Domestic Energy Fact File (2006):

Owner occupied, Local authority, Private rented and Registered social landlord homes

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Acknowledgements

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The Department of Trade and Industry and the Environmental Change Institute both provided information that was important for the analyses underlying the figures presented in many of the tables.

The continuing development and maintenance of the BREHOMES model was essential to much of the information presented in this report and the assistance of Hugh Bown with this task is gratefully acknowledged.

Contents

Introduction

This report provides information on trends relating to energy use and energy efficiency in homes in Great Britain. The information is broken down by different tenures – owner occupied, local authority, private rented and registered social landlord (RSL). The tables, graphs and charts are equivalent to those in the Domestic energy fact file 2003 (1) which covers all tenures. This report updates and replaces the four tenure based Domestic energy fact files (2,3,4,5) produced in 2000.

As far as possible the information is consistent with that in the main Domestic energy fact file 2003. However in some cases the numbers for the individual tenures do not add up to the totals. This may be due to rounding of figures or in earlier years data for individual tenures has been taken from electronic files whereas totals may have been taken from paper files. Any tables for which scaling of numbers is involved can also lead to small differences. Scaling at individual tenure level and adding up the numbers does not necessarily give the same result as scaling at the entire stock level.

Data is presented for individual tenures and comparisons made between tenures. All tables are shown in appendix 1. Where data is available figures are presented from 1970 to 2004. In some cases data is not available for the earlier years. The information presented is intended to show long term trends. Differences in individual years should be treated with caution. They may be a reflection of statistical variation between survey samples rather than a significant difference. Appendix 2 discusses the 95% confidence limit associated with the energy efficiency measures.

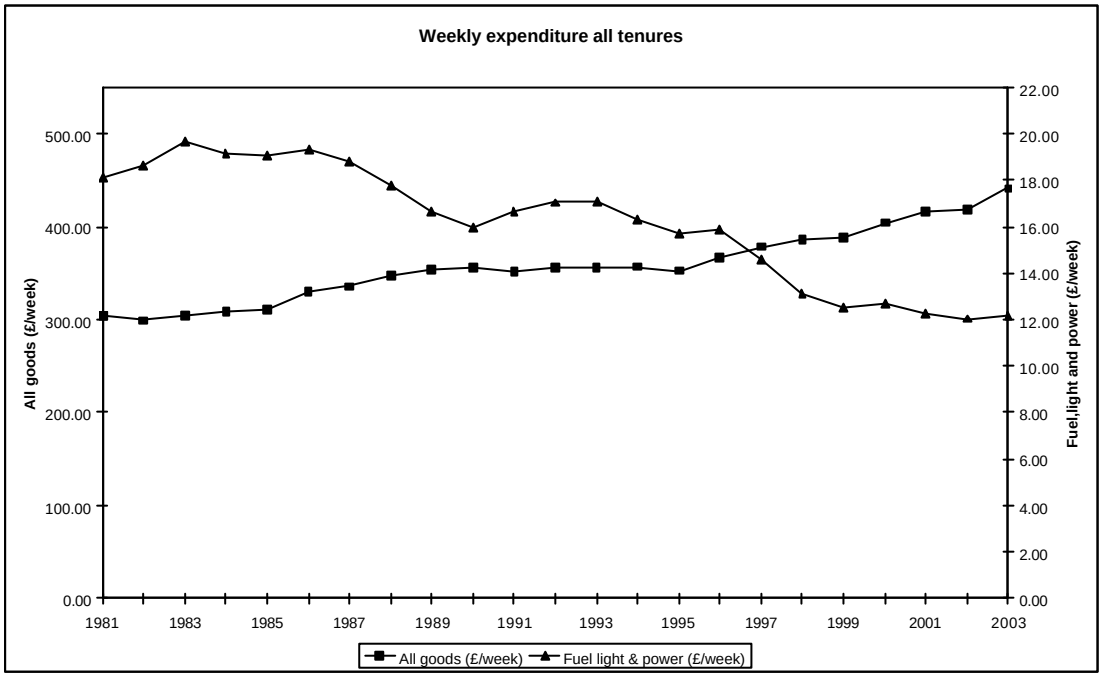
For the private rented and RSL sectors the sample sizes are quite small and variations due to survey samples need to be borne in mind. Before the mid 1980s data on private rented and RSL dwellings was not available separately. Note also that the precise date from which the separation can be made between private rented and RSL dwellings depends on the topic under consideration. Where appropriate, charts have been split at this point to avoid inconsistencies.

This report deals mainly with the differences between the tenures. Additional information is available on the total GB stock in the main Domestic energy fact file 2003. Where tables that are in the main fact file have not been included it is because information is not available at the tenure based level, is common to all tenures, or it does not make sense to attempt to present information at the tenure level.

Household expenditure on fuel, light and power

Figure 1 shows weekly expenditure across all tenures in 2003 prices (figures for 2004 are not yet available). The figures for expenditure are for the UK and come from the Family Expenditure Survey, known in recent years as the Expenditure and Food Survey. All other figures in this report are for GB. Expenditure on all goods is rising slowly whereas expenditure on fuel, light and power is more variable with a slight downward trend over the last 10 years.

Figure 1



Figures 2, 3, 4 and 5 show the same information for the individual tenures. RSL dwellings show the most obvious downward trend in expenditure on fuel, light and power. In 1986 £15.52 per week was spent on fuel, light and power whereas by 2003 this had dropped to £8.29 per week. This contrasts with owner occupied dwellings where expenditure on fuel, light and power had dropped from £20.88 per week to £13.45 per week between 1986 and 2003. Total weekly expenditure on all goods in RSL dwellings is much lower than in owner occupied dwellings. In 1986 average weekly expenditure in RSL dwellings was £179.70 compared to £403.45 in owner occupied dwellings. By 2003 total weekly expenditure in RSL dwellings had increased to £234.71 whereas that in owner occupied dwellings had increased to £509.53.

Figure 2

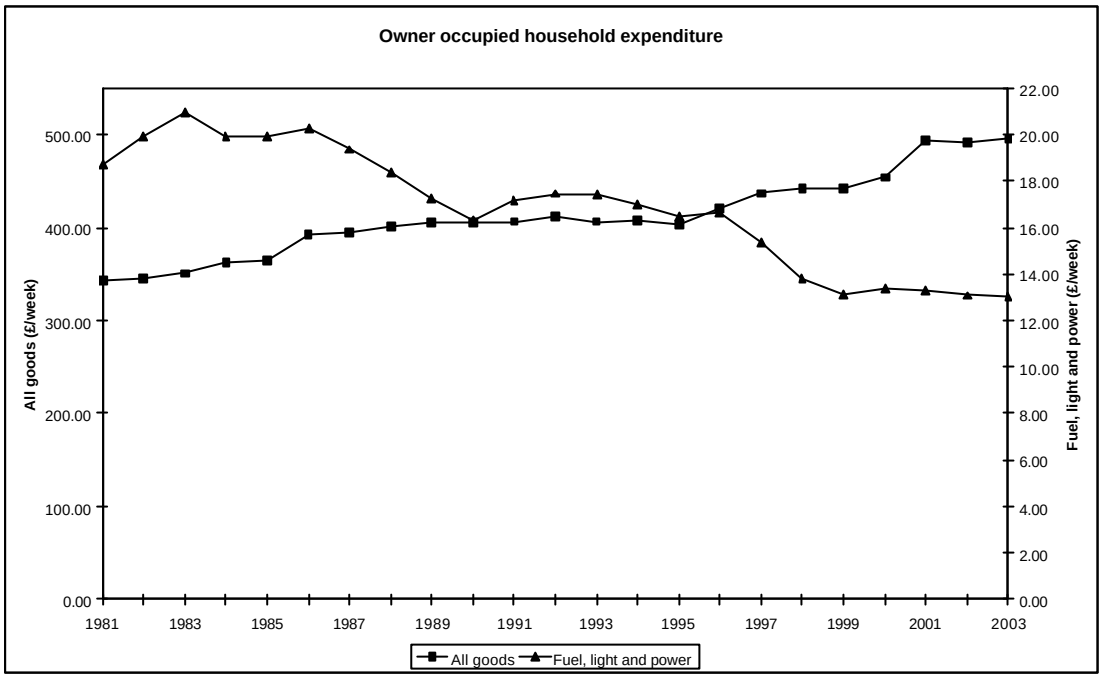


Figure 3

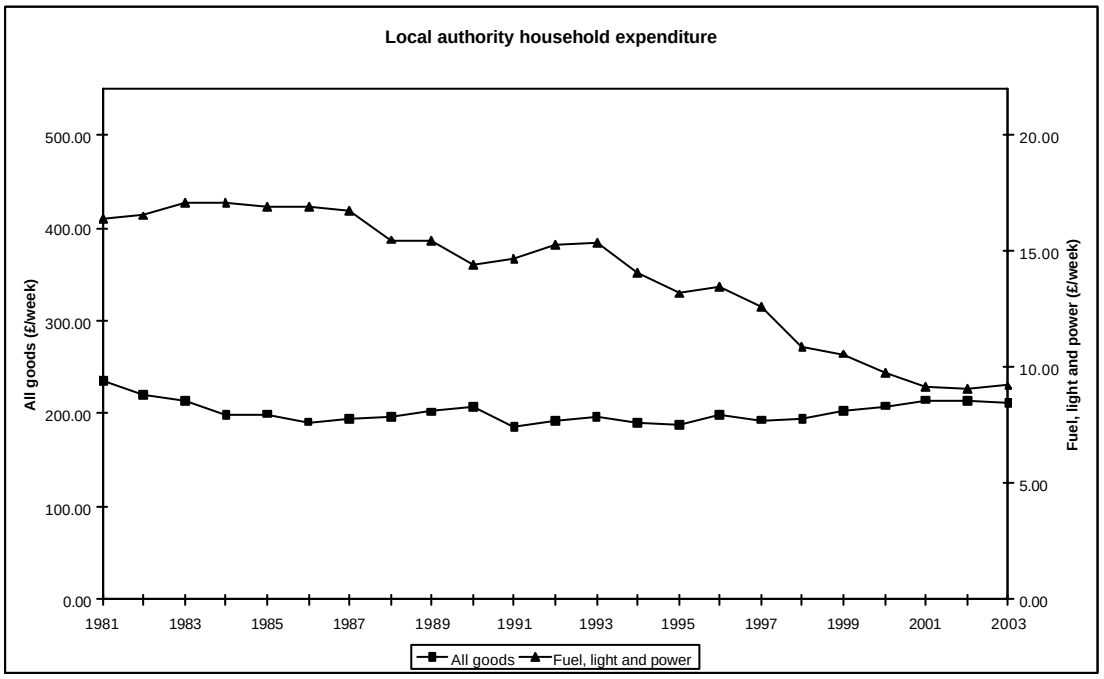
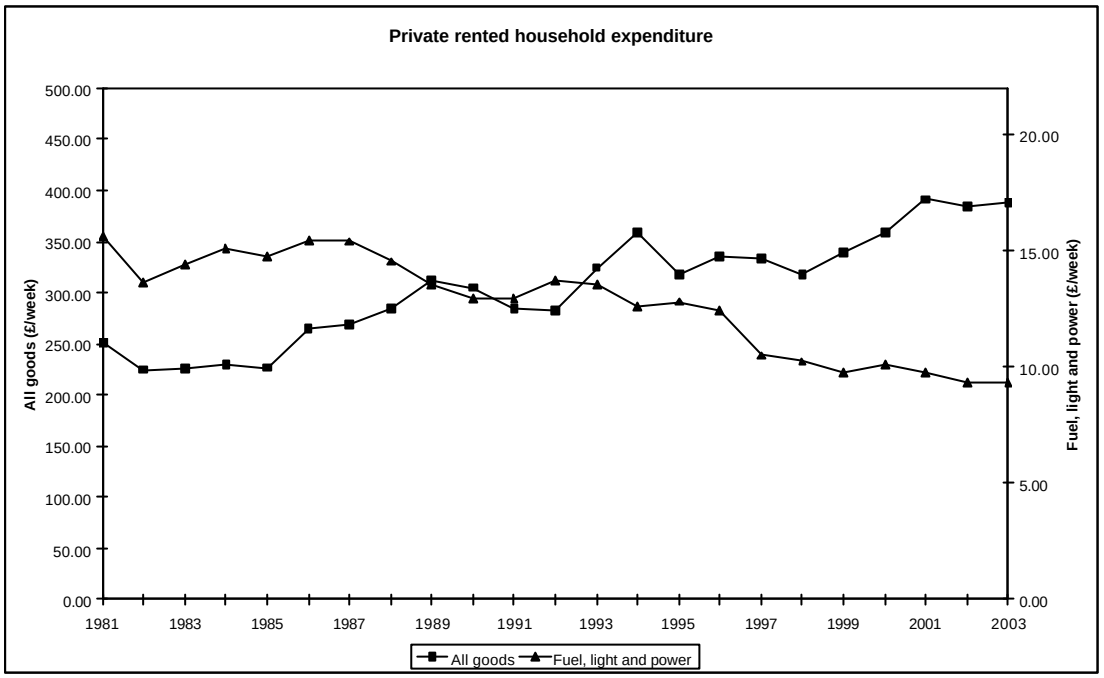


Figure 4



The figures shown for the years 1981 to 1985 are for private rented and RSL sectors combined.

Figure 5

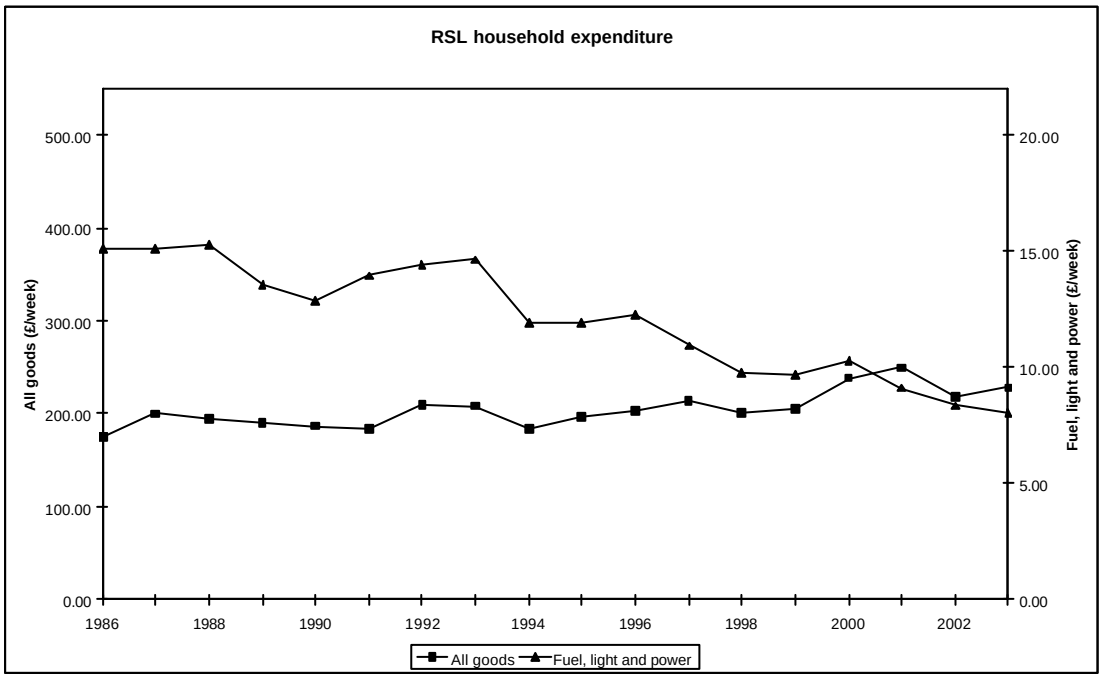
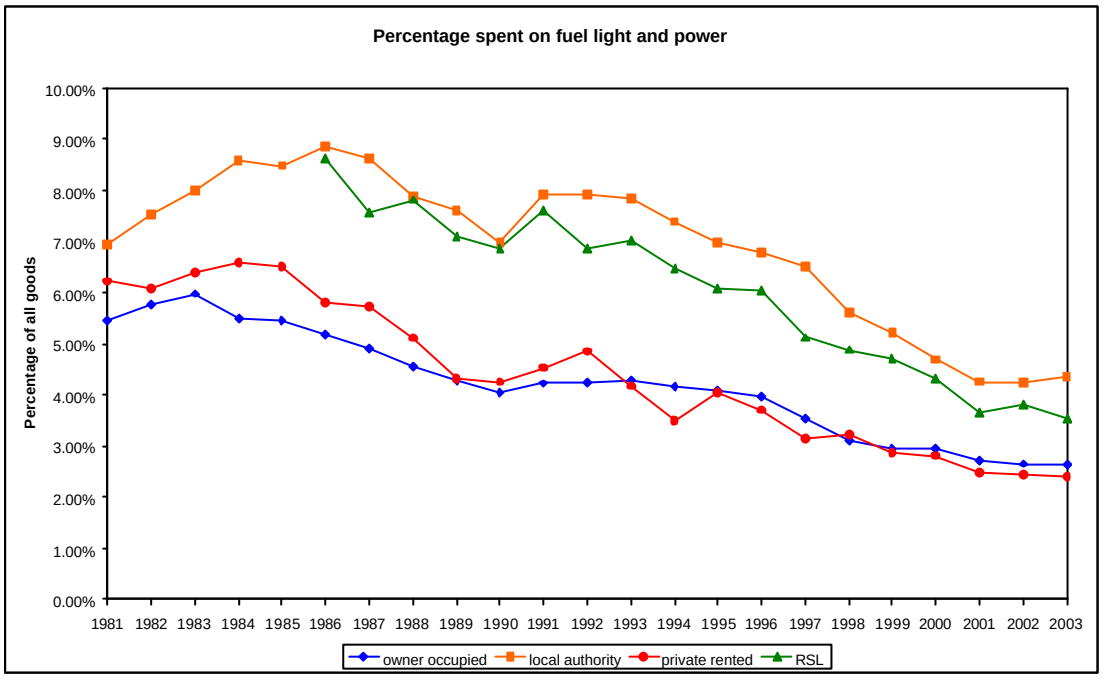


Figure 6 shows the percentage of total expenditure that is spent on fuel, light and power by each tenure. In all tenures the percentage spent has fallen over the last 10 years. RSL and local authority households spend a higher

percentage than owner occupied and private rented households. In 2003 local authority households spent 4.4% of total expenditure on fuel, light and power while private rented households spent only 2.4% of total expenditure on fuel, light and power.

Figure 6

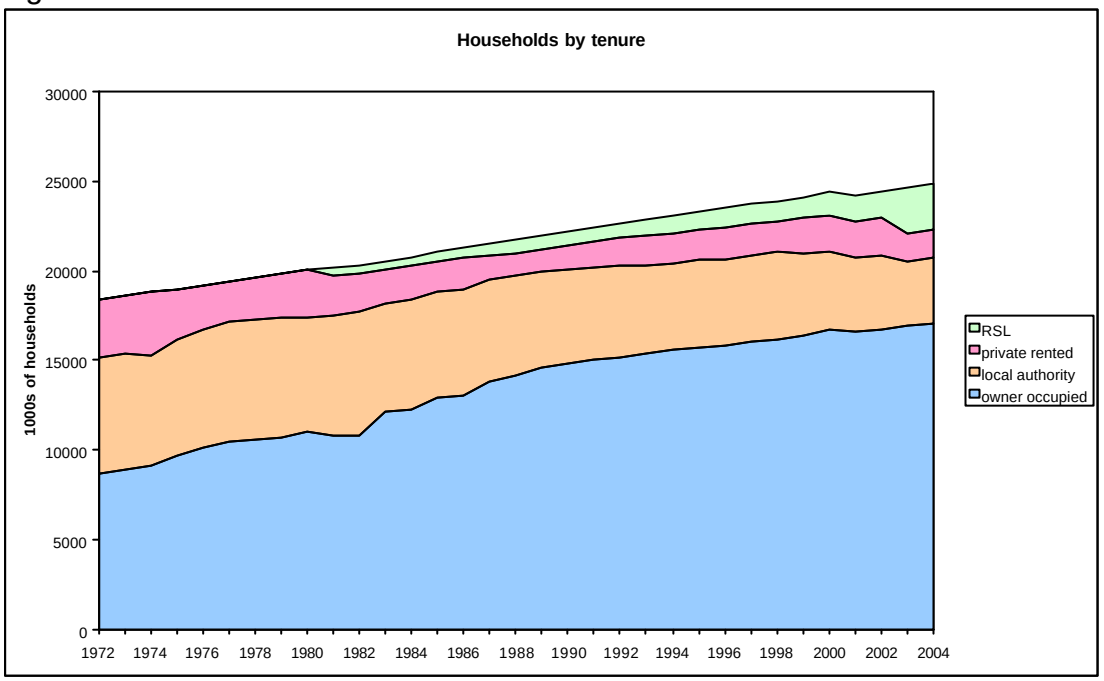


Tables 1-6 give the data relating to the charts on expenditure.

Households and household size

Figure 7 shows the number of households in each tenure. Table 7 also shows mean household size although figures for the individual tenures are not available beyond 1996. 2001 household numbers are based on the 2001 census. This shows an apparent drop in household numbers. Numbers before 2001 are subject to updating. Figures for 2003 and 2004 are based on projections. These totals figures are taken from the ODPM web site. The tenure figures are derived from the GfK data and scaled to the ODPM total households.

Figure 7



1981 is the first year in which figures for RSL dwellings are available. Before this, RSL dwellings are included with private rented dwellings. In the last two years shown there are potentially some anomalies in the classification of private rented and RSL dwellings.

The main changes in the stock are a decrease in local authority households and an increase in RSL households. In 1981 33.6% of households were local authority and 2.3% were RSL. By 2004 only 14.4% were local authority and RSL households had increased to 10.3%.

Mean household sizes are available until 1996 but the individual tenure figures since then are not available. The mean household size in 1996 varies from 2.54 people per household in owner occupied homes to 2.14 people per household in private rented households. In owner occupied households it has decreased from 2.93 people per household in 1973 to 2.54 people per household in 1996. Over all tenures it has fallen from 2.83 people per household in 1973 to 2.33 in 2001.

Age of the housing stock

Figure 8 shows the age distribution for the housing stock. More recent dwellings will have been built with higher levels of insulation whereas the older stock has had insulation added to achieve improved heat loss levels.
The increase in stock is due to new dwellings being built and conversions. This is set against a decrease due to demolitions. Data is not available for demolitions in individual age categories but it can be assumed that the small changes in the older age categories mean that the demolitions are almost balanced by an increase in stock due to division of larger dwellings into flats. For example in 1987 12% of pre 1918 dwellings are flats but by 2004 flats account for 18% of the pre 1918 stock.

Figure 8

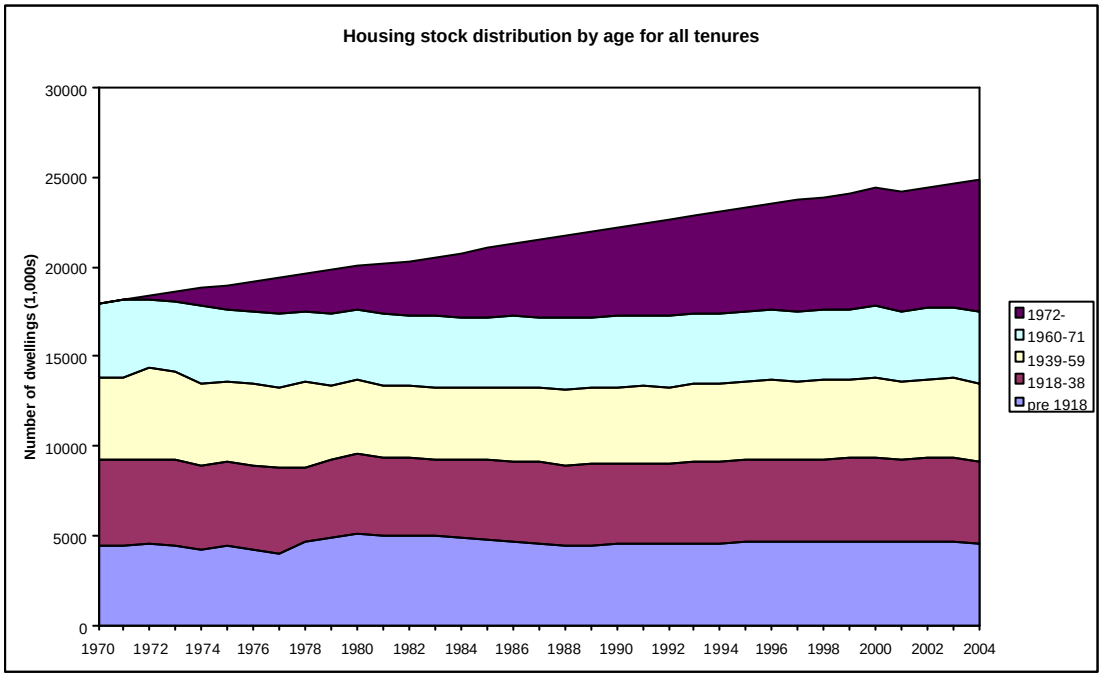


Figure 8 shows there is still a large number of dwellings that were built before 1918.

