCOTTISH EXECUTIVE

House Condition Surveys Team
Communities Scotland

Thistle House
91 Haymarket Terrace
Edinburgh
EH12 5HE
t 0131 313 0044
e shcs@communitiesScotland.gov.uk
w <http://www.shcs.gov.uk>

© Crown Copyright 2004
ISBN 1 874170 64 9