Figure 9

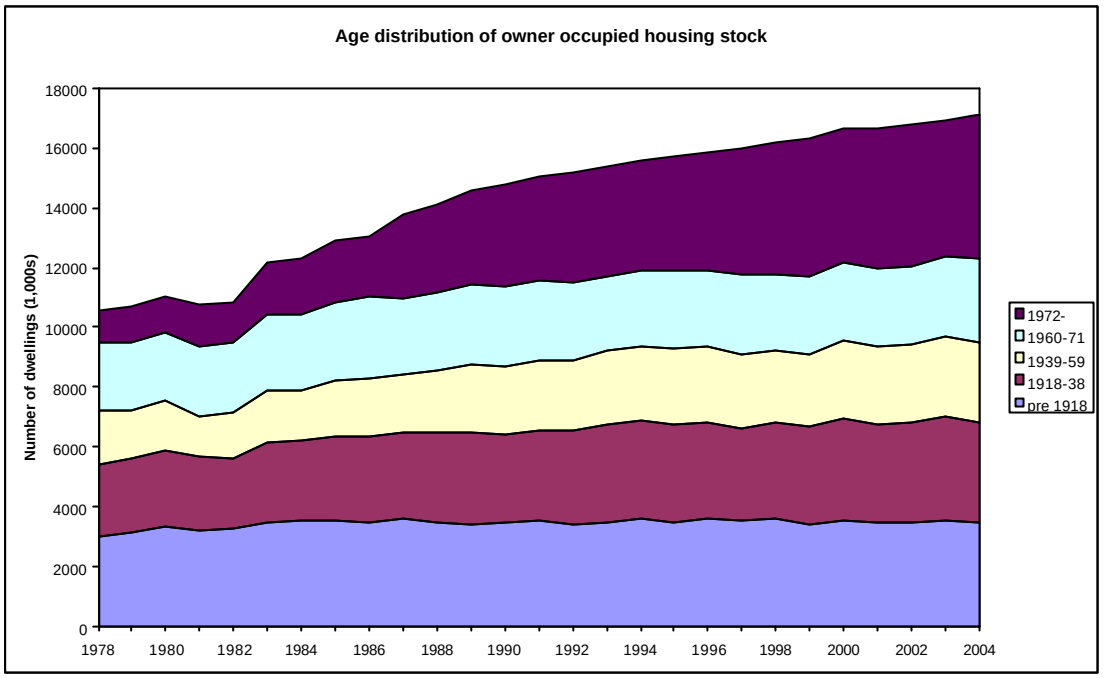


Figure 9 shows the even distribution of owner occupied homes in the different age categories. The growth in the post 1972 homes indicates an increase in insulation levels. This is particularly true of post 1976 homes when energy conservation measures were included in the Building Regulations.

Figure 10

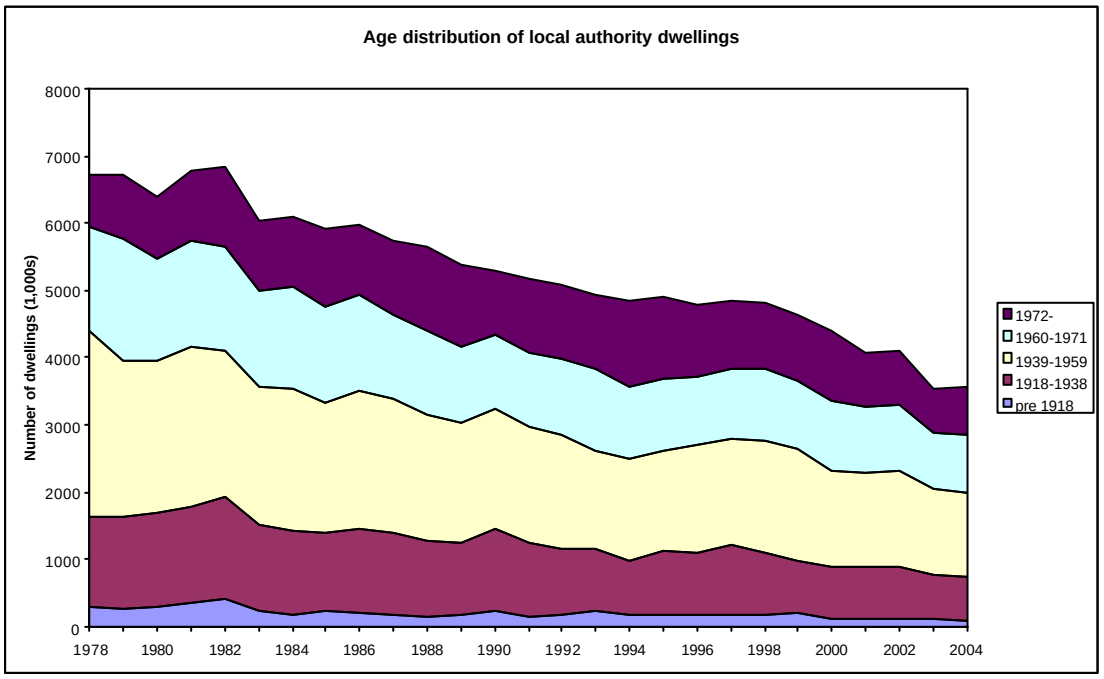


Figure 10 shows the number of local authority homes declining. The pre 1918 dwellings have remained very similar in number but there has been a

decrease particularly in the 1939-59 and 1960-71 categories. This is due to the Right to Buy for local authority tenants moving them in to the owner occupied sector and the transfer of large numbers of local authority properties to registered social landlords.

Figure 11

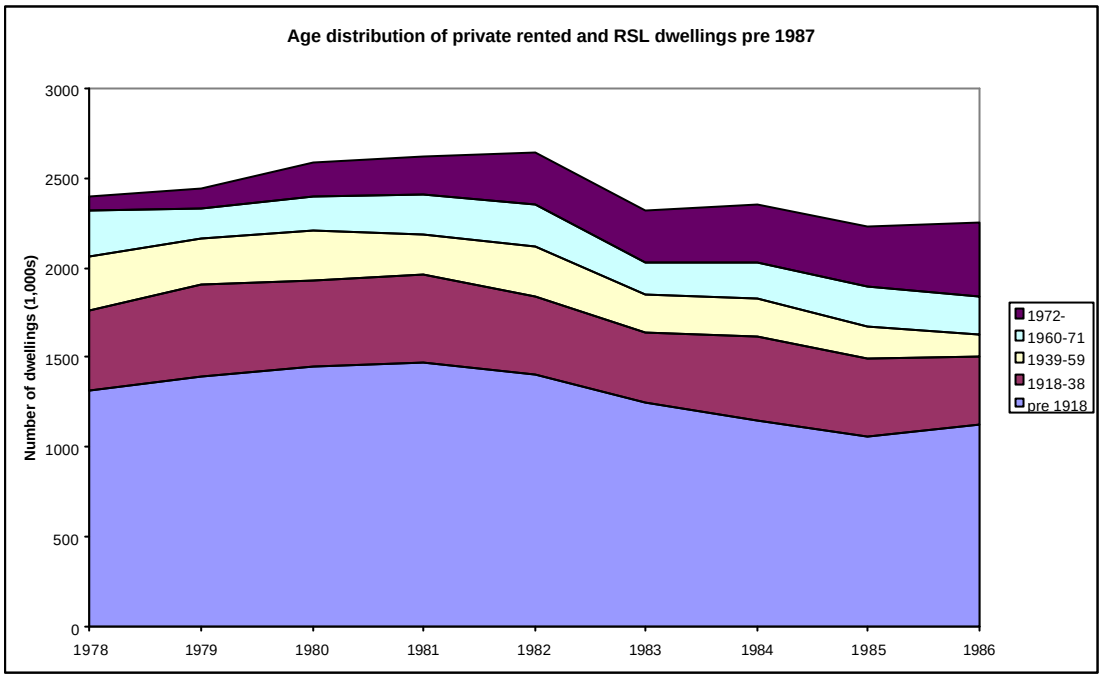


Figure 11 shows the combined private rented and RSL sectors before 1987. This sector has a large number of pre 1918 dwellings which are likely to be less energy efficient.

Figure 12 shows the private rented sector since 1987.

Figure 12

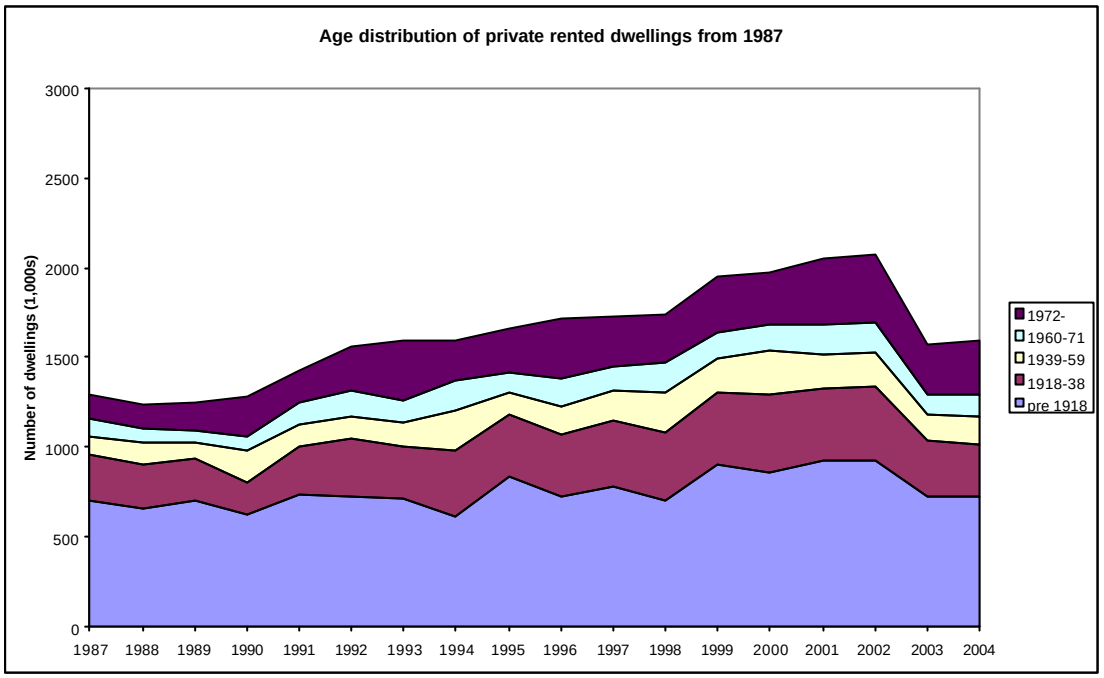


Figure 13

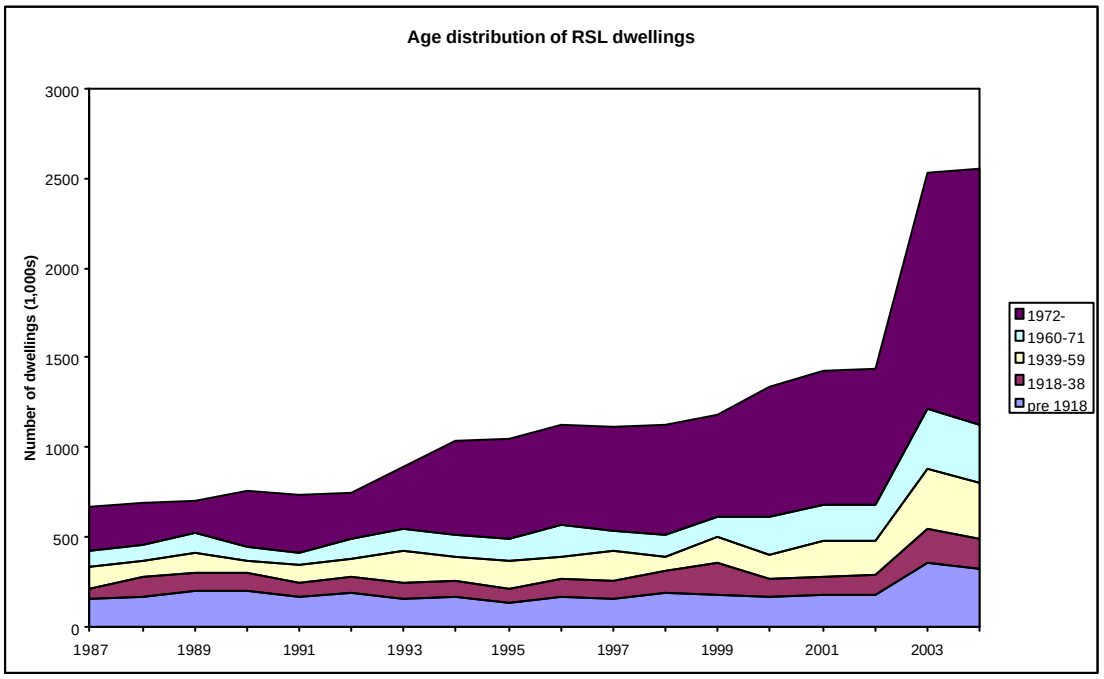


Figure 13 shows the RSL sector. As mentioned before this sector is not clearly identified before 1987. It can be seen by looking at figures 11, 12 and 13 that most of the pre 1918 homes in figure 11 are in the private rented

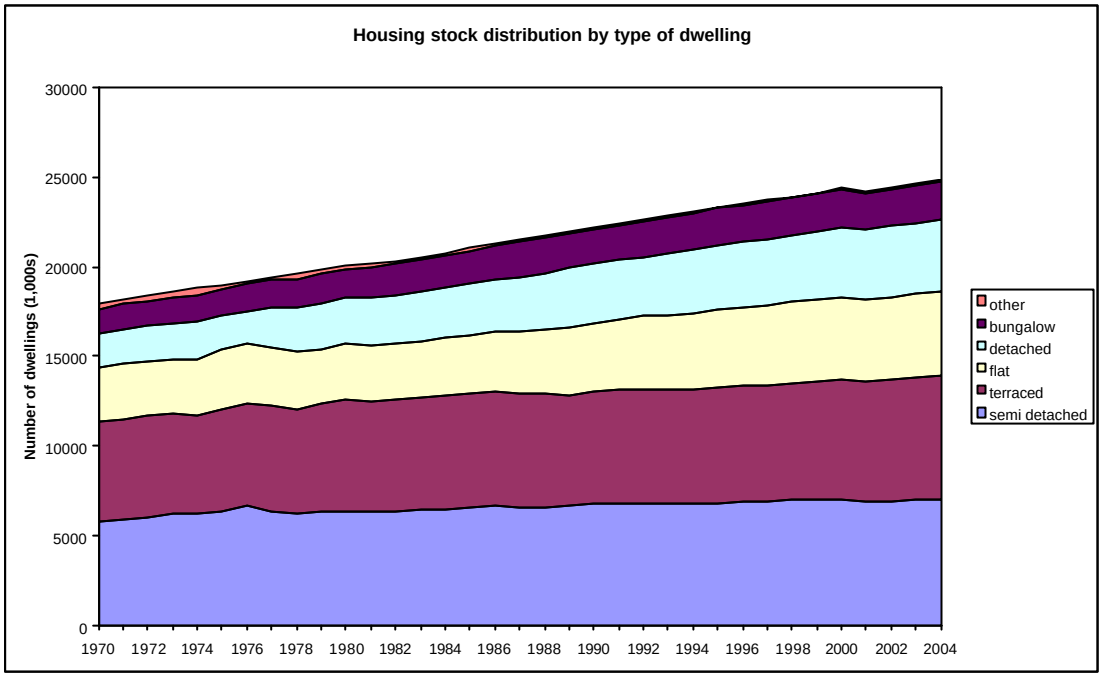
sector. The RSL sector has a fairly small number of pre 1918 homes and a high proportion of 1972- homes which means it has a higher than average energy efficiency. Figure 13 also shows the recent increase in RSL stock due to transfers from the council and private rented sectors, although, the large increase after 2002 is almost certainly due to classification problems, which are being investigated.

Data for the age distribution charts is available in tables 8-12.

House types

Figure 14 shows the distribution of the housing stock by dwelling type.

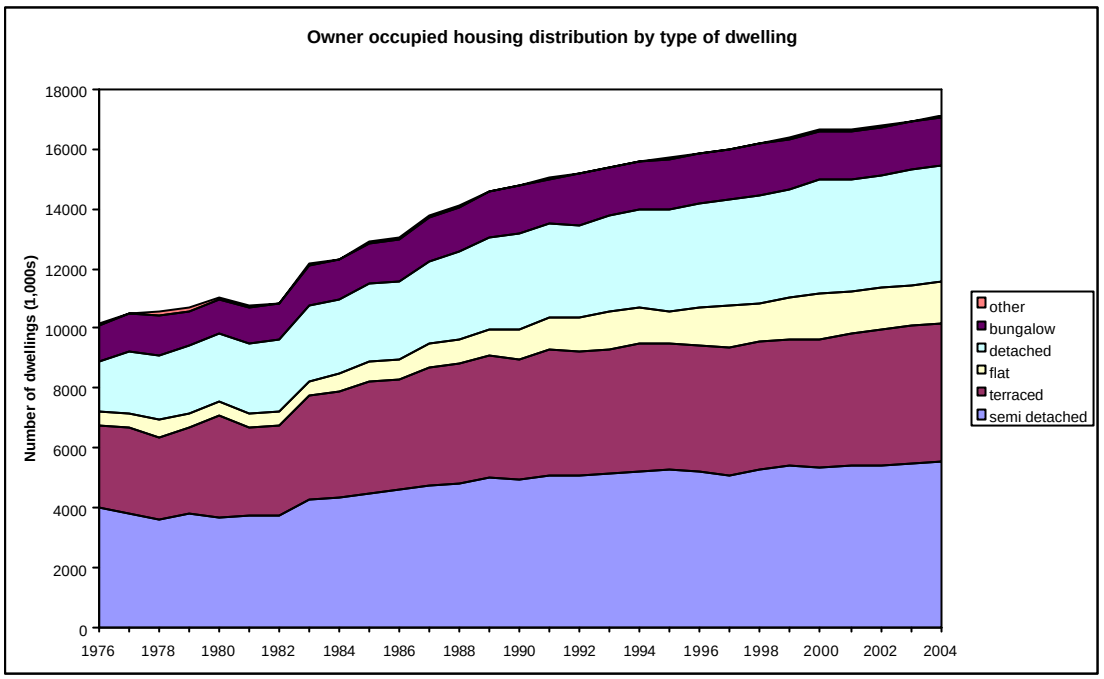
Figure 14



Numbers of semi detached and terraced houses have increased by 18% and 19% respectively since 1970 but the number of flats and detached houses has increased by 36% and 52%.

Figure 15 shows the distribution of house types for owner occupied dwellings.

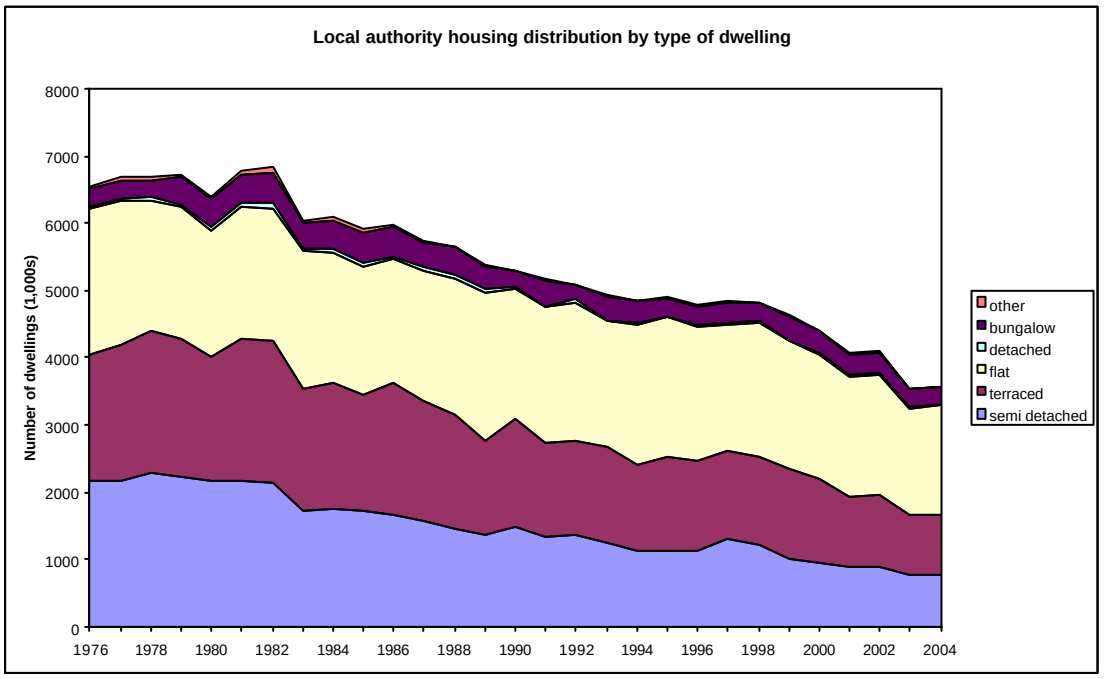
Figure 15



For owner occupied households the number of semi detached and terraced houses has increased by 28% and 40% and the number of flats and detached houses by 67% and 56% since 1976.

Figure 16 shows the distribution of local authority households.

Figure 16



In the local authority sector all categories are decreasing except for bungalows which are a small percentage of the total.

Figure 17 shows private rented and RSL dwellings pre 1987

Figure 17

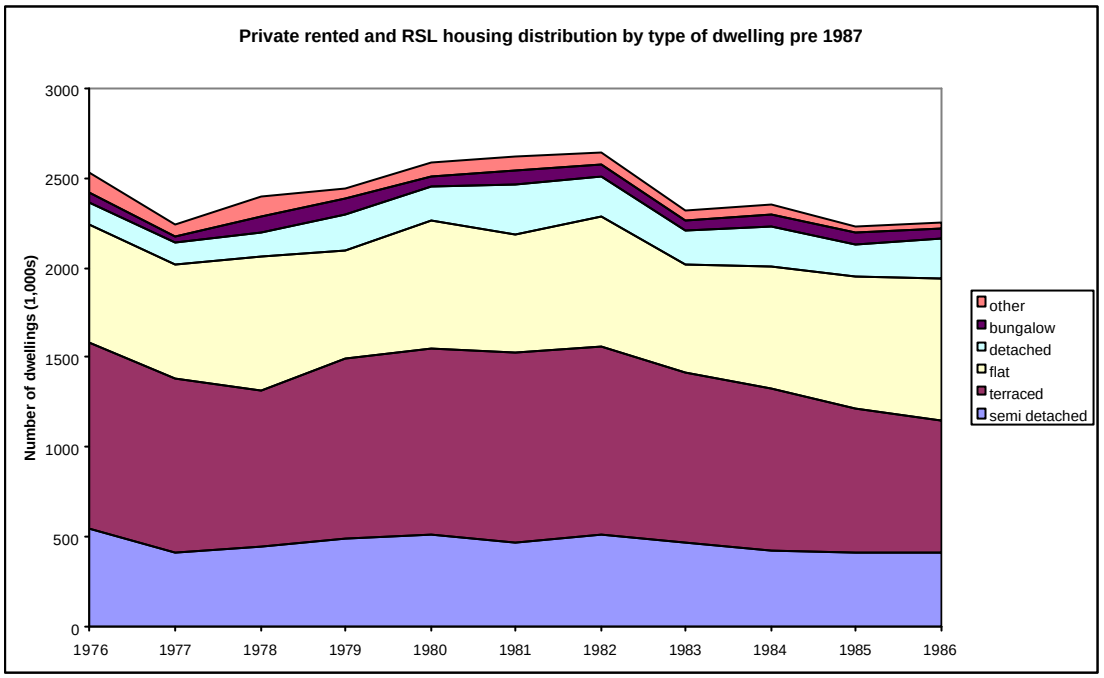


Figure 18

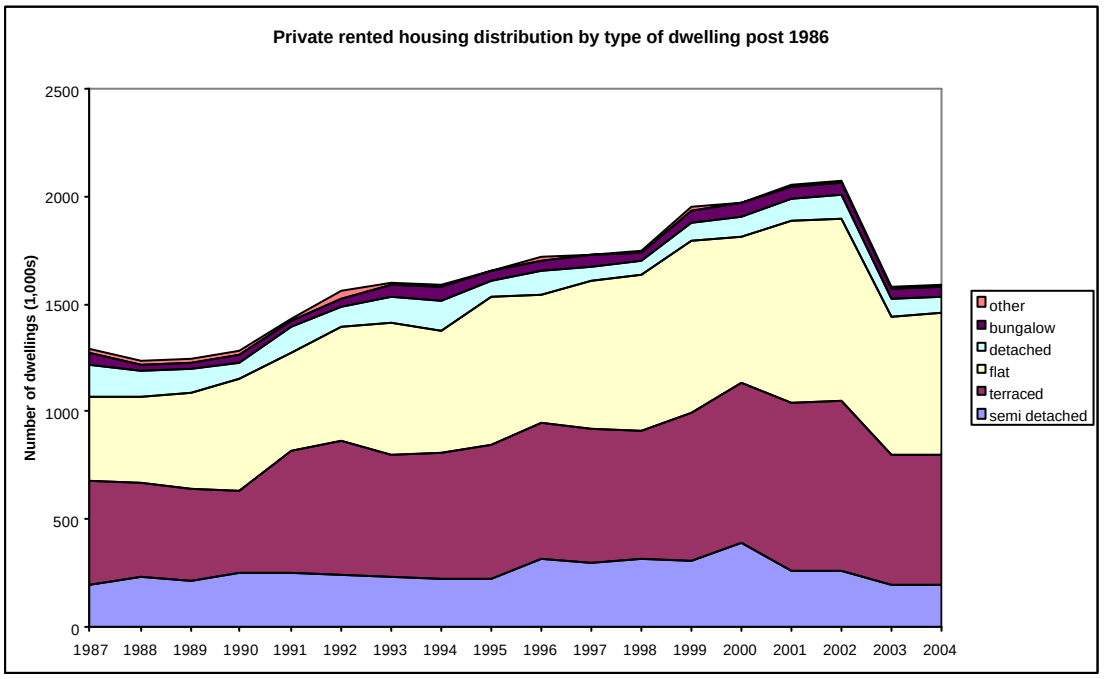
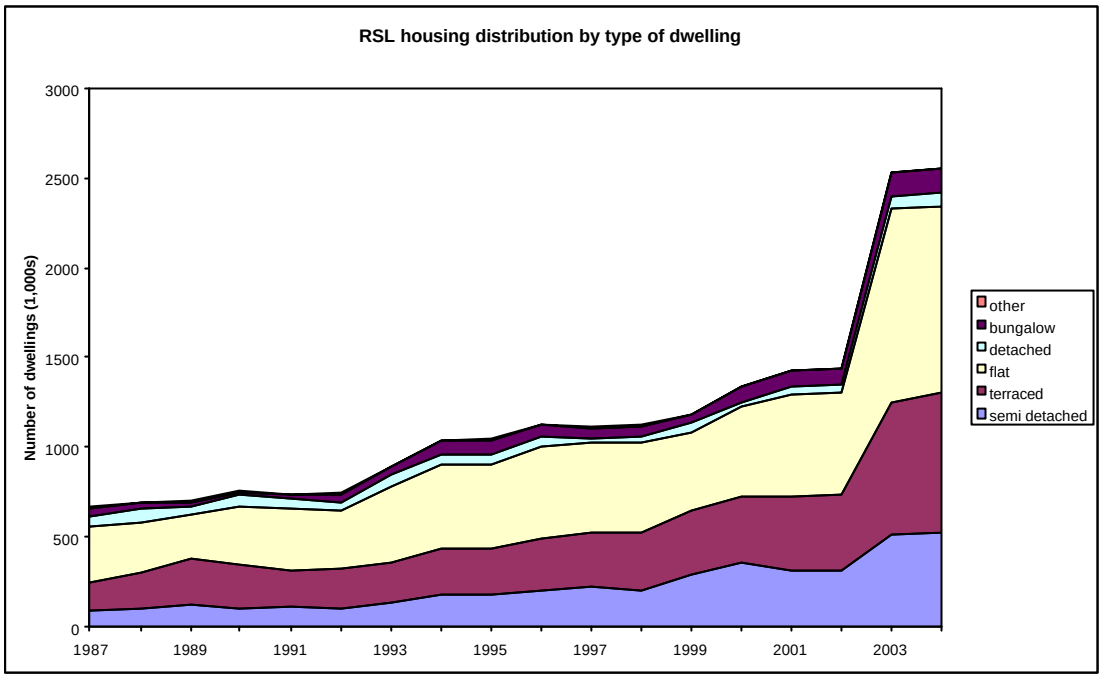


Figure 18 shows the distribution of private rented dwellings by type since 1987.

Until 1987 private rented and RSL figures were not available separately. Since then flats and terraced houses in the private rented sector have increased by 41% and 20%.

Figure 19 shows the same information for RSL dwellings.

Figure 19



All dwelling types have been increasing but with detached houses increasing at a slower rate.
The large increase after 2002 is almost certainly due to classification problems which are currently under review.

Figure 20

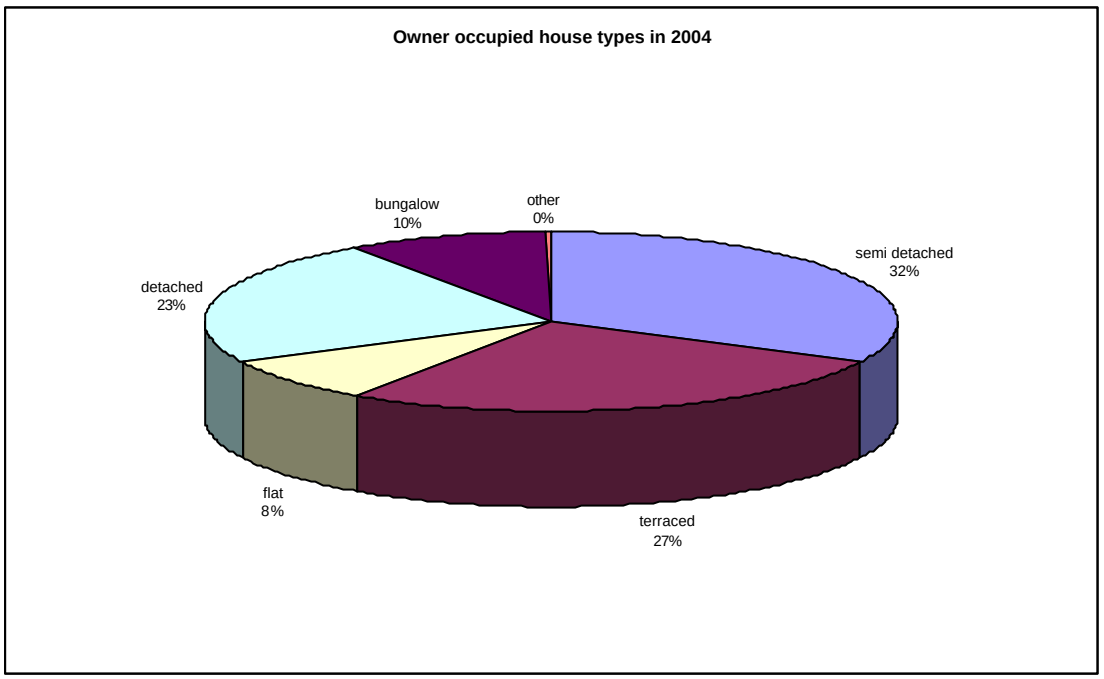
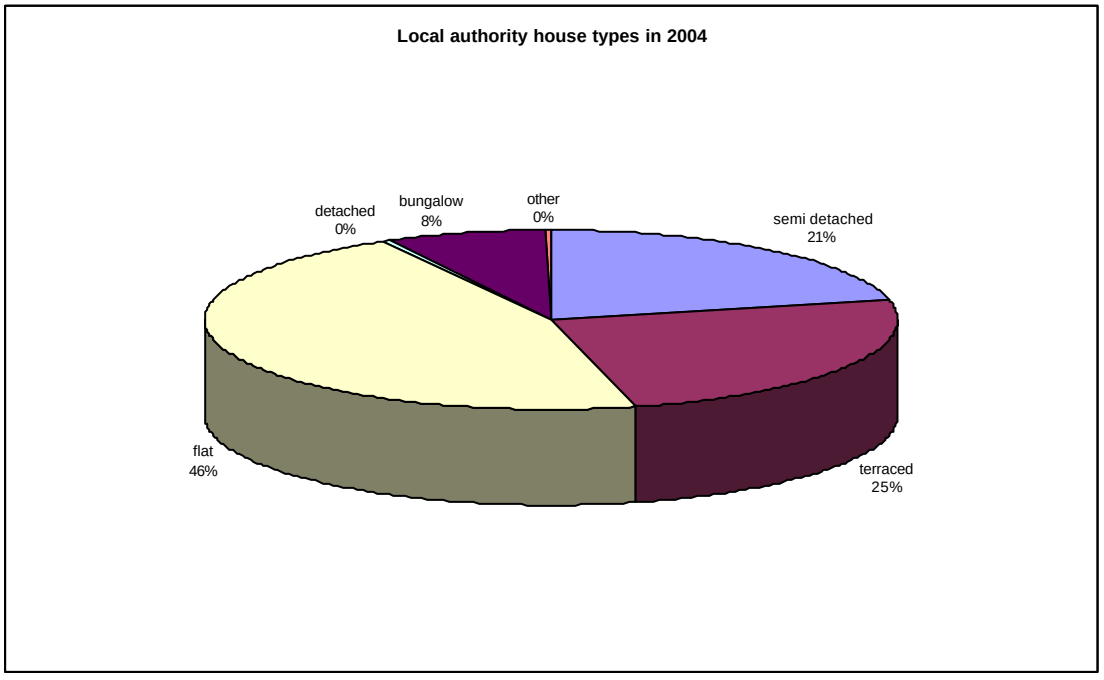


Figure 21



Figures 20 and 21 show the percentage of each dwelling type in the owner occupied and local authority sectors in 2004. There is a noticeably lower percentage of detached houses in the local authority sector, 0.2% compared to 23% and a much greater percentage of flats, 46% in the local authority sector compared to 8% in the owner occupied sector. In general there will be a greater heat loss from detached houses than flats due to the larger external area.

Figure 22

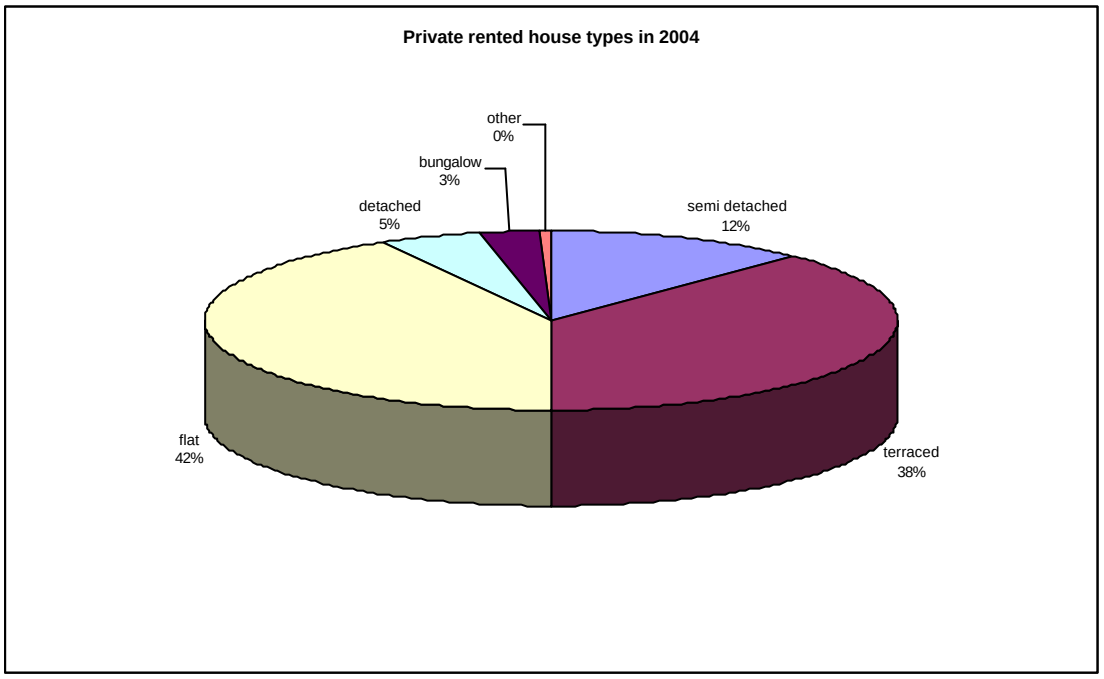
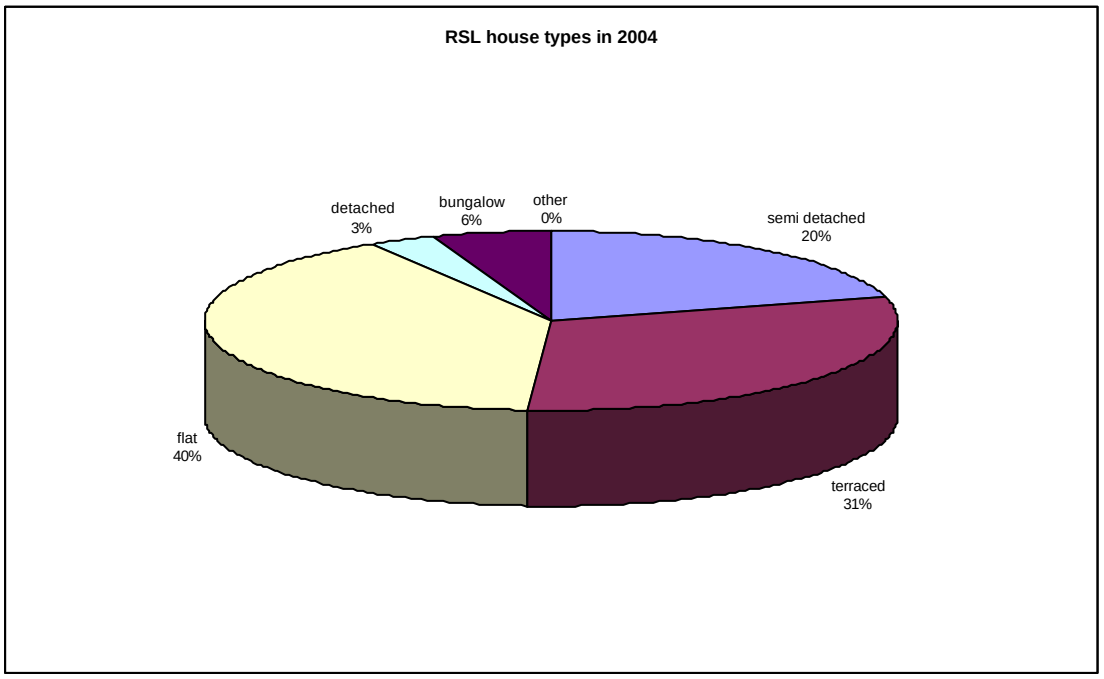


Figure 23

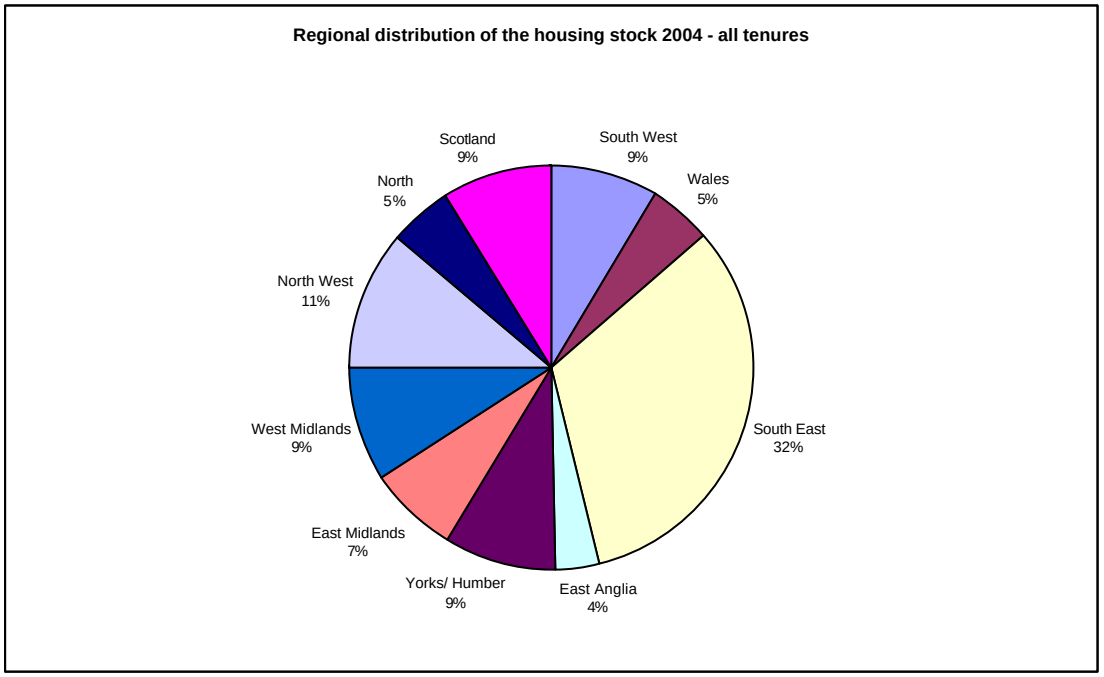


Figures 22 and 23 show the percentage of each dwelling type in the private rented and RSL sectors in 2004. In the private rented sector approximately 38% of dwellings are terraced and 42% are flats. The RSL sector has a similar percentage of flats but a lower percentage of terraced houses and a higher percentage of semi detached dwellings.
The data for these figures can be found in tables 13-17.

Regional distribution of housing stock

Figure 24 shows the regional distribution of the housing stock in 2004.

Figure 24



As might be expected the highest percentage of dwellings are in the South East.

Figure 25

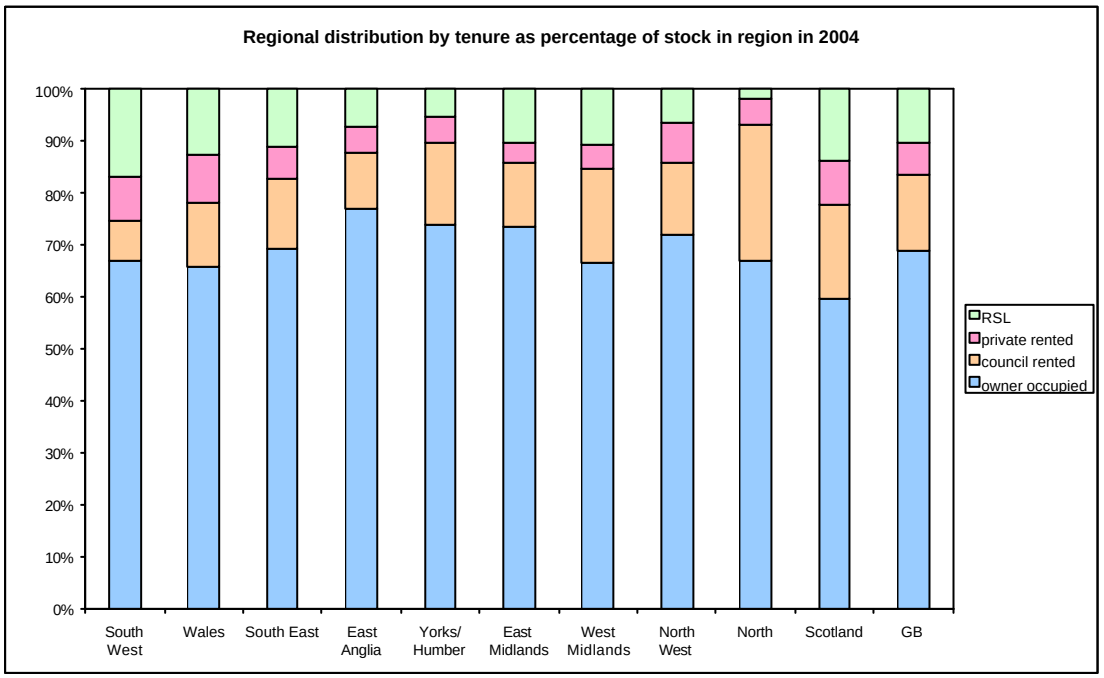


Figure 25 shows the percentage of each tenure in each region and compares it with the GB split. The owner occupied sector is the largest in all regions. The South West has the highest percentage of RSL dwellings and the North the smallest.

Figure 26

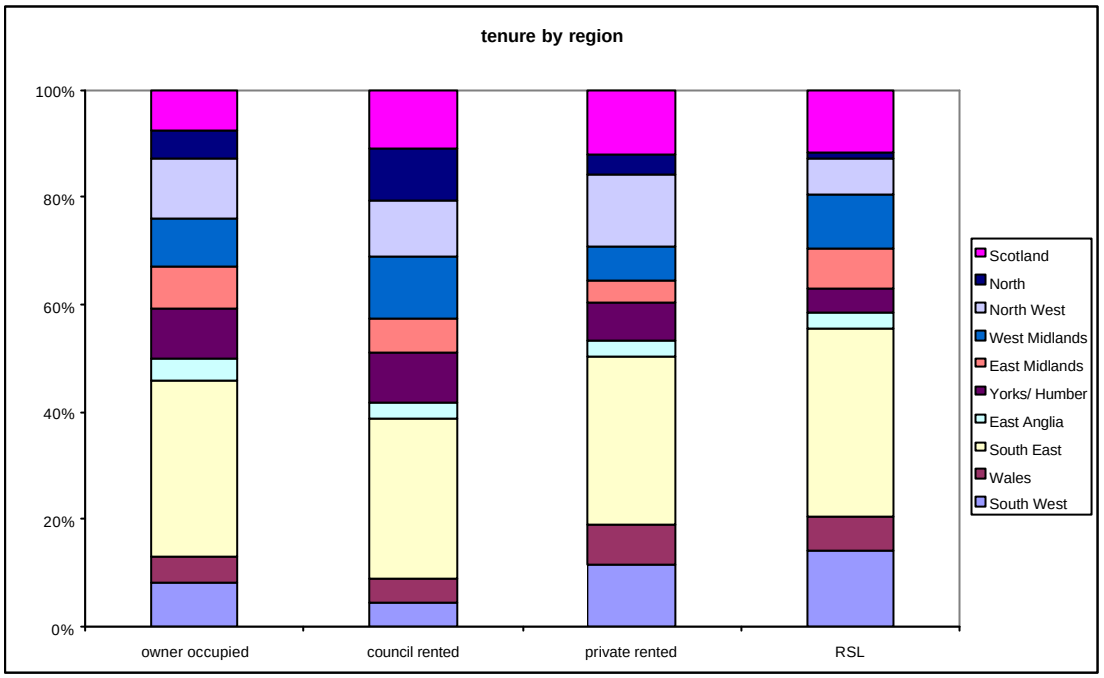
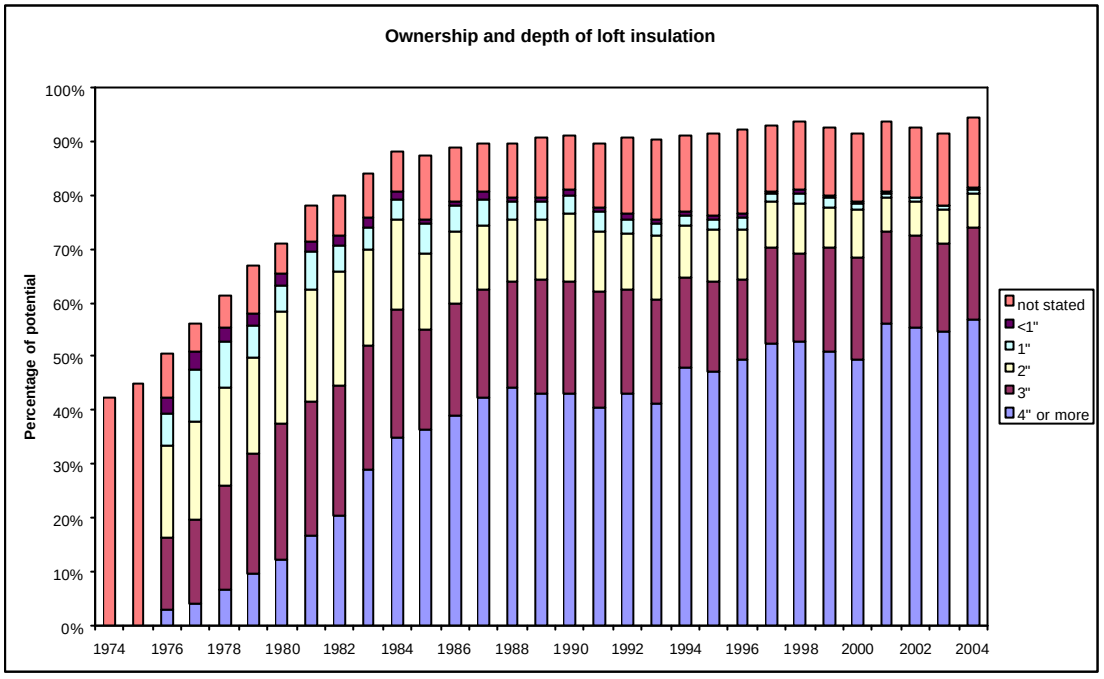


Figure 26 shows how each of the tenures divides by region.
The South East has the highest percentage of dwellings in each of the tenures. There are 34% of RSL dwellings in the South East compared to 30% of local authority dwellings.
There are only 8% of owner occupied dwellings in Scotland compared with 11% or 12% for other tenures.
Sample sizes particularly for RSL dwellings are small and differences will occur because of this.
The tables 18-22 show the regional data for the housing stock from 1977 to 2004 except for RSL dwellings where data is only available from 1987.

Loft insulation

Figure 27 shows the overall ownership of loft insulation. The percentage of those with accessible lofts with loft insulation has increased from 42% to 94% between 1974 and 2004. The depth of insulation has also been increasing and 57% had 4” or more of loft insulation in 2004.

Figure 27



The following five figures 28-32 show the loft insulation levels for different tenures with figure 30 showing private rented and RSL dwellings combined until 1986 and then private rented and RSL separate from 1987 in figures 31 and 32.

Figure 28

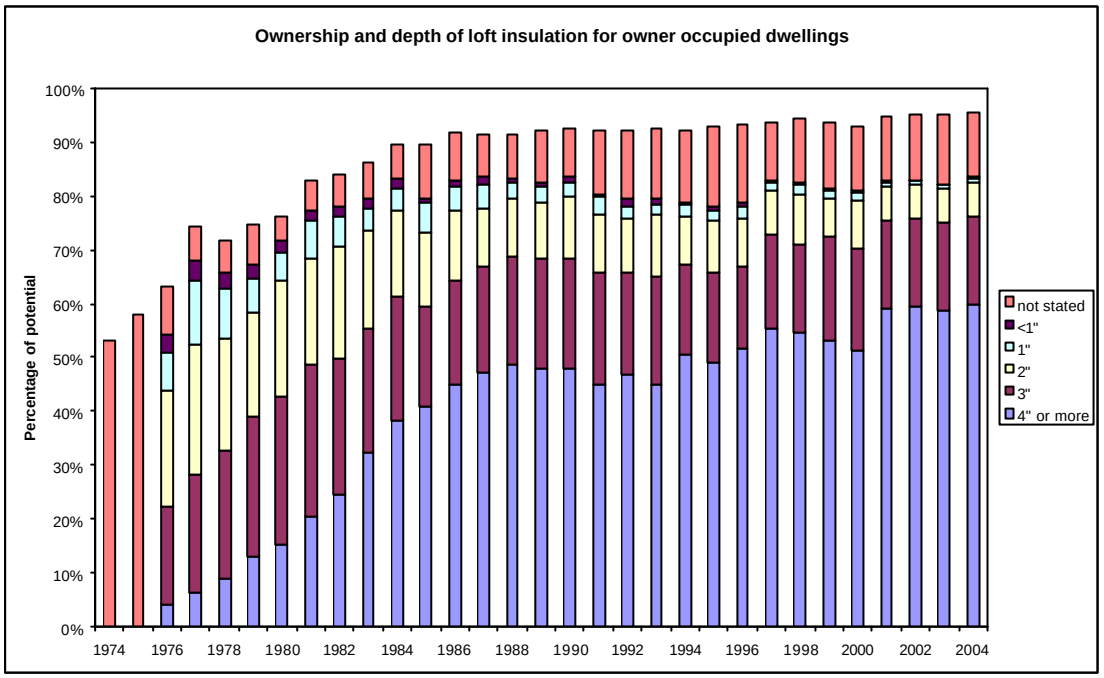


Figure 29

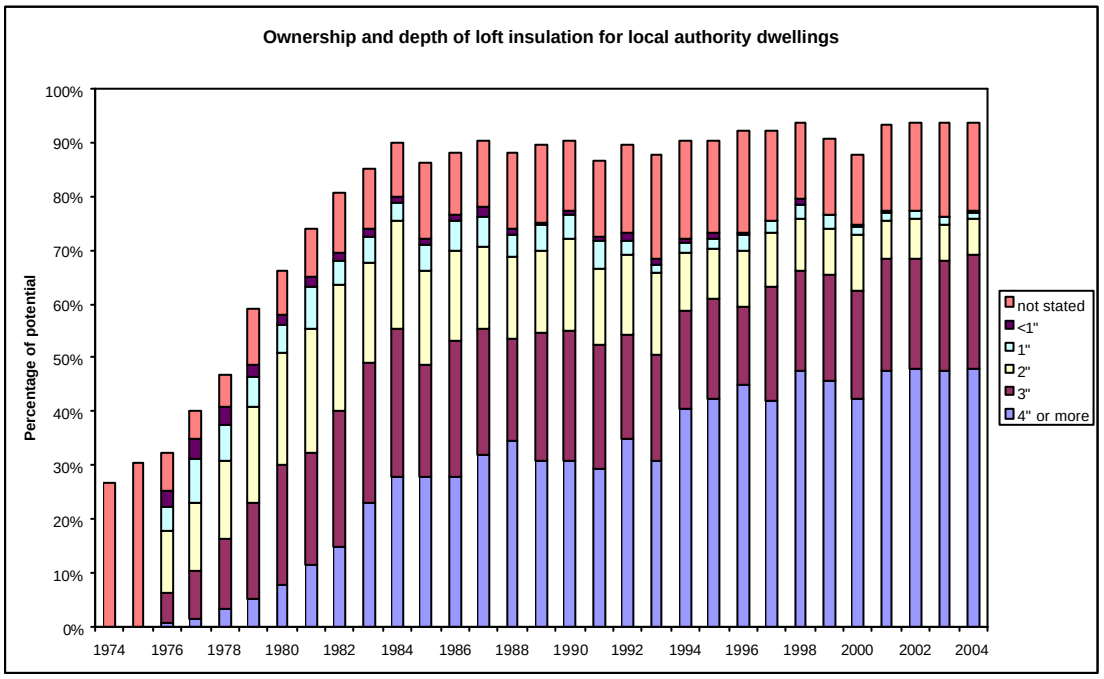


Figure 30

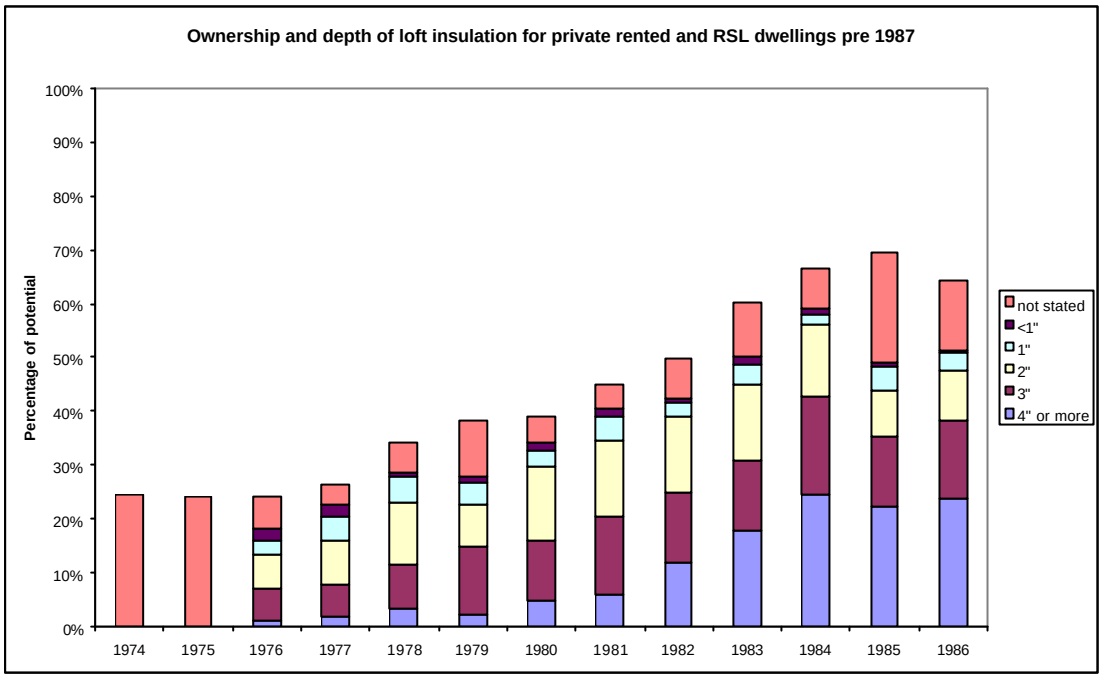


Figure 30 shows private rented and RSL dwellings combined between 1974 and 1986 as data is not available for the individual categories until 1987.

Figure 31

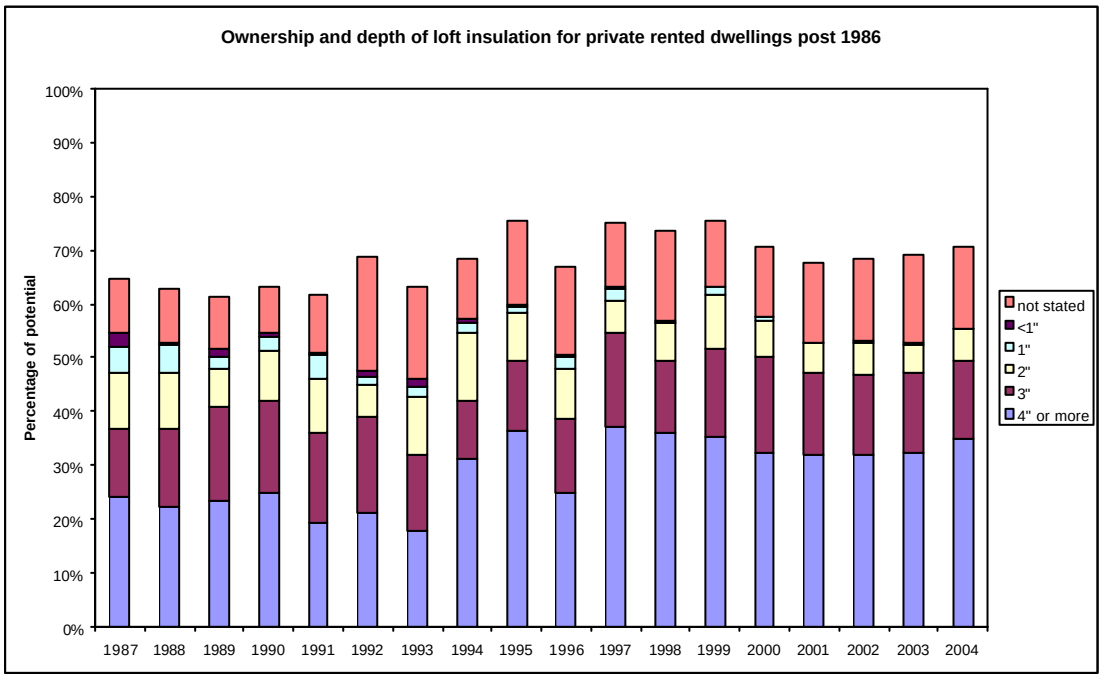
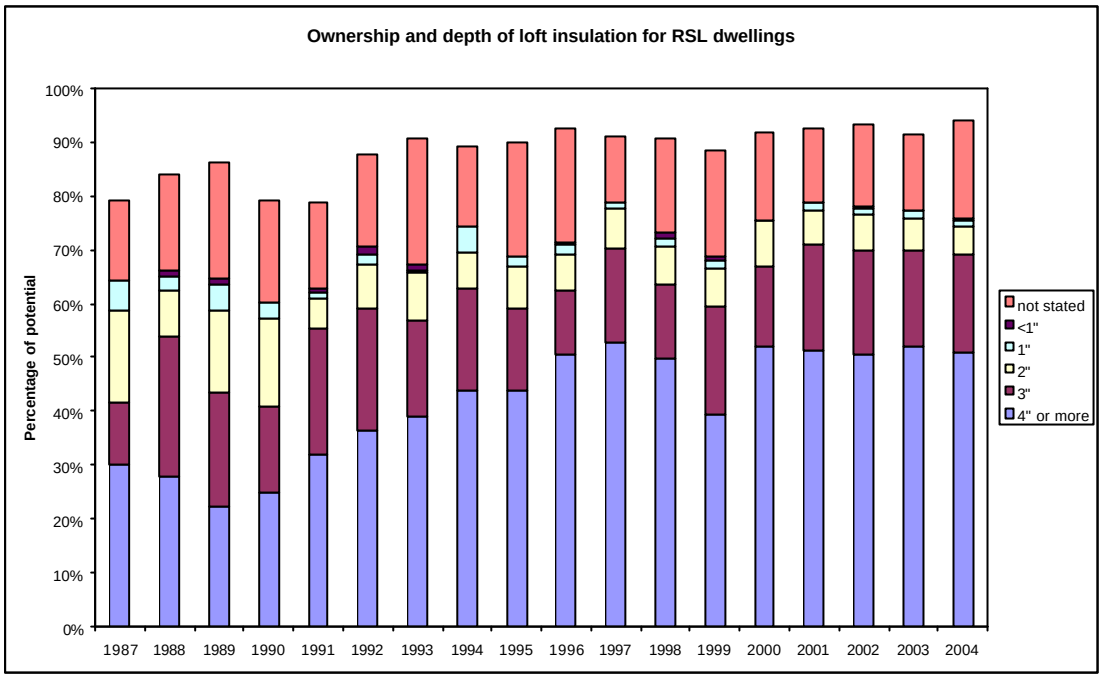


Figure 31 shows private rented dwellings from 1987 to 2004.

Figure 32



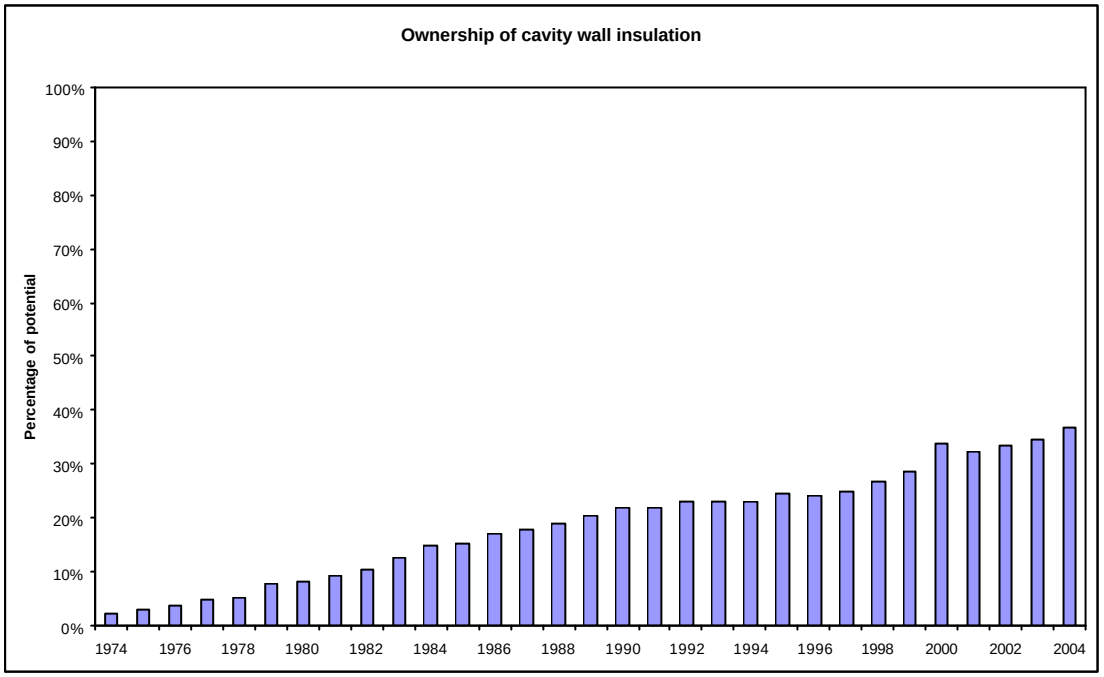
The following discussion relates to homes with access to the loft.
Data is not available for RSL homes separately until 1987. In 1987 79% of RSL homes had loft insulation. This increased to 94% by 2004. The percentage of owner occupied homes with some loft insulation in 2004 was 95%. Although owner occupied and RSL dwellings had a similar percentage with loft insulation the owner occupied dwellings were better insulated with 60% of owner occupied homes having 4" or more of insulation whereas only 51% of RSL homes had 4" or more of insulation. Local authority and Private rented homes were slightly less well insulated with only 48% and 34.8% respectively having 4" or more of insulation.

Data for the above figures is in tables 23-27. This also includes a breakdown of the 4" or more category into 4", 5" and 6" or more where data is available. In 2004 19% of dwellings had 6" or more of loft insulation. RSL dwellings had the highest percentage (21%) with 6" or more of insulation followed by owner occupied dwellings (20%), local authority (16%) and private rented (9%). General trends can be seen in the above figures but year on year variations should be treated with caution especially in tenures with low sample sizes. Appendix 2 contains examples of the 95% confidence intervals of loft insulation ownership in different tenures.

Cavity wall insulation

Figure 33 shows the ownership of cavity wall insulation.

Figure 33



Cavity wall insulation ownership has increased from 2% of cavity wall dwellings in 1974 to 37% in 2004.

Figures 34-37 show the cavity wall insulation ownership in the different tenures.

Figure 34

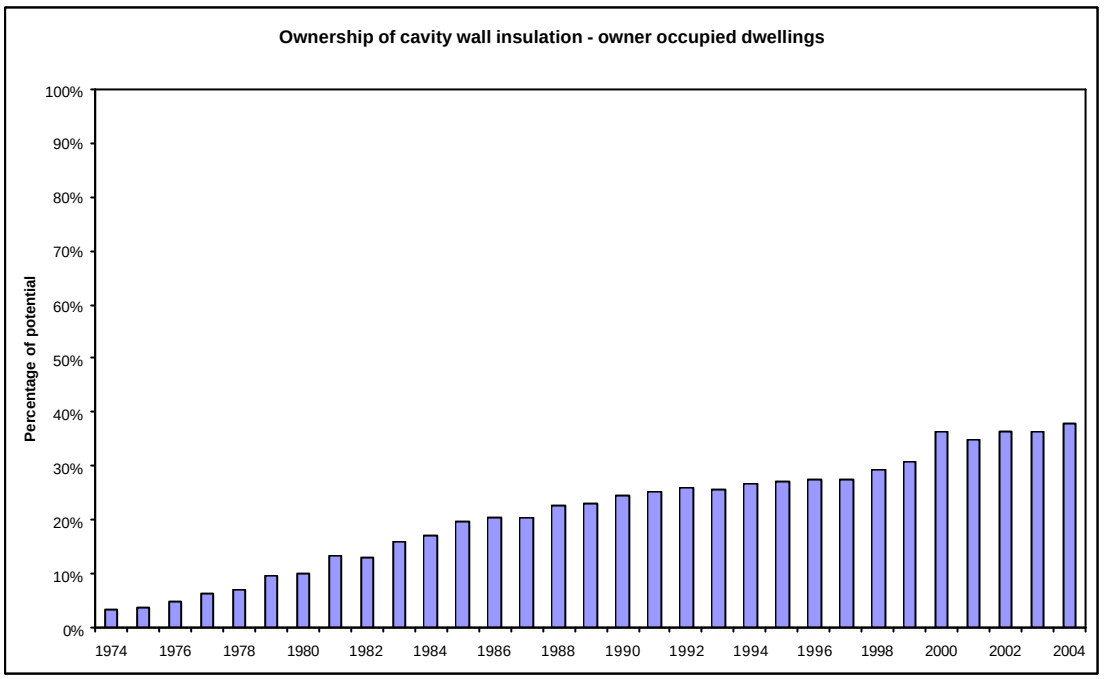


Figure 35

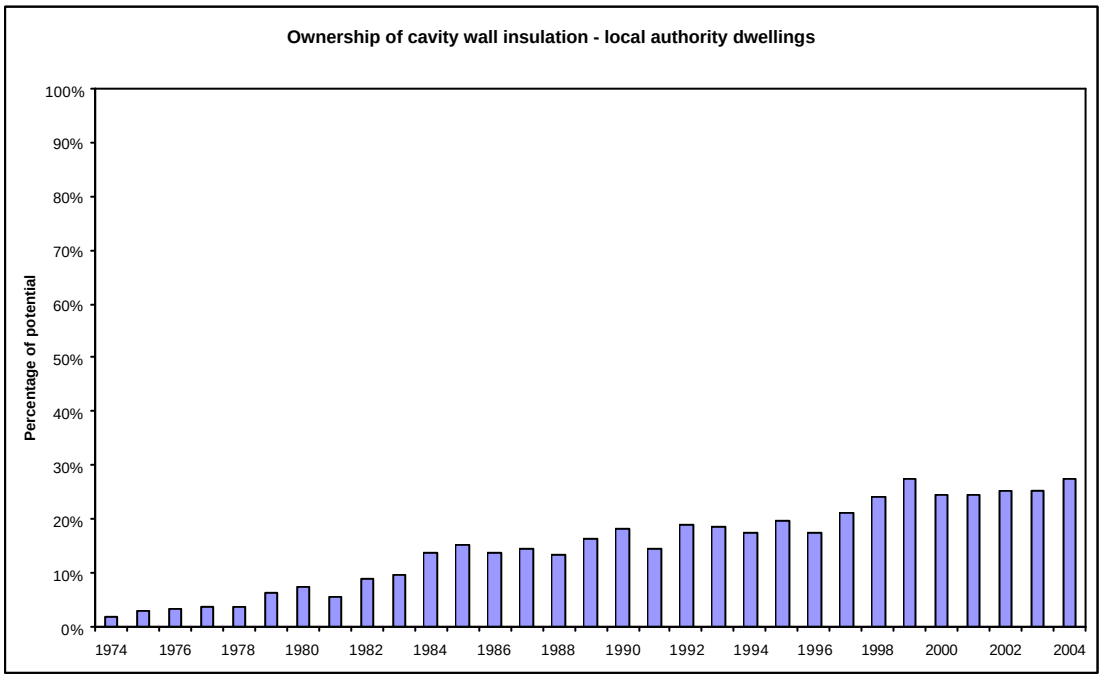


Figure 36

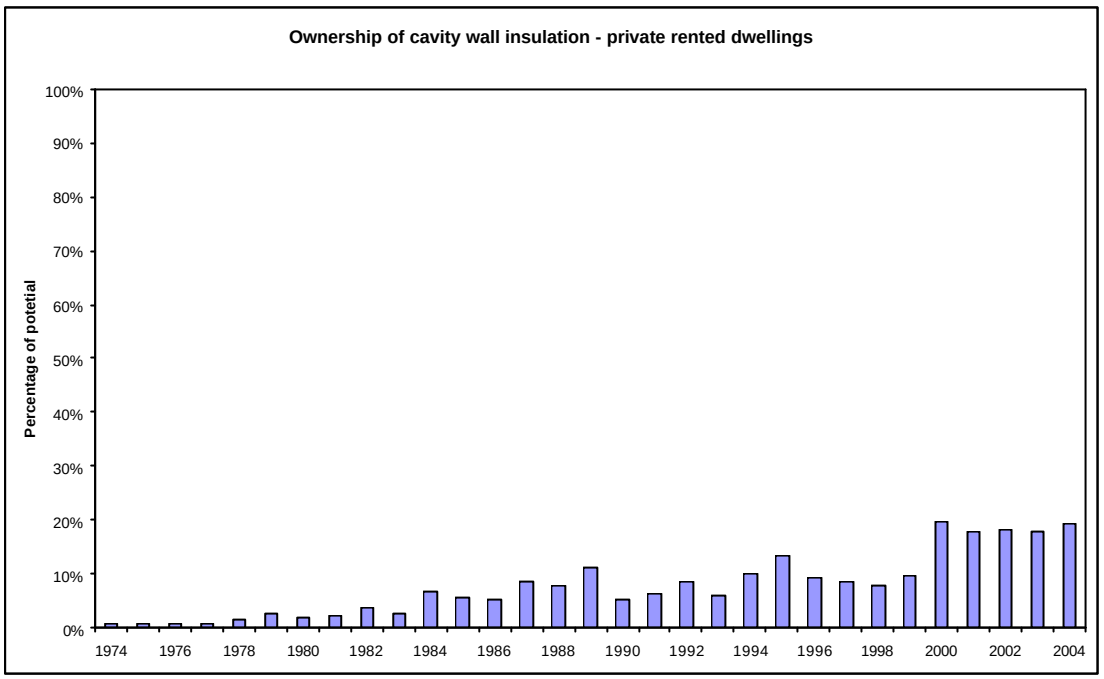
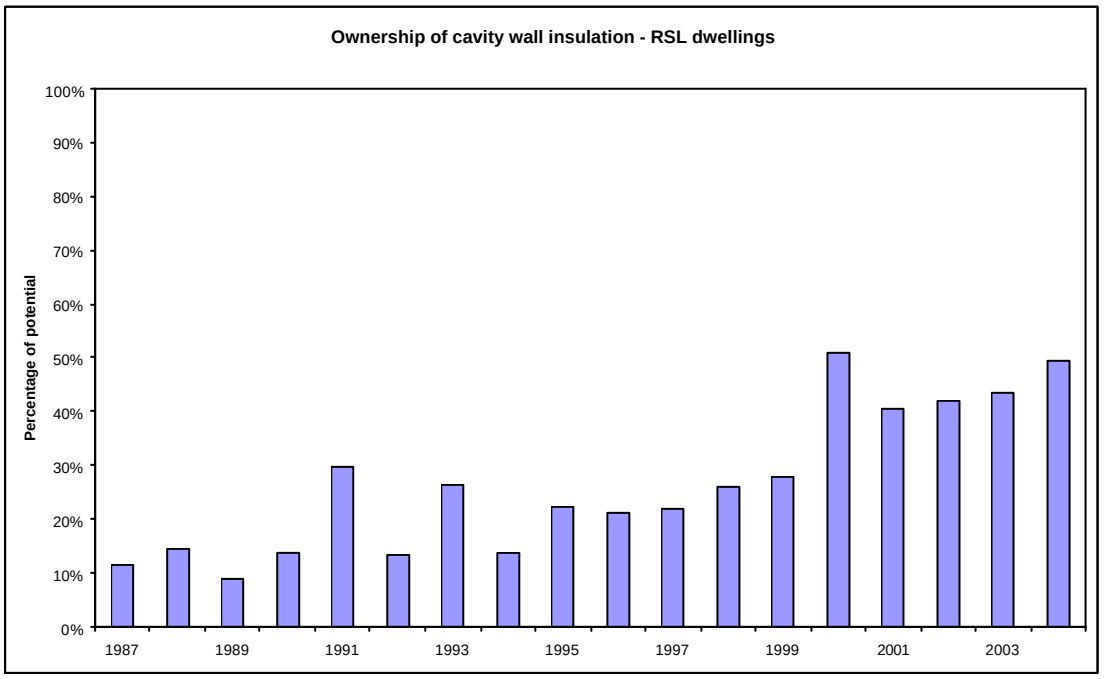


Figure 36 shows private rented and RSL dwellings combined until 1987. As can be seen there were very few cavities insulated in either sector before this date. After 1986 private rented dwellings are shown in Figure 36 and RSL dwellings in Figure 37.

Figure 37



The RSL sector has the highest percentage of insulated cavity wall dwellings with 49% in 2004. This has risen from 11% in 1987. The private rented sector has the lowest percentage with 19% but this has increased from a low of 0.7% in 1974 for the combined private rented and RSL stock. The local authority sector has 27% of cavity wall dwellings insulated in 2004 while owner occupiers had more with 38% of cavity wall dwellings insulated. The local authority sector had only 2% insulated in 1974 while the owner occupied sector had slightly more (3%).

Table A Unfilled cavities in 2004

Tenure	No. not filled (1,000s)	No. unknown if filled (1,000s)	% not filled	% not known if filled
Owner occupied	6450	1183	52.4%	9.6%
Local authority	1858	254	63.9%	8.7%
Private rented	538	82	70.1%	10.7%
RSL	860	194	41.3%	9.3%
All tenures	9707	1712	53.7%	9.5%

Table A shows the number of unfilled cavities in each tenure. It also shows the number of dwellings where it is not known if the cavities are insulated. It is likely that at least some of these are already insulated, although the evidence presented in Appendix 2 suggests that very few of them actually are insulated.

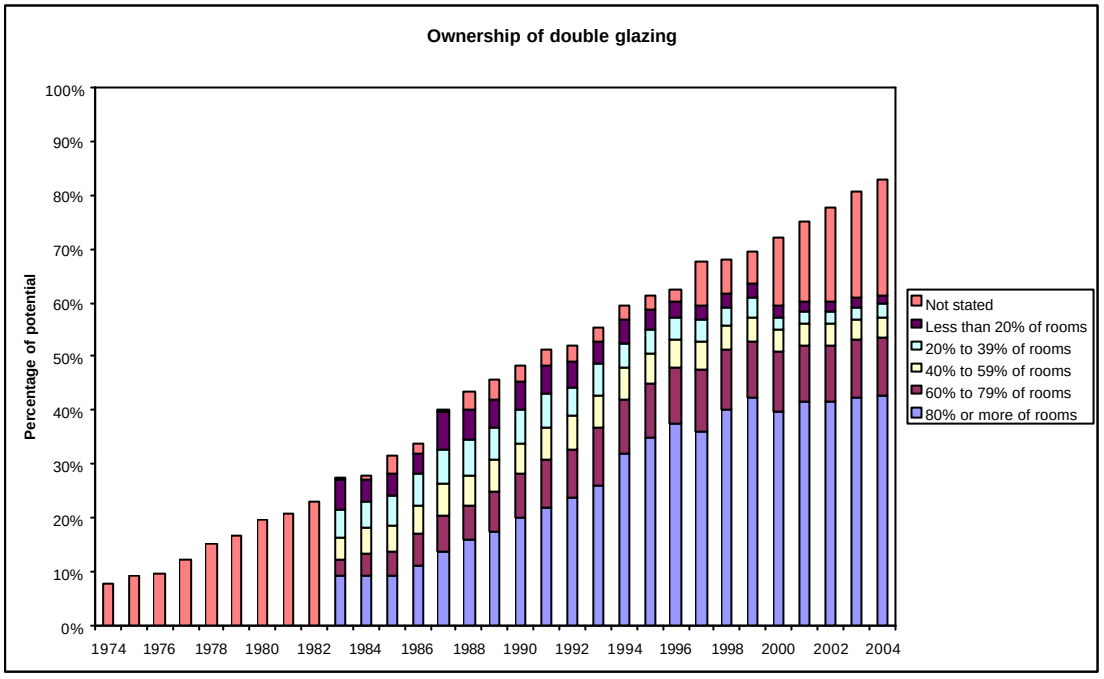
Appendix 2 shows the 95% confidence interval for the ownership of cavity wall insulation in each tenure. It also contains a worked example for cavity wall insulation confidence limits in all tenures.

The data for these figures is in Tables 28-32.

Double glazing

Figure 38 shows the ownership of double glazing. This has increased from 8% of dwellings in 1974 to 83% in 2004 which have some double glazing. 43% of dwellings in 2004 have 80% or more of the rooms double glazed.

Figure 38



Figures 39-43 show double glazing ownership in the individual tenures.

Figure 39

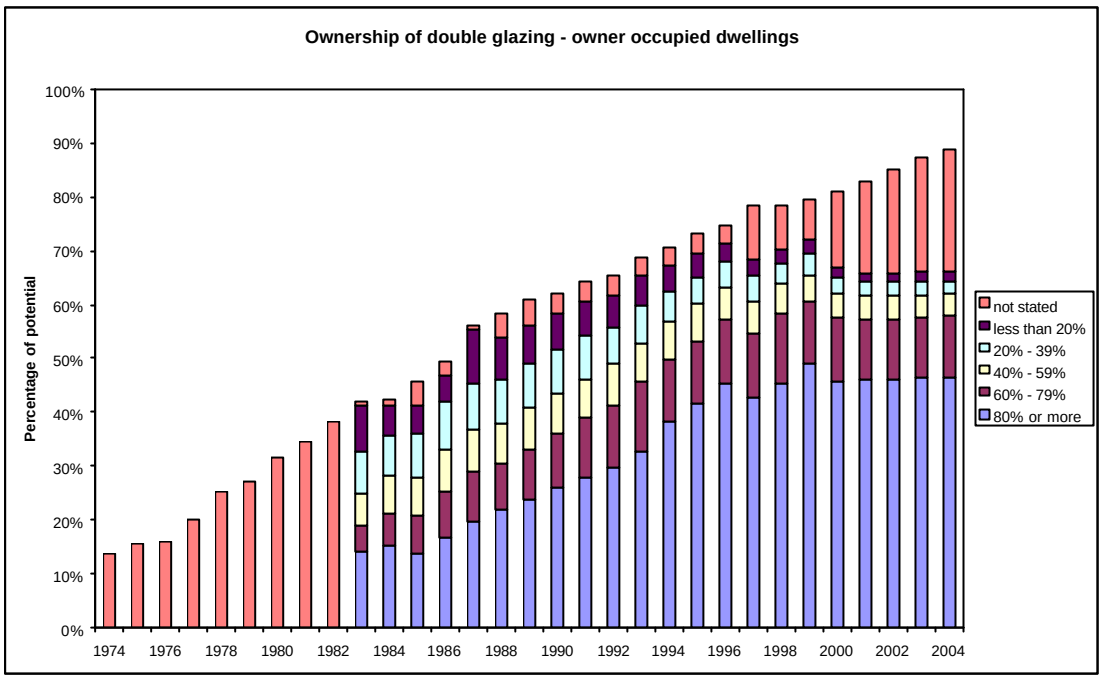


Figure 40

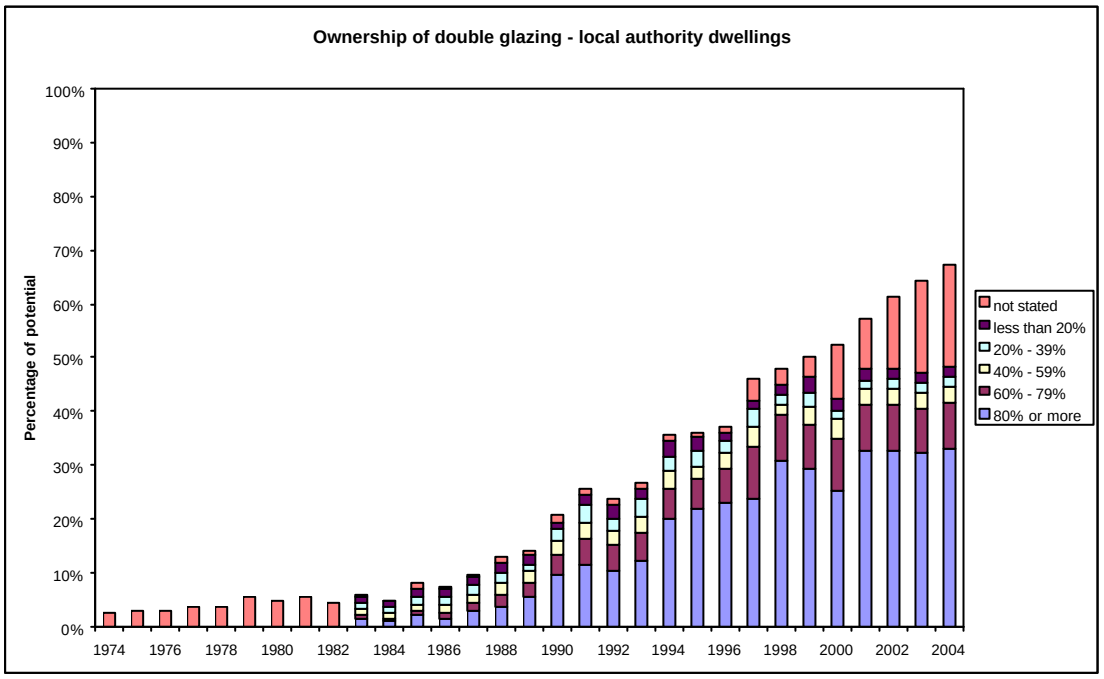


Figure 41

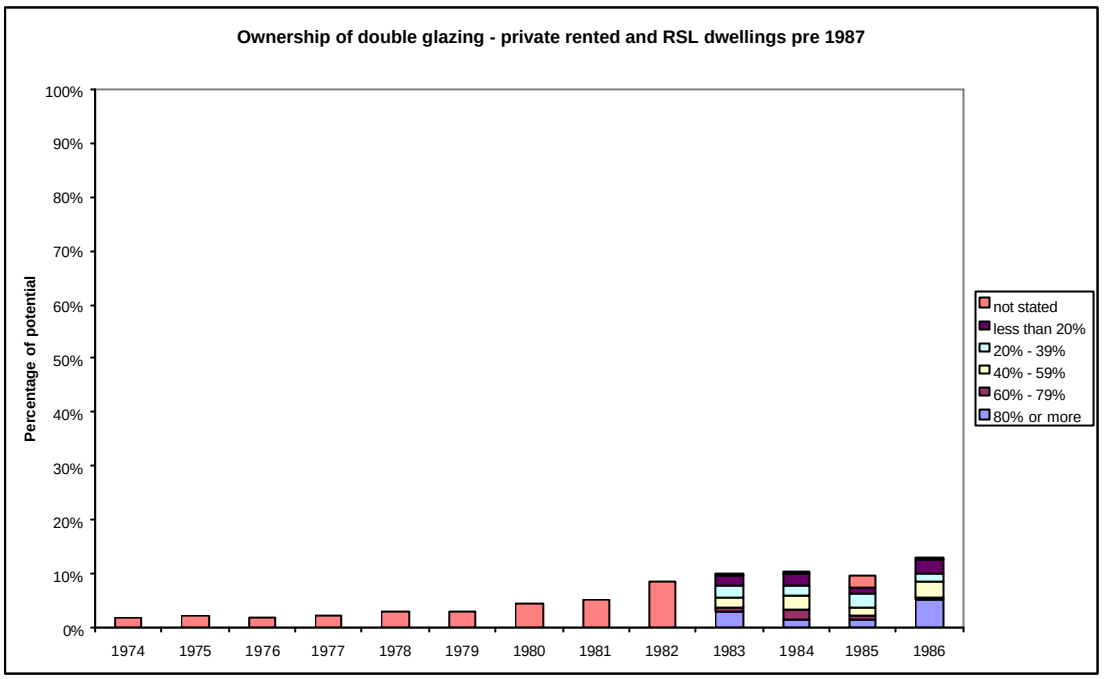


Figure 41 shows the ownership of double glazing in the combined private rented and RSL stock between 1974 and 1986.

Figure 42

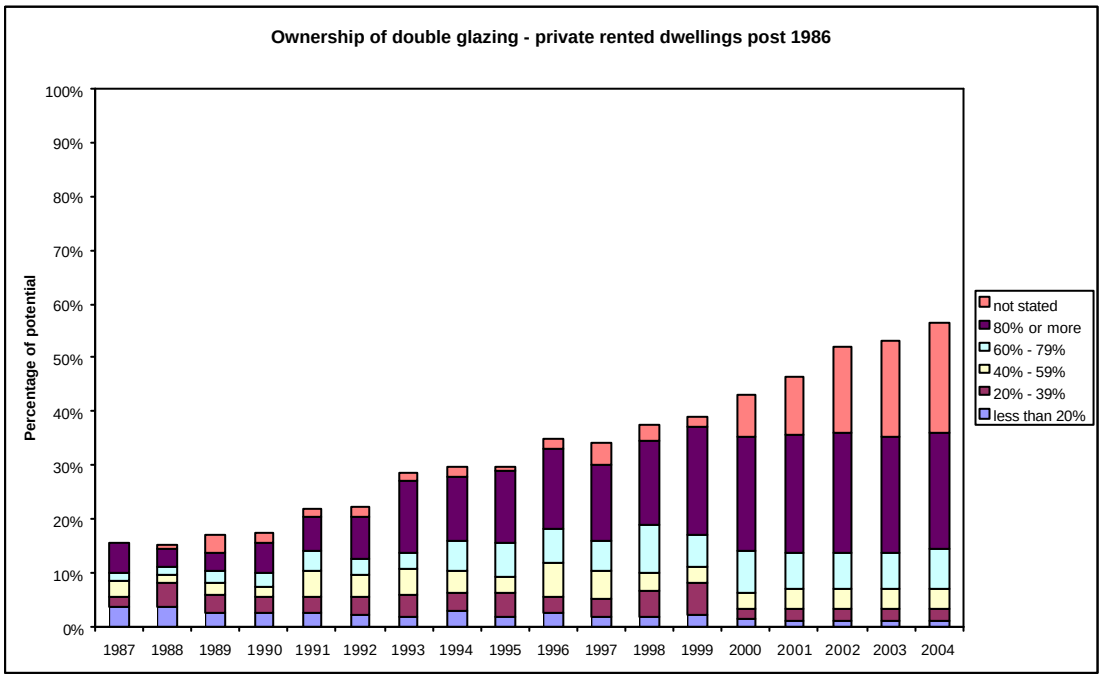
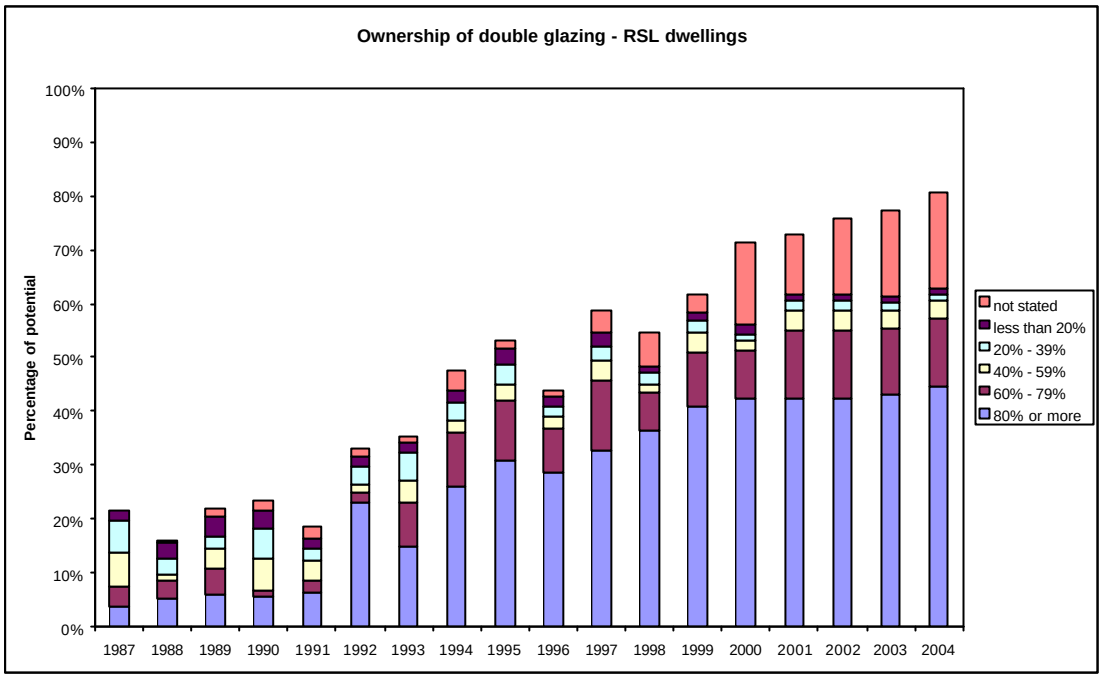


Figure 42 shows the ownership of double glazing in private rented dwellings between 1987 and 2004.

Figure 43



There is considerable variation in the tenures between the percentage with any double glazing. Owner occupiers are the most likely to have double glazing with 89% having some double glazing. 81% of RSL dwellings have some double glazing. Local authority and private rented dwellings are less likely to be double glazed with 67% and 56% respectively having some double glazing. The percentage of those with 80% or more of rooms double glazed has been rising and in 2004 47% of owner occupied homes, 44% of RSL dwellings, 33% of local authority dwellings and 22% of private rented dwellings had 80% or more of their rooms double glazed.

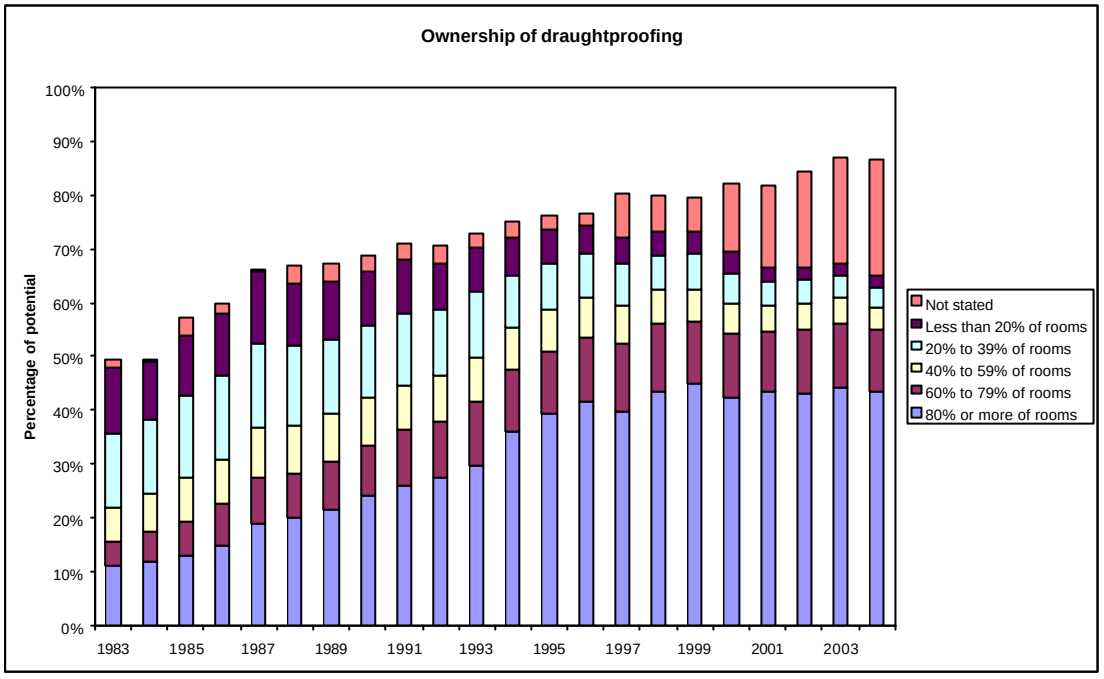
Appendix 2 shows the 95% confidence interval for double glazing in each tenure.

Tables 33-37 show the data for these figures.

Draught proofing

Figure 44 shows the ownership of draught proofing. This includes those with double glazing since double glazing usually includes seals which make draught stripping unnecessary.

Figure 44



The percentage of homes with draught proofing has increased from 49% in 1983 to 86% in 2004. At the same time the percentage of double glazing has increased from 28% to 83%.

Figures 45-48 show the ownership of draught proofing in the individual tenures.

Figure 45

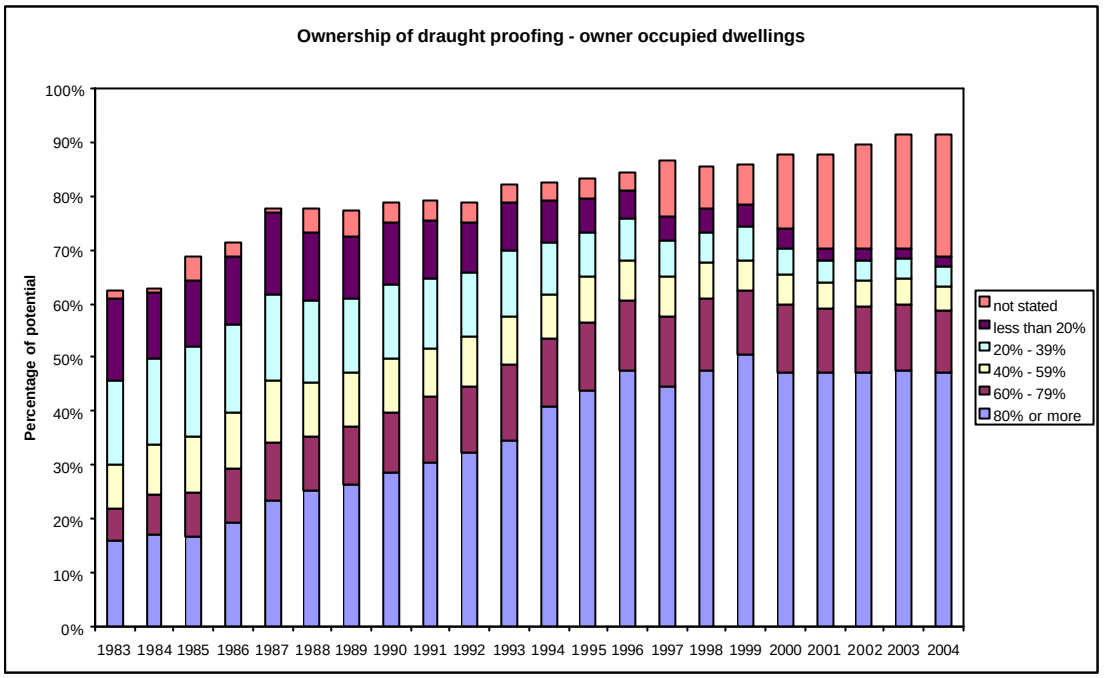


Figure 46

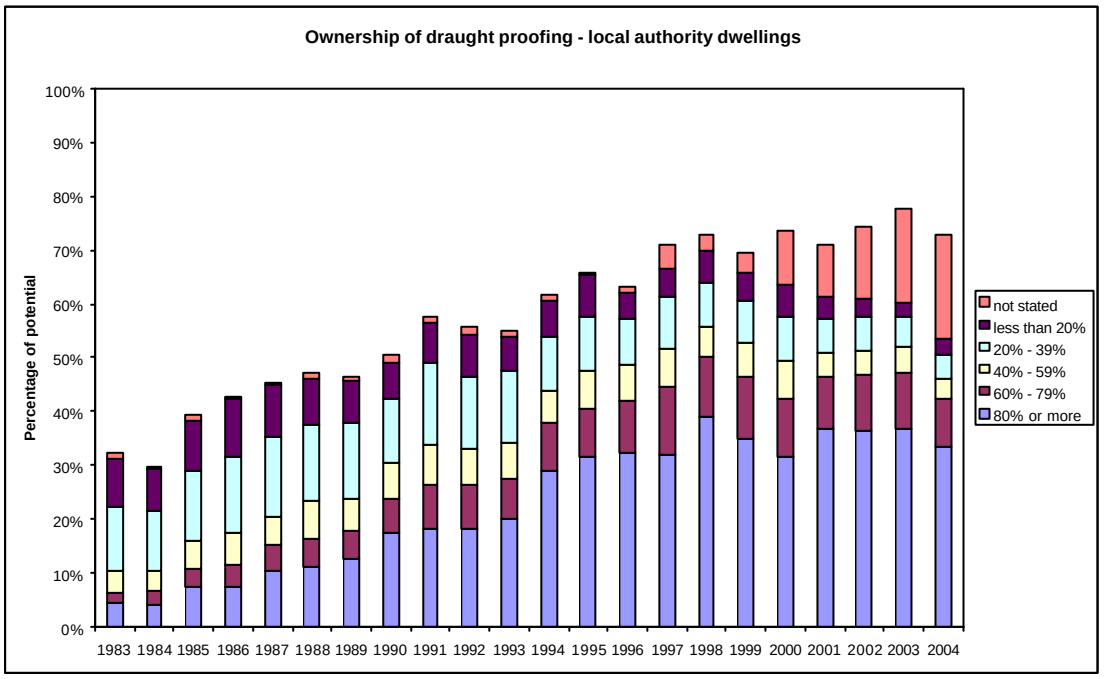
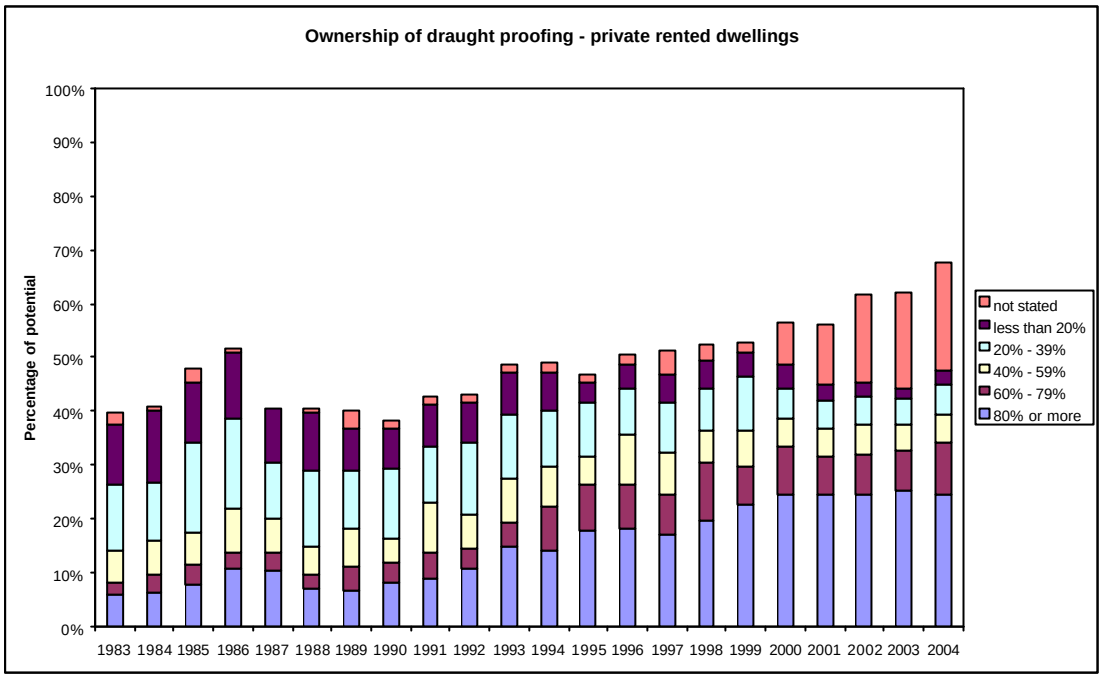
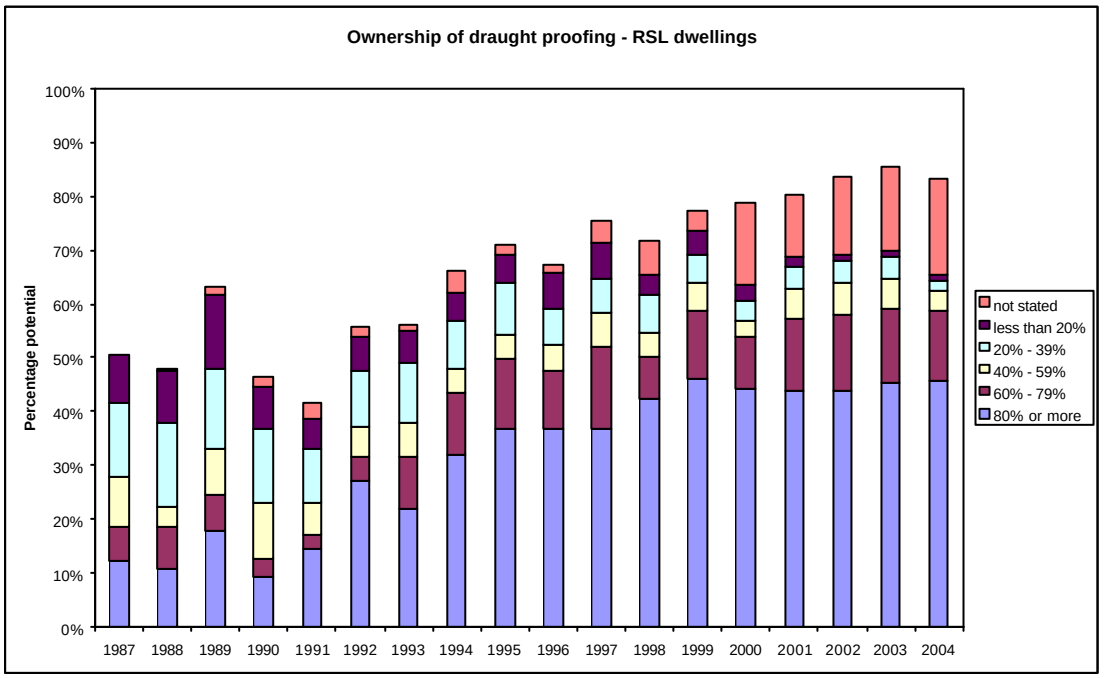


Figure 47



The four years before 1987 include RSL dwellings as separate data is not available for this sector for these years.

Figure 48



Over 70% of dwellings are draught proofed in all tenures except the private rented sector. In this sector only 67% have any draught proofing. This is also the sector with the lowest percentage of double glazing (56%). In the owner occupied sector 92% of dwellings have draught proofing.

Over a third of dwellings have 80% or more of rooms with draught proofing except in the private rented sector. This ranges from 47% for owner occupied dwellings to 34% for local authority dwellings. Only 25% of private rented dwellings have 80% or more of the rooms draught proofed.

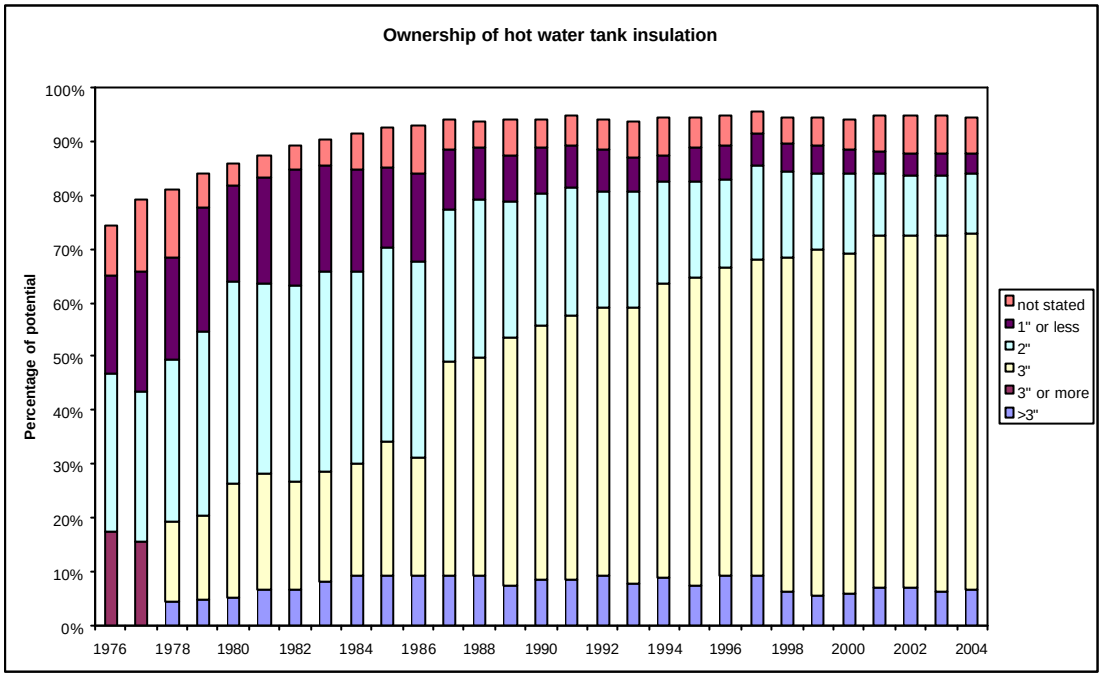
Appendix 2 shows the 95% confidence interval for draught proofing ownership in each tenure.

The data for these charts is given in tables 38-42.

Hot water tank insulation

Figure 49 shows the ownership and depth of hot water tank insulation. Many hot water tanks now have factory bonded insulation which is considered for the purposes of the statistics to be the equivalent of a 3” jacket.

Figure 49



Ownership of hot water tank insulation has increased from 74% in 1976 to 95% in 2004. In 1976 18% had 3” or more of insulation. By 2004 this had increased to 73%.

Although ownership of hot water tank insulation is increasing amongst those who have hot water tanks, ownership of hot water tanks is decreasing due to the increasing use of instantaneous water heaters. This is particularly due to the increase in combi boilers. More details on this trend can be found in the Domestic energy fact file 2003 (1).

Figures 50-54 show the ownership by tenure of hot water tank insulation.

Figure 50

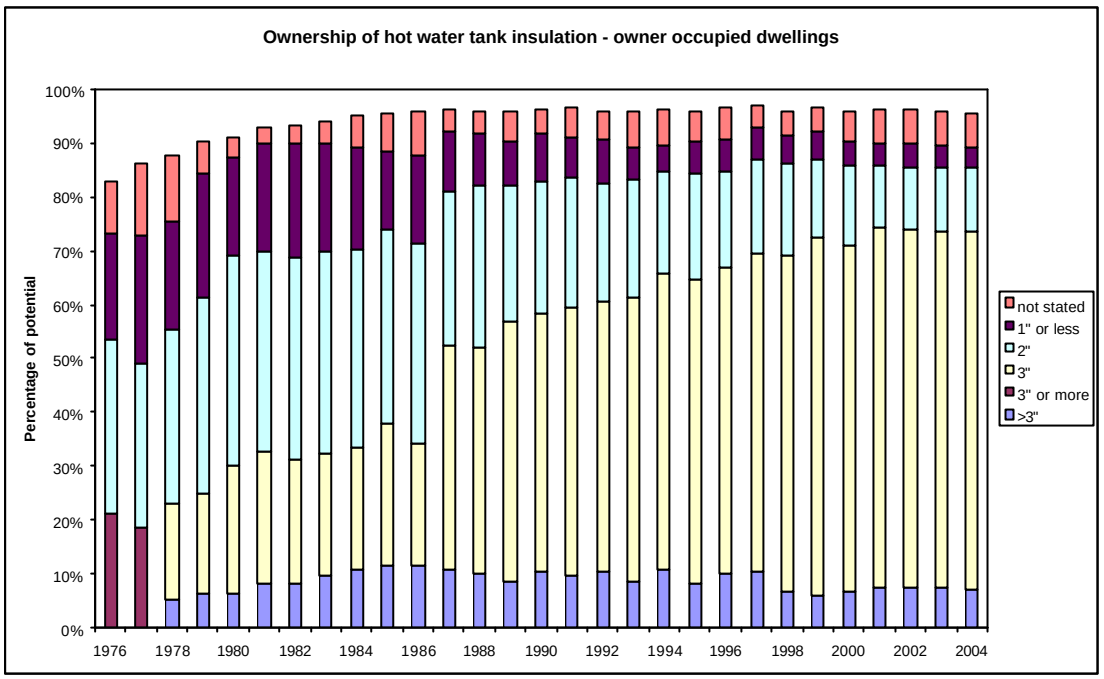


Figure 51

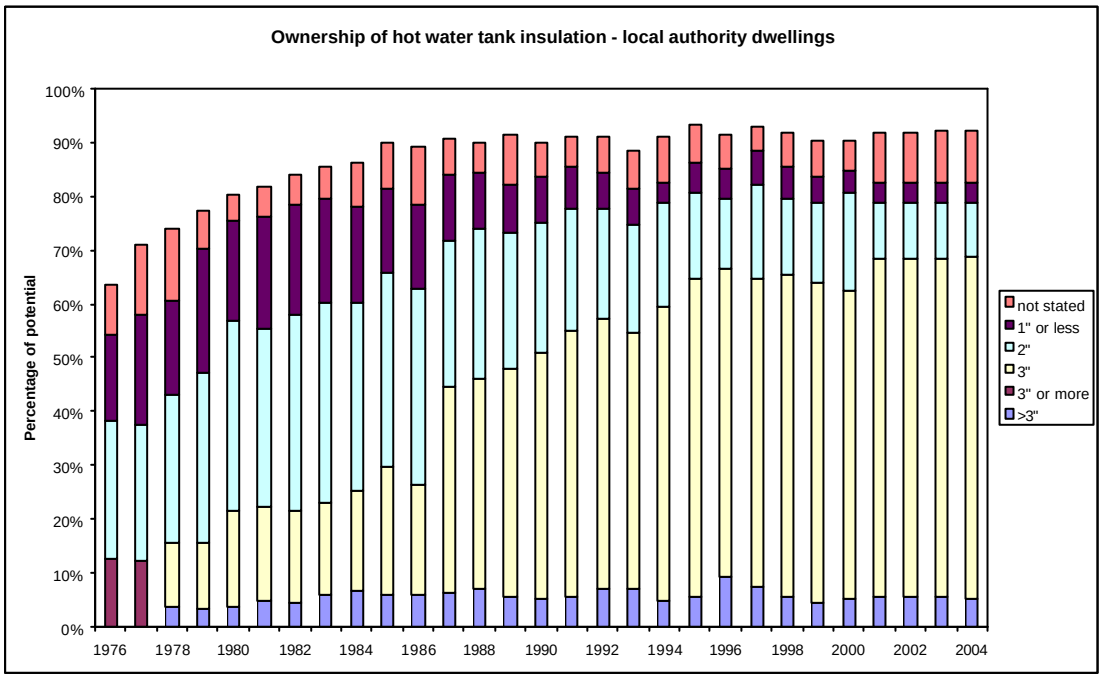


Figure 52

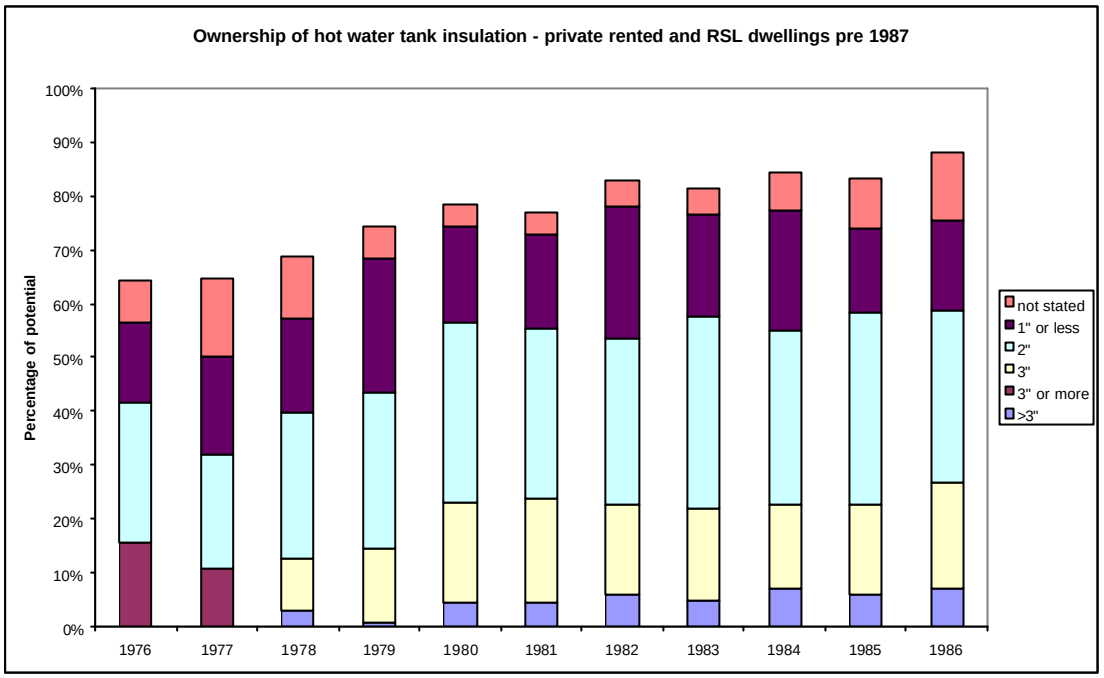


Figure 52 shows the ownership of hot water tank insulation in the combined private rented and RSL sectors between 1976 and 1986.

Figure 53

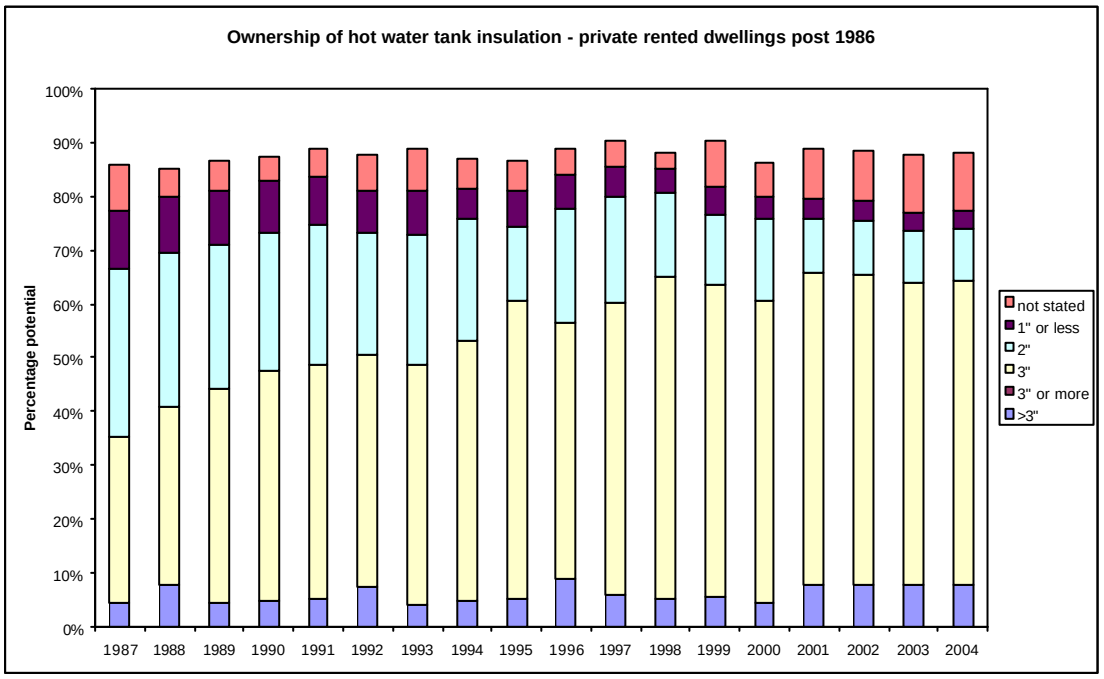
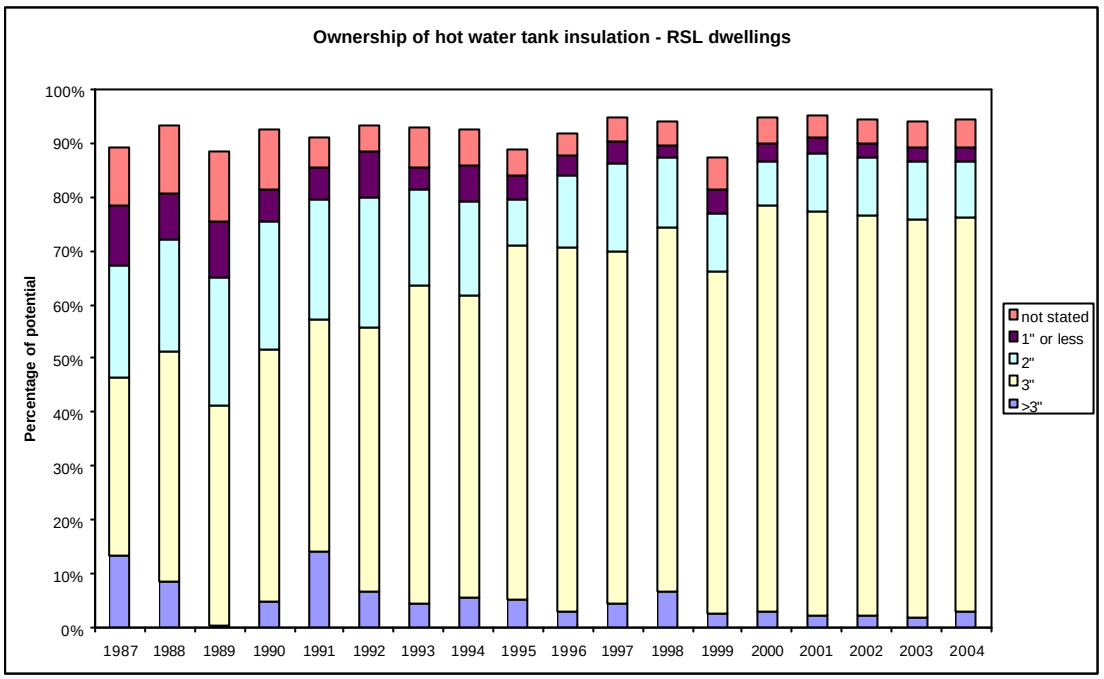


Figure 53 shows the ownership of hot water tank insulation in private rented dwellings between 1987 and 2004.

Figure 54



Over 95% of both owner occupied dwellings and RSL dwellings have hot water tank insulation in 2004. The small sample size of the RSL dwellings leads to fluctuations in the general trend. 96% of owner occupied dwellings have hot water tank insulation and 74% have 3” or more in 2004. In all sectors the percentage with 3” or more has been increasing and in 2004 is 74% for owner occupied, 69% for local authority, 64% for private rented and 76% for RSL dwellings.

Appendix 2 shows the 95% confidence interval for hot water tank insulation ownership in each tenure.

Tables 43-47 give the breakdown by depth and ownership of hot water tank insulation.

Insulation ownership

Figure 55 shows the percentages of those with full and no insulation. Dwellings are defined to be fully insulated if they have 4" or more of loft insulation where there is a loft, cavity wall insulation if there is a cavity wall and 80% or more of rooms double glazed. Those dwellings which do not have a loft or cavity wall or both are considered to be fully insulated as long as they have the other insulation measures mentioned above.

Dwellings are defined as having no insulation if they do not have any double glazing, have no loft insulation if there is a loft and no cavity wall insulation where there is a cavity.

"No cavity wall insulation" includes all those that do not positively identify ownership of this measure (i.e. the "not known" cases are taken as being not insulated)

Figure 55

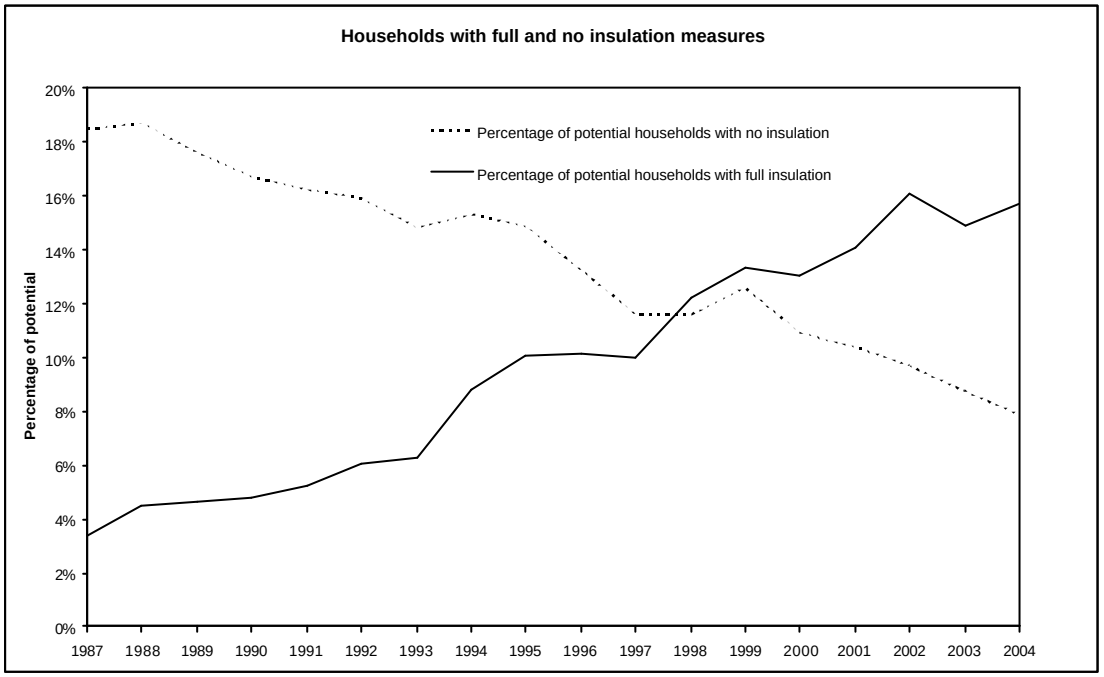


Figure 55 shows that the percentage with full insulation has increased from 3.4% in 1987 to 15.7% in 2004. At the same time the percentage of those with no insulation has fallen from 18.5% to 7.9%.

Figures 56-59 show the breakdown by tenure for full and no insulation.

Figure 56

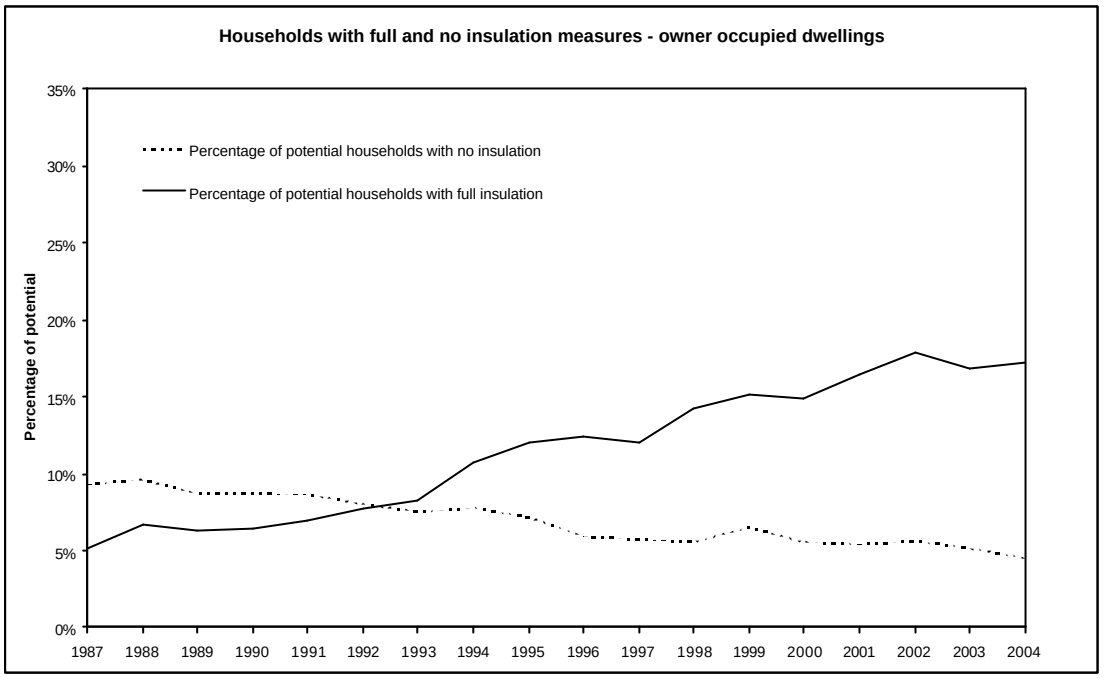


Figure 57

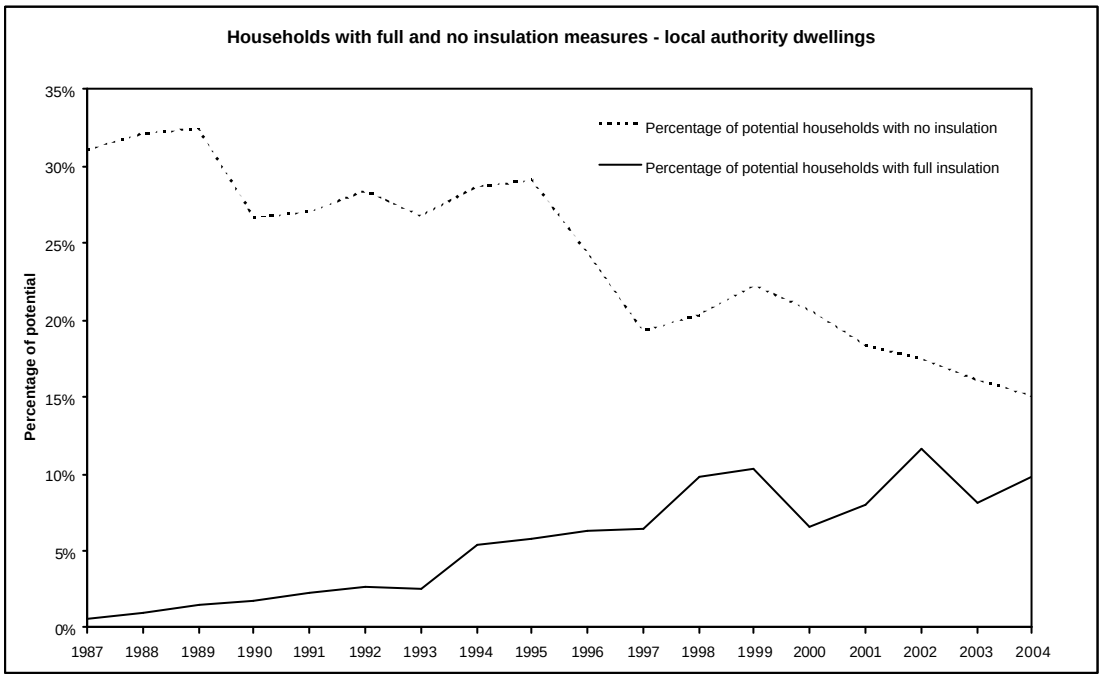


Figure 58

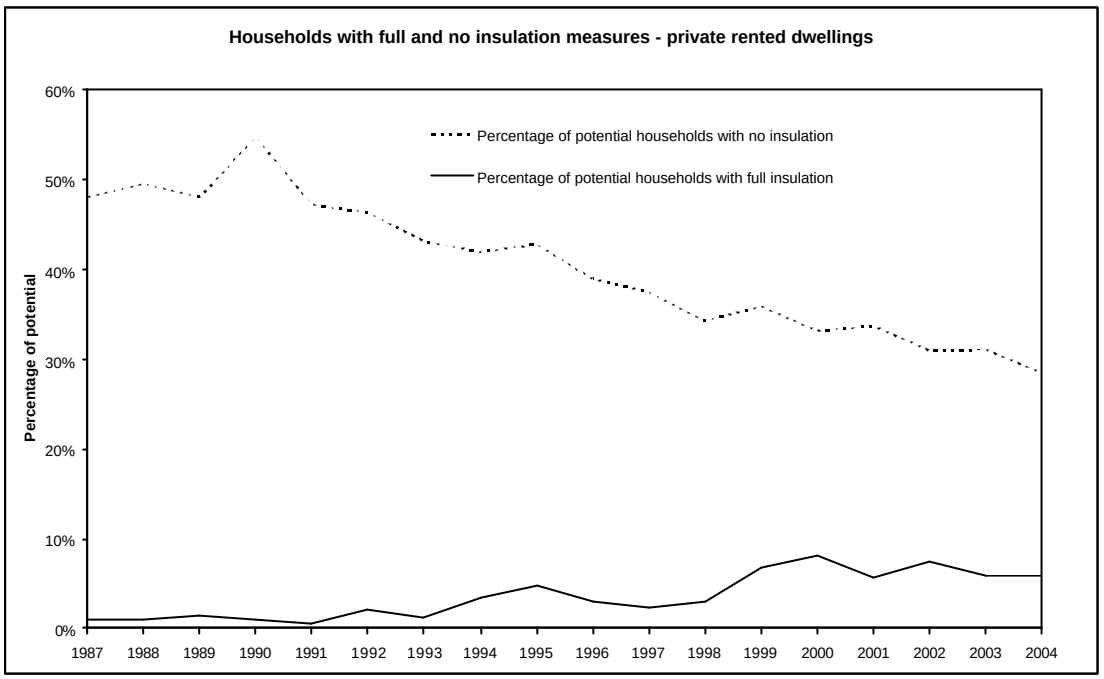
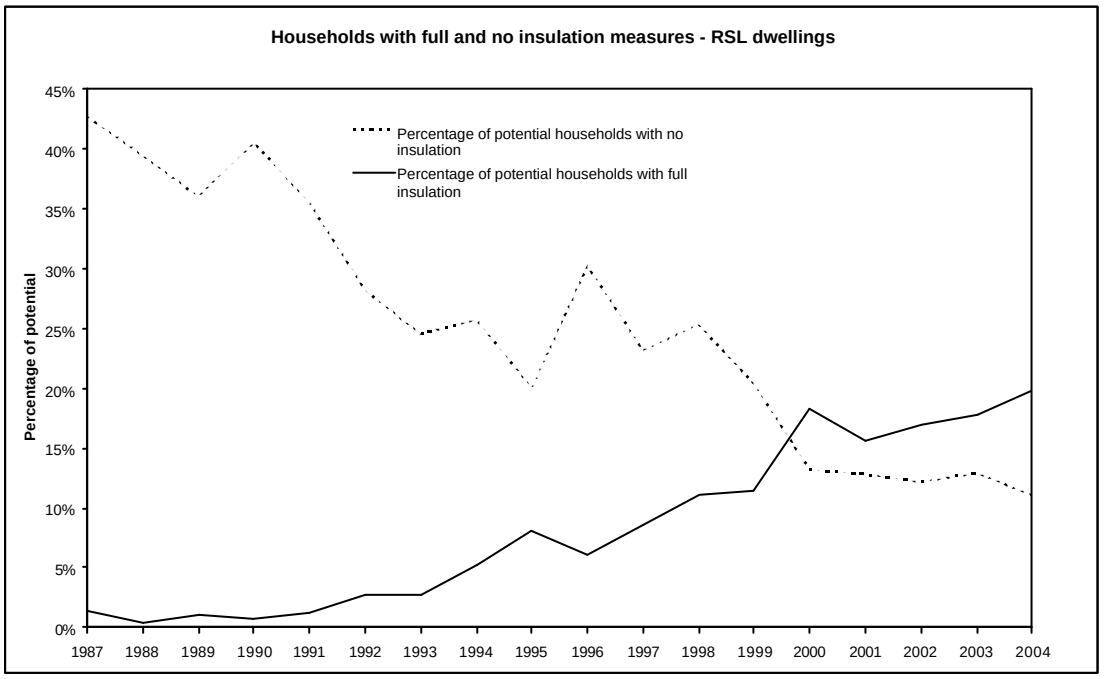


Figure 59



For each tenure the percentage of dwellings with full insulation is increasing while the percentage with no insulation is decreasing. Private rented dwellings are the least likely to have full insulation with only 5.8% having full insulation compared with local authority 9.8%, RSL 19.8% and owner occupied 17.2%. The private rented sector is also the one with the highest percentage of

dwellings that have no insulation. 28.5% of private rented dwellings have no insulation compared with 15.1% for local authority, 11.0% for RSL and 4.5% for owner occupied.

All new dwellings need full insulation to meet the Building Regulations so the numbers with full insulation will continue to increase.

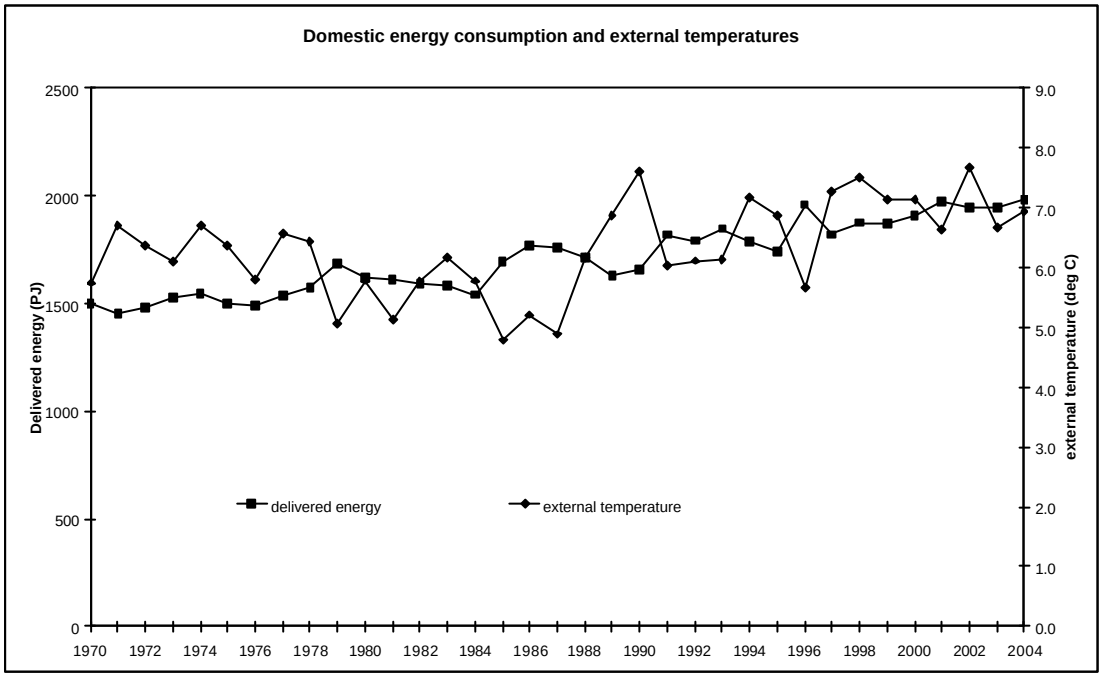
Appendix 2 gives the 95% confidence intervals for ownership of full and no insulation in each of the tenures.

Data for the above charts is in tables 48-52.

Domestic energy consumption and external temperature

Figure 60 shows the delivered energy in the domestic sector for all tenures compared with the average external temperature.

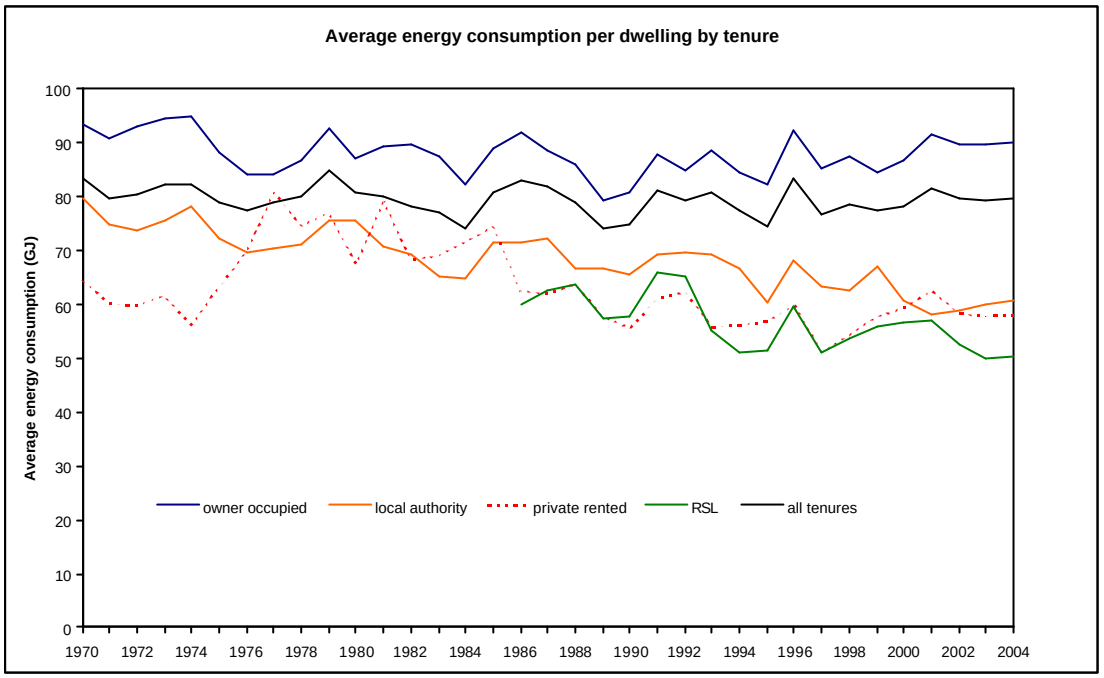
Figure 60



As might be expected colder temperatures generally lead to higher energy use. This can be most easily seen in the period of 1985 to 1987 and in 1996.

Figure 61 shows the average delivered energy per household for each of the tenures and for all households.

Figure 61



It can be seen from this that the overall consumption per household has remained fairly consistent. This implies that improvements to dwelling heat losses due to insulation, and improvements to efficiencies, have effectively been balancing out increases due to the higher levels of service that are being demanded (e.g. higher internal temperatures, higher ownership of appliances) such that energy use overall has risen roughly in line with the increasing numbers of dwellings. The following sections discuss these topics in more detail.

The owner occupied tenure follows a similar pattern to the total with the average energy consumption per household having dropped from 93.6 GJ in 1970 to 90.2 GJ in 2004. This is much higher than the local authority and private rented sectors where the delivered energy per household is 60.8GJ and 58.1GJ in 2004.

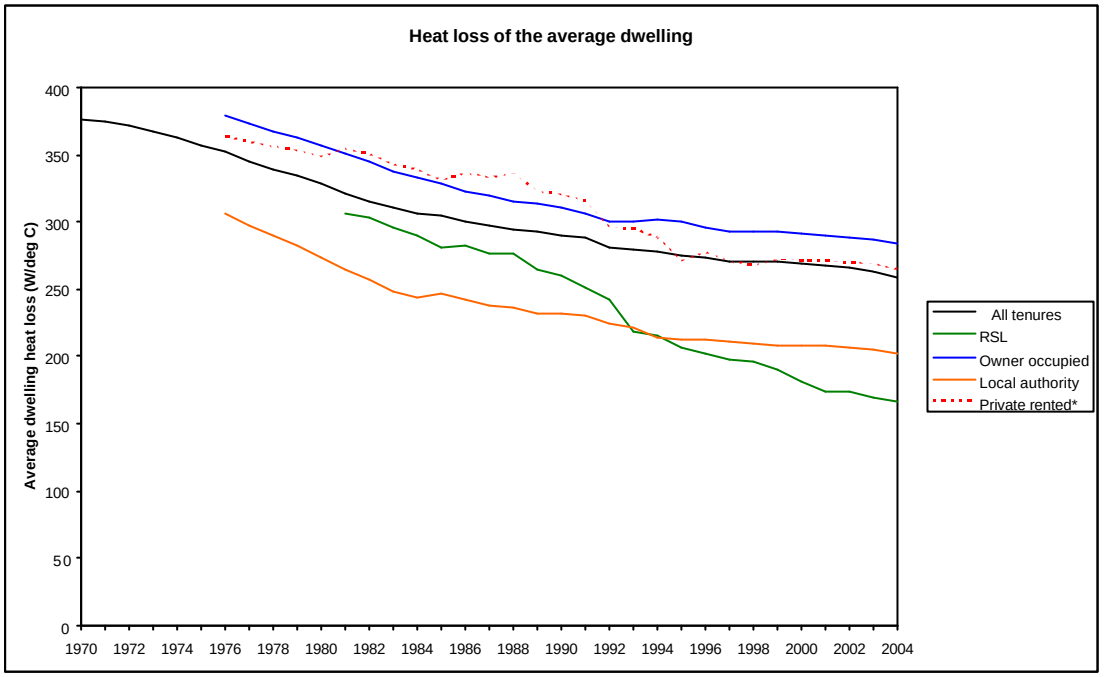
The figures shown for private rented dwellings for the years 1970 to 1985 are for private rented and RSL sectors combined. As can be seen in figure 61 the average energy use in these two sectors is closely matched in 1986 and it is only in recent years that the trend in RSL dwellings has been for lower energy consumption than private rented dwellings. RSL households in 2004 have an average energy consumption of 50.4 GJ which is lower than any other sector.

Table 53 shows the data used for these figures.

Heat loss

Figure 62 shows the average heat loss per dwelling for all tenures individually and for the overall stock. Note that the separate figures for RSL homes and Private rented homes prior to 1987 have been estimated from the known combined heat loss, coupled with the known difference between the separate heat losses in later years.

Figure 62



* Prior to 1981 includes RSL

In all tenures the average heat loss is decreasing. This is due to better insulation. Owner occupied dwellings have the highest heat loss. This can be explained by the mix of dwelling types. The owner occupied sector has the highest proportion of detached houses (22%) and the lowest proportion of flats (10%) in all the sectors. One factor affecting heat loss is the outside surface area which is greatest for a detached house and least for a flat. Homes built to current Building Regulation standards will have lower heat losses than older homes. This accounts for the higher heat losses in private rented homes where a larger proportion of the stock is pre 1918 dwellings.

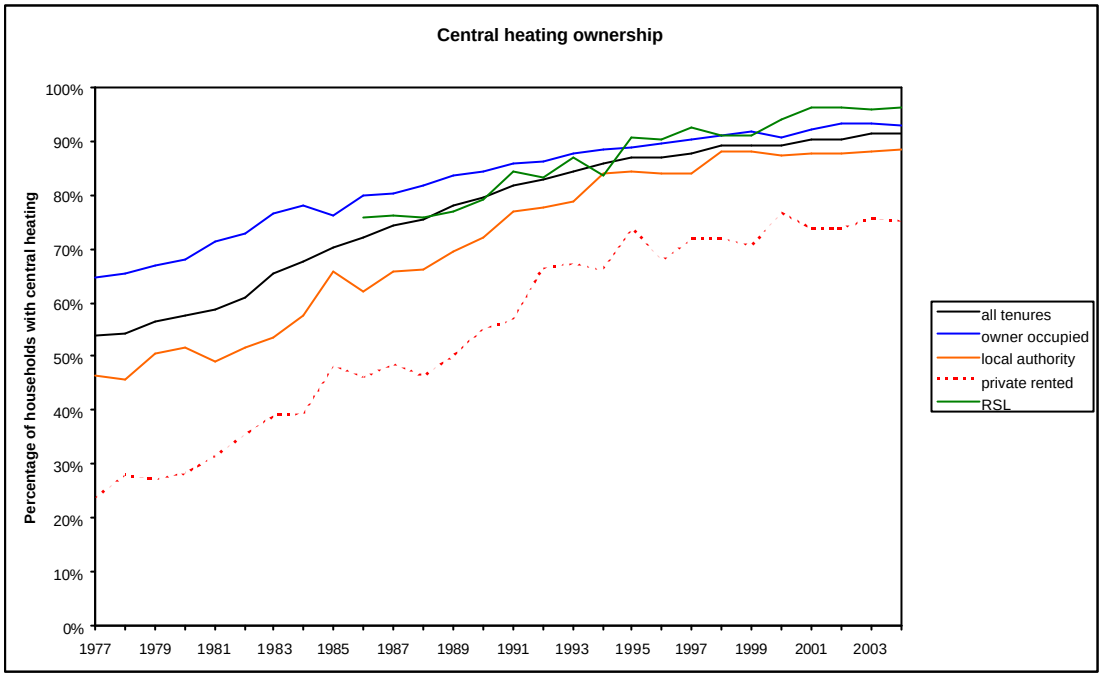
Comparing figures 61 and 62 shows that although the heat loss of the average dwelling in each sector is decreasing the energy consumption is not. This is because some of the energy saved in lower heat losses from the dwelling is being used to achieve greater comfort and higher temperatures within the dwelling.

Table 54 shows the data used for Figure 62.

Central heating ownership

Figure 63 shows the percentage of households with central heating for each tenure.

Figure 63



In the years 1977 to 1985 RSL dwellings are included with the private rented sector. The percentage of dwellings with central heating has been increasing for each tenure. It is now above or close to 90% for all tenures except private rented dwellings. In 2004 the percentages with central heating were 93% for owner occupied, 96% for RSL , 88% for local authority and 75% for private rented. This compares with 92% over all tenures.

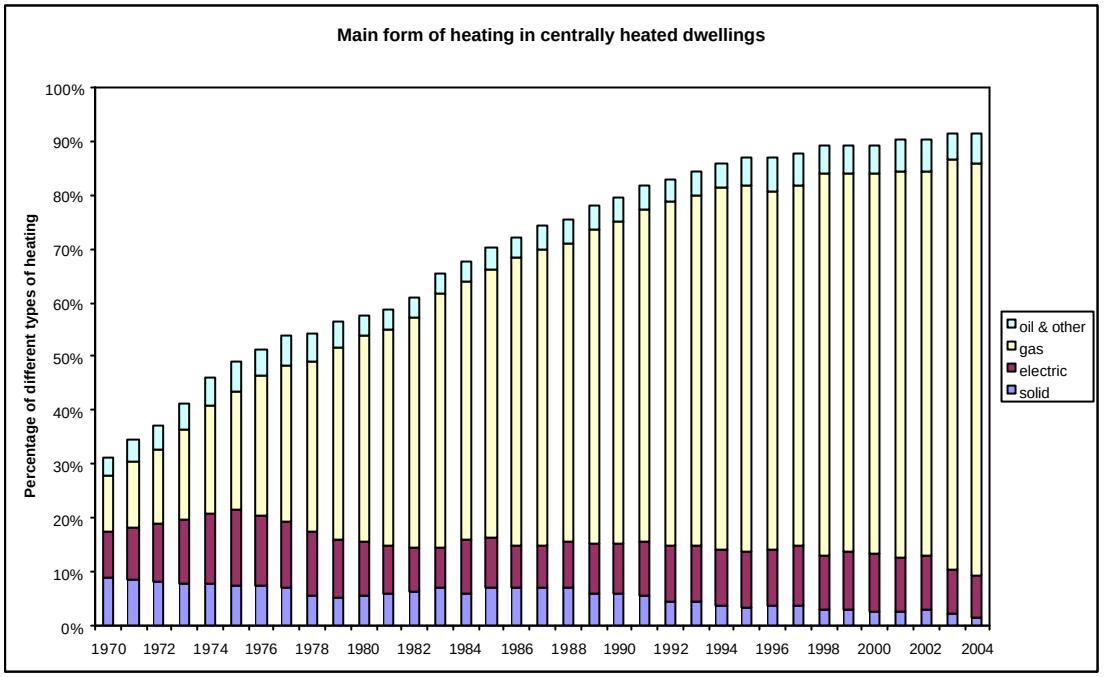
Appendix 2 shows the 95% confidence interval for centrally heated homes in each tenure.

Table 55 shows the number of centrally heated homes in each tenure as well as non centrally heated and total households.

Heating Appliances

Figure 64 shows the main form of heating in centrally heated homes.

Figure 64



This shows that the main increase in central heating has been in gas heated homes. This has risen from 10% of homes heated by gas central heating in 1970 to 77% in 2004. At the same time solid fuel central heating has dropped from 9% with solid fuel central heating in 1970 to 1% in 2004.

Figures 65-69 show the same information for each tenure.

Figure 65

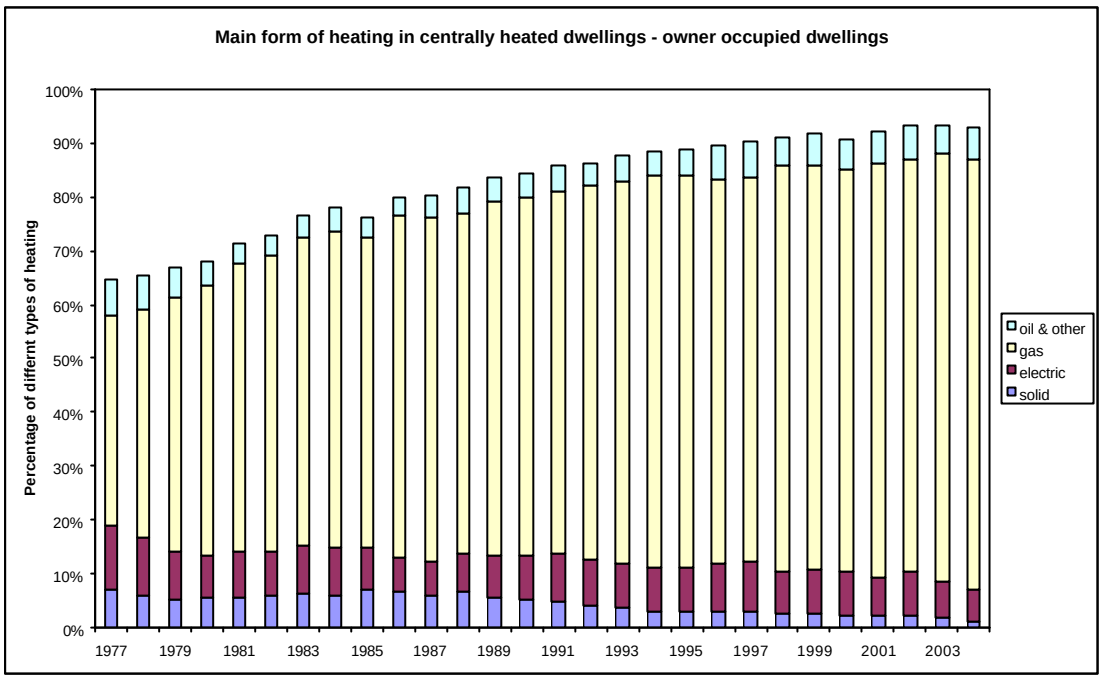


Figure 66

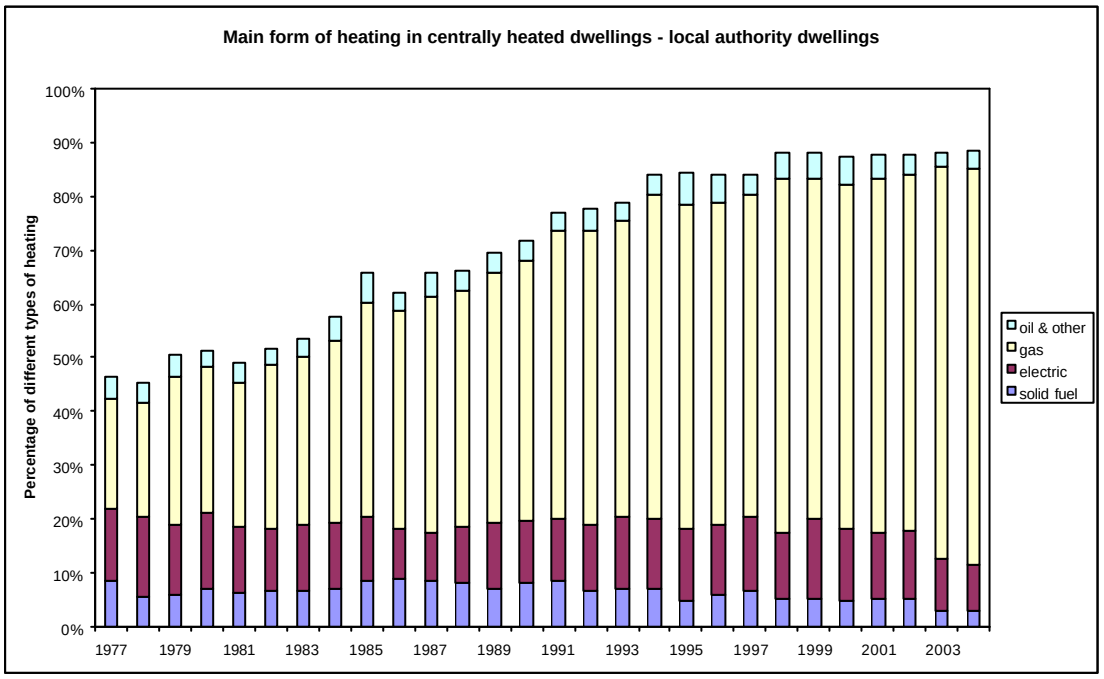


Figure 67

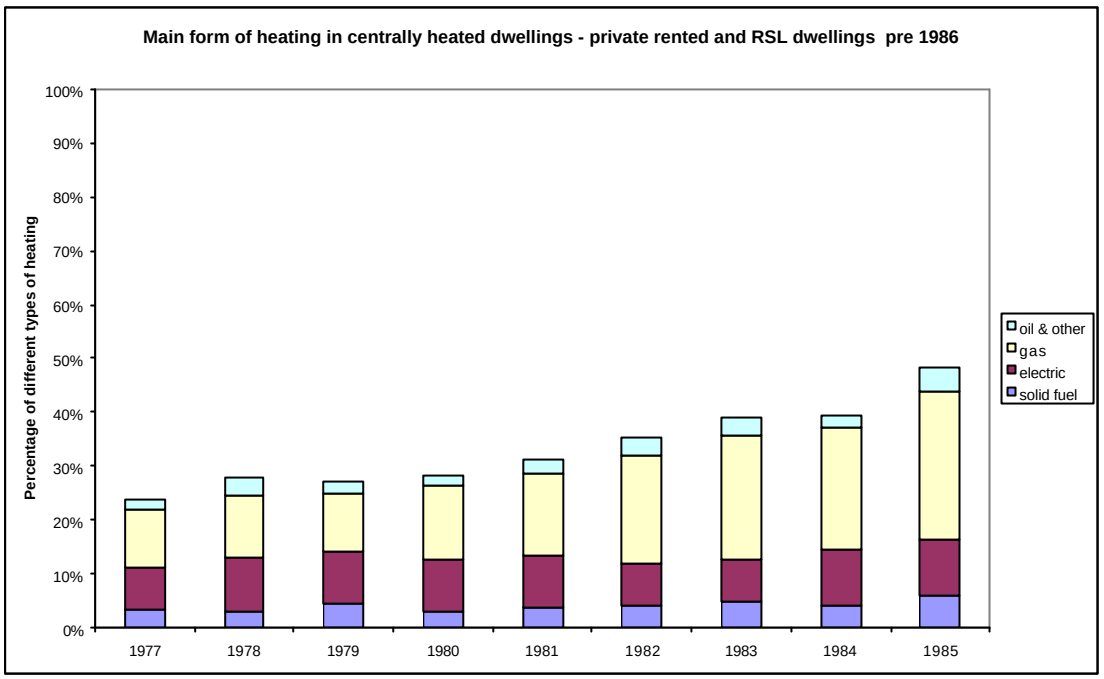


Figure 67 shows private rented and RSL sectors combined for the years 1977 to 1985.

Figure 68

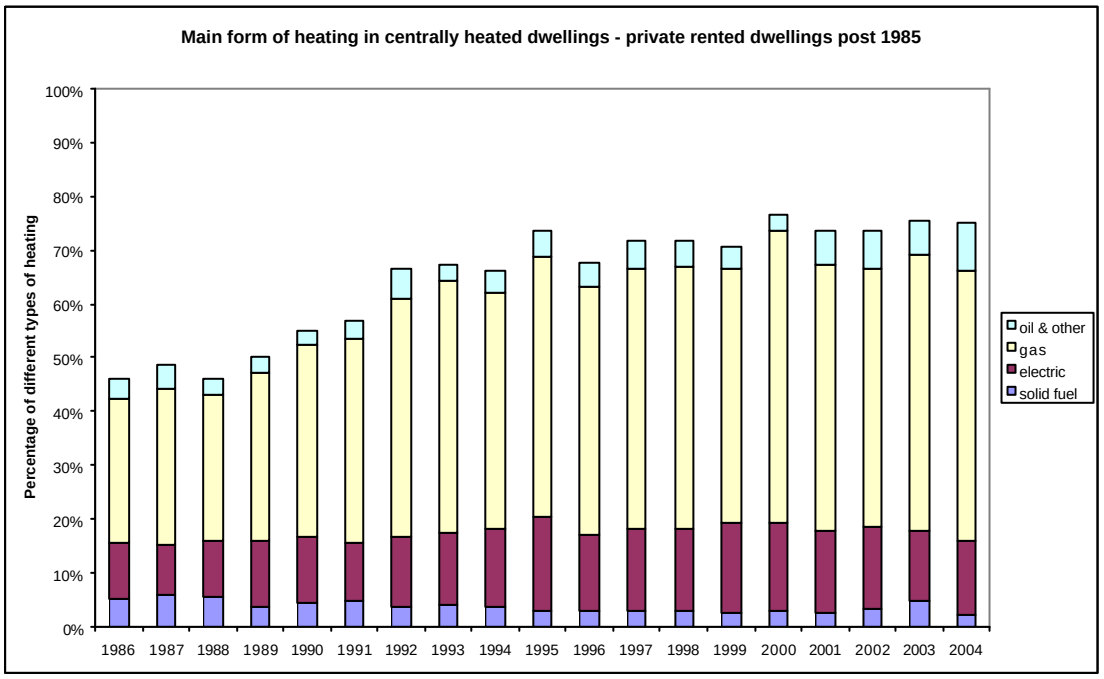
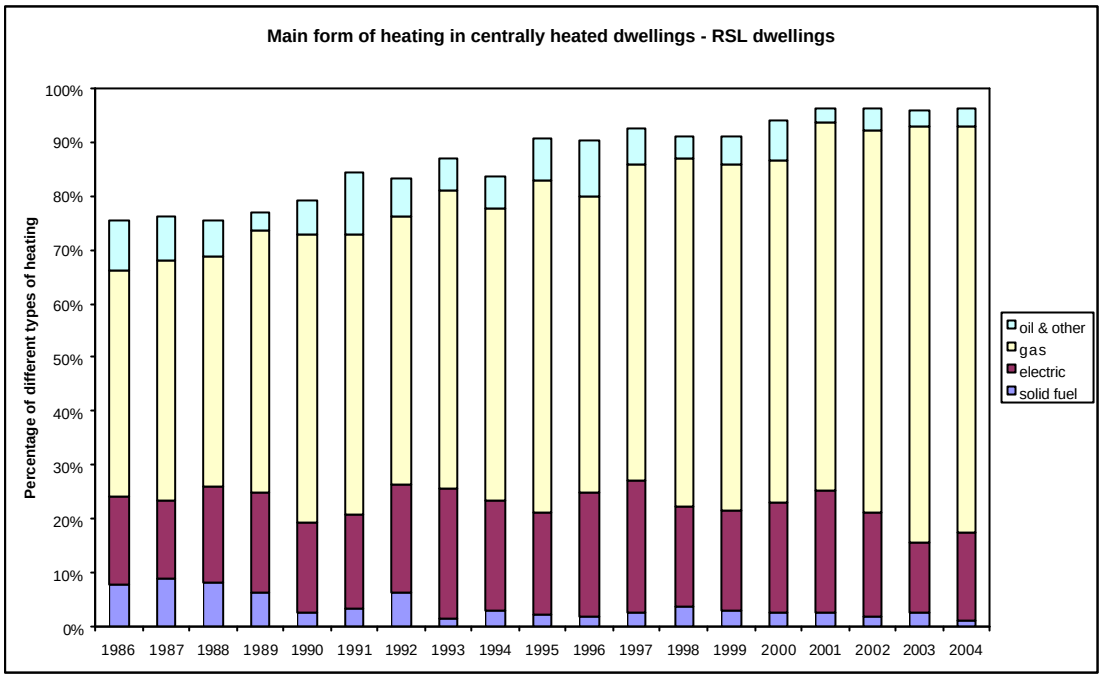


Figure 68 shows the main form of central heating for private rented dwellings post 1985.

Figure 69

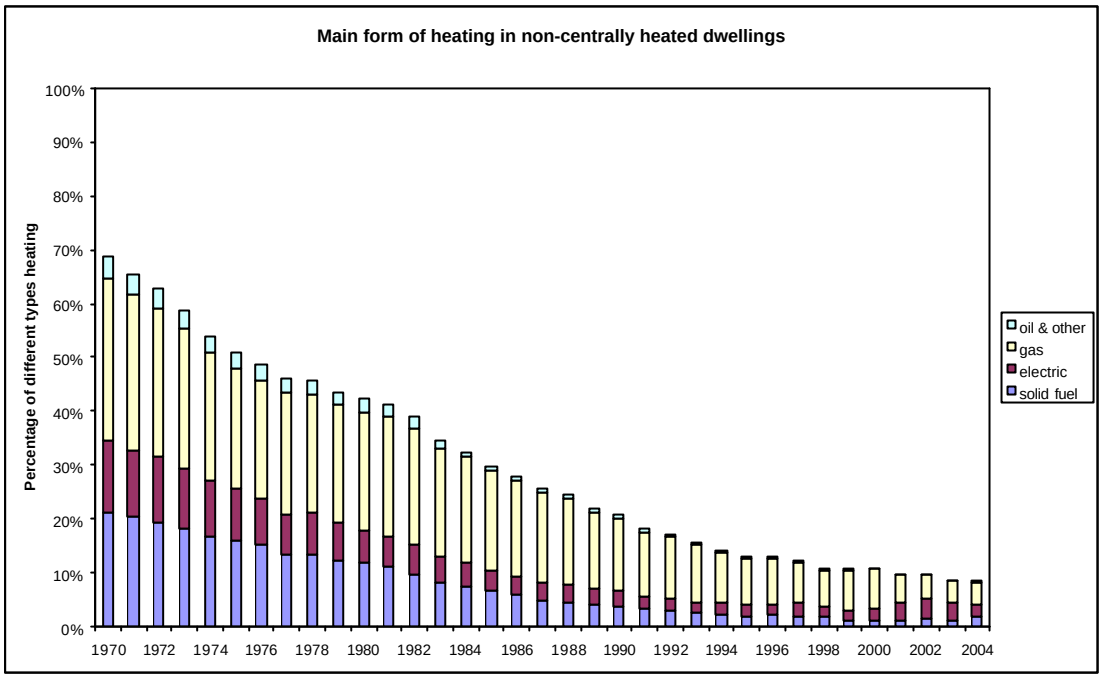


In each tenure the percentage with gas central heating has increased. In 2004 80% of owner occupied dwellings, 74% of local authority dwellings, 50% of private rented dwellings and 75% of RSL dwellings had gas central heating. In the owner occupied sector there was a decline in dwellings with solid fuel central heating from 7% to 1%. In local authority dwellings the decline was from 9% to 3%. In the private rented sector there has been an increase in the percentage of all types of central heating except solid fuel which has remained about the same. In the RSL sector data is only available from 1986 but in this time solid fuel central heating has decreased from 8% to 1% and oil & other central heating has decreased from 9% to 3%.

The data for figures 64-69 is in tables 56-60.

Figure 70 shows the different types of non central heating for all tenures.

Figure 70



The percentage of households without central heating has reduced rapidly from 69% in 1970 to 8% in 2004. Half of those who do not have central heating use gas as their main form of heating.

Figures 71-75 show the heating systems of those without central heating by individual tenure.

Figure 71

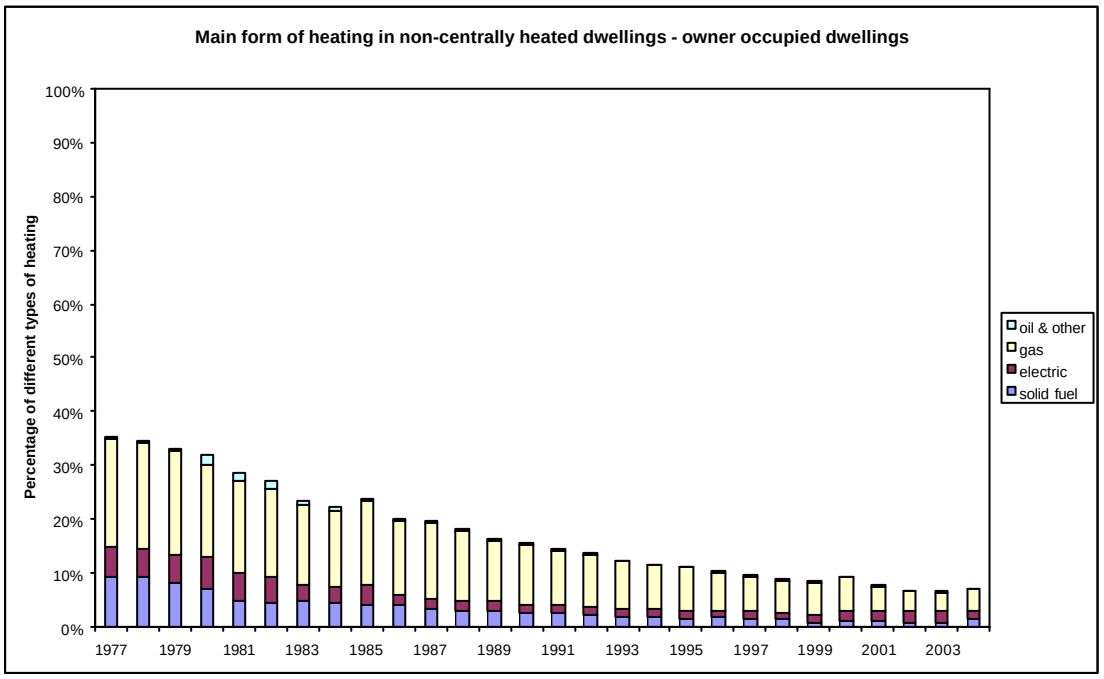


Figure 72

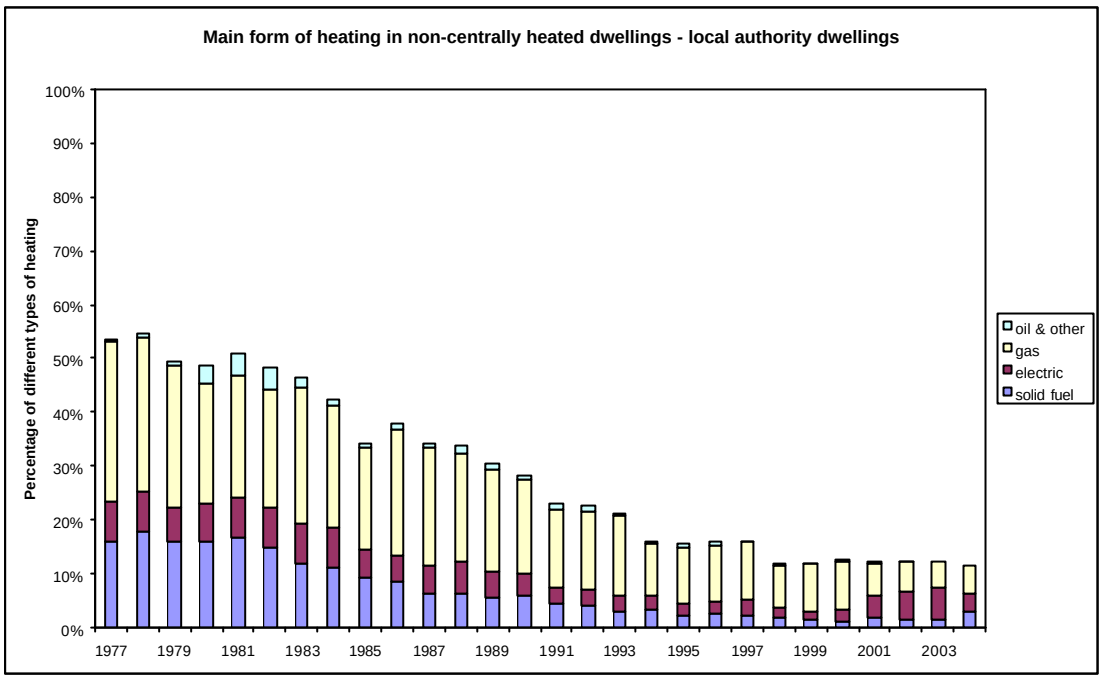


Figure 73

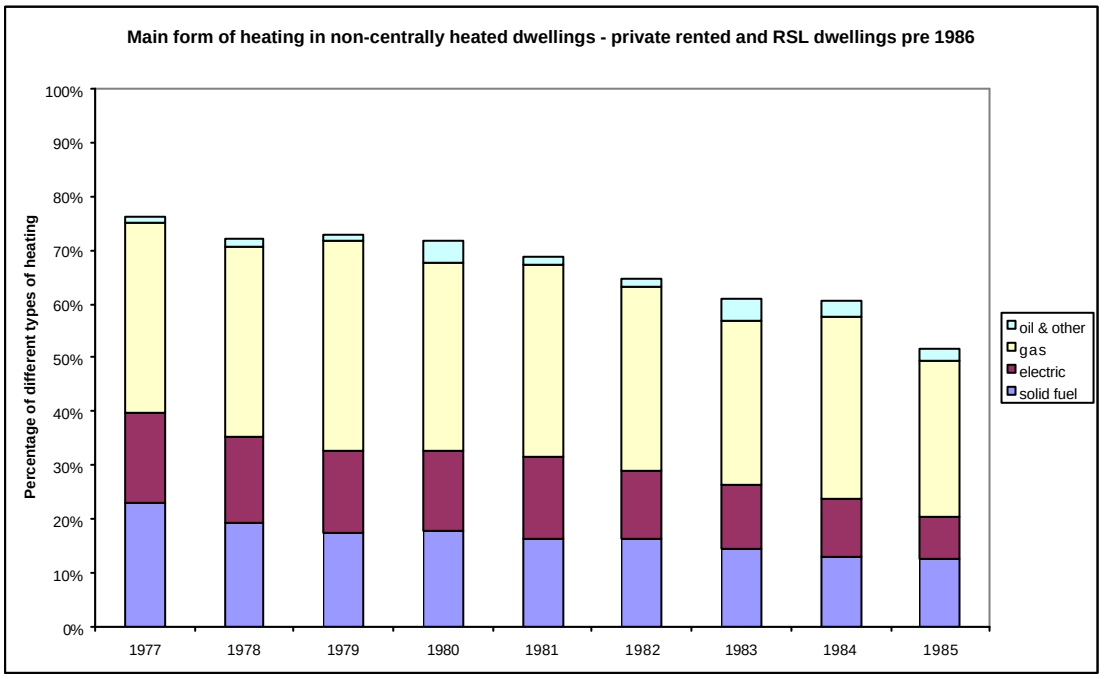


Figure 73 shows the main form of non central heating in the combined private rented and RSL sector between 1977 and 1985.

Figure 74

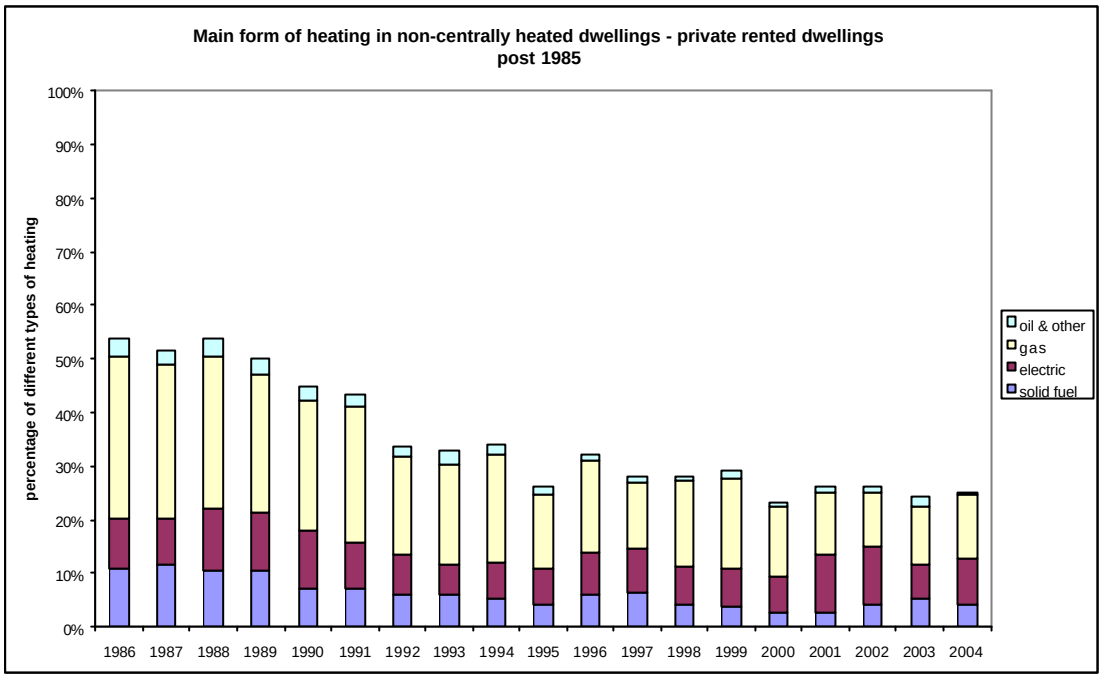
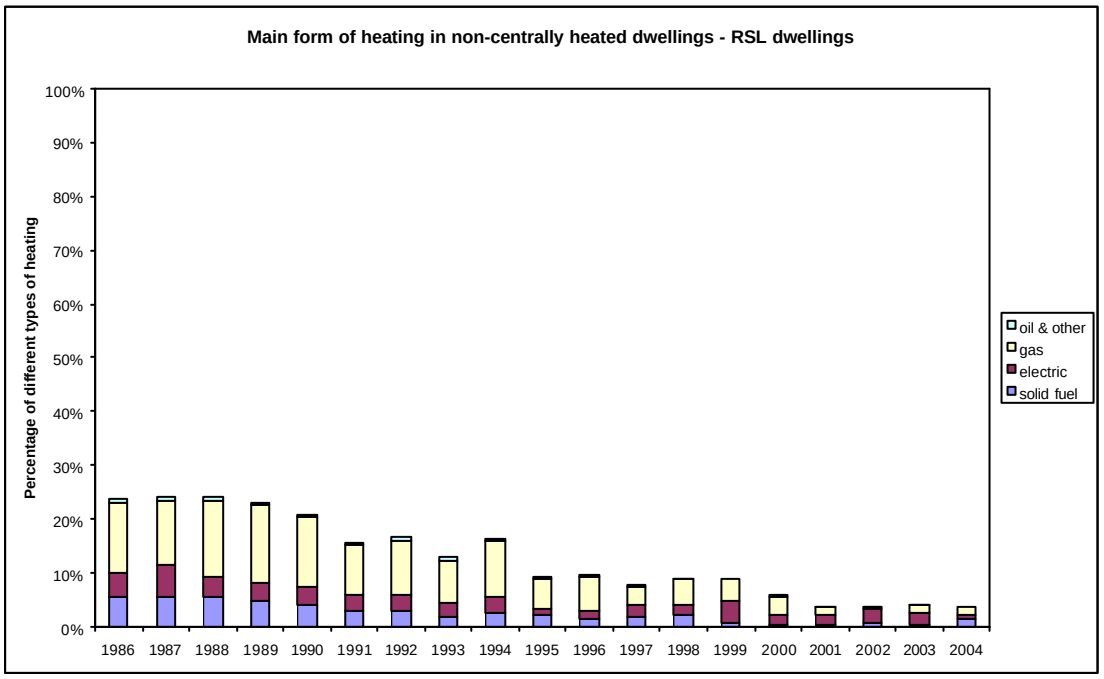


Figure 74 shows the main form of heating in non centrally heated dwellings in the private rented sector post 1985.

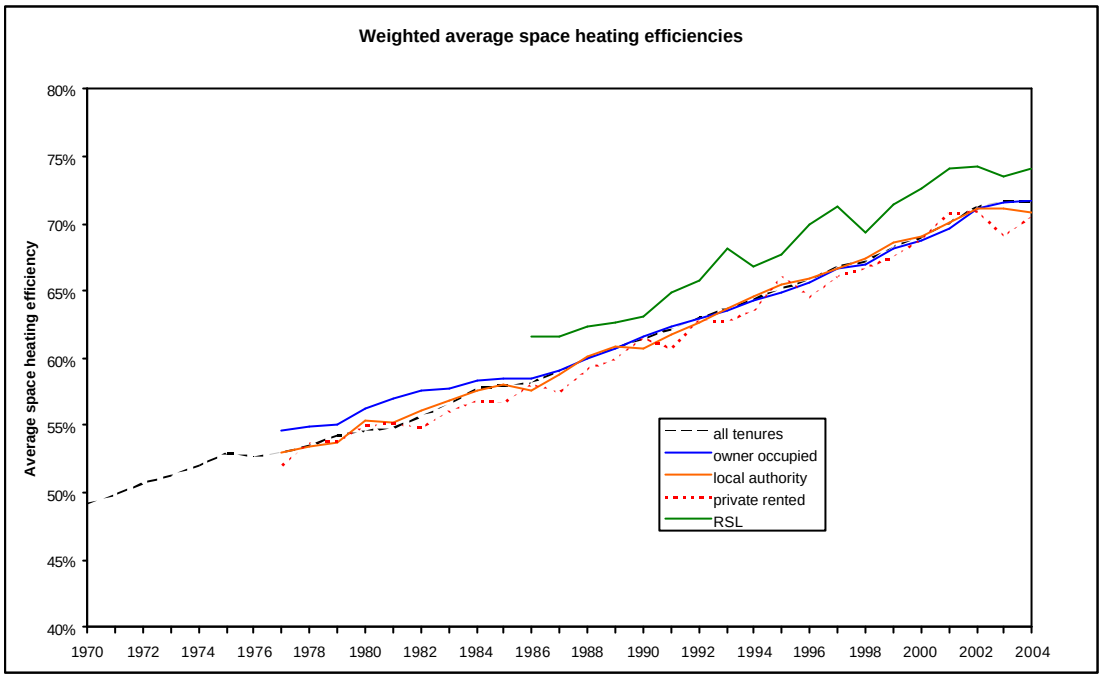
Figure 75



Tables 61-65 give details of non-central heating systems.

Figure 76 shows the weighted average space heating efficiencies for each tenure individually and for the whole stock.

Figure 76



In Figure 76 private rented and RSL sectors are combined for the years 1977 to 1985.

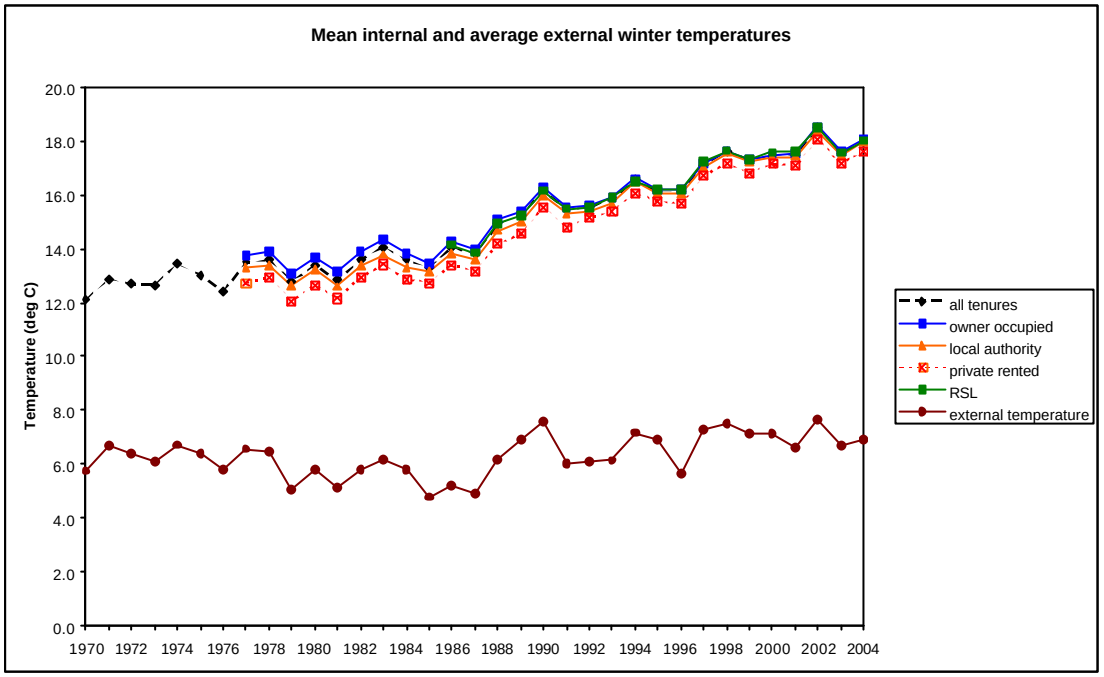
For each tenure and for the whole stock average efficiencies are increasing. This is partly attributable to the increase in central heating in each tenure. Slight decreases in recent years are due to statistical variations rather than a change in trends.

Table 66 shows the weighted space heating efficiencies for each tenure for centrally and non- centrally heated homes.

Standards of Comfort

Figure 77 shows an estimate of the mean internal temperature for each tenure together with the average winter external temperature.

Figure 77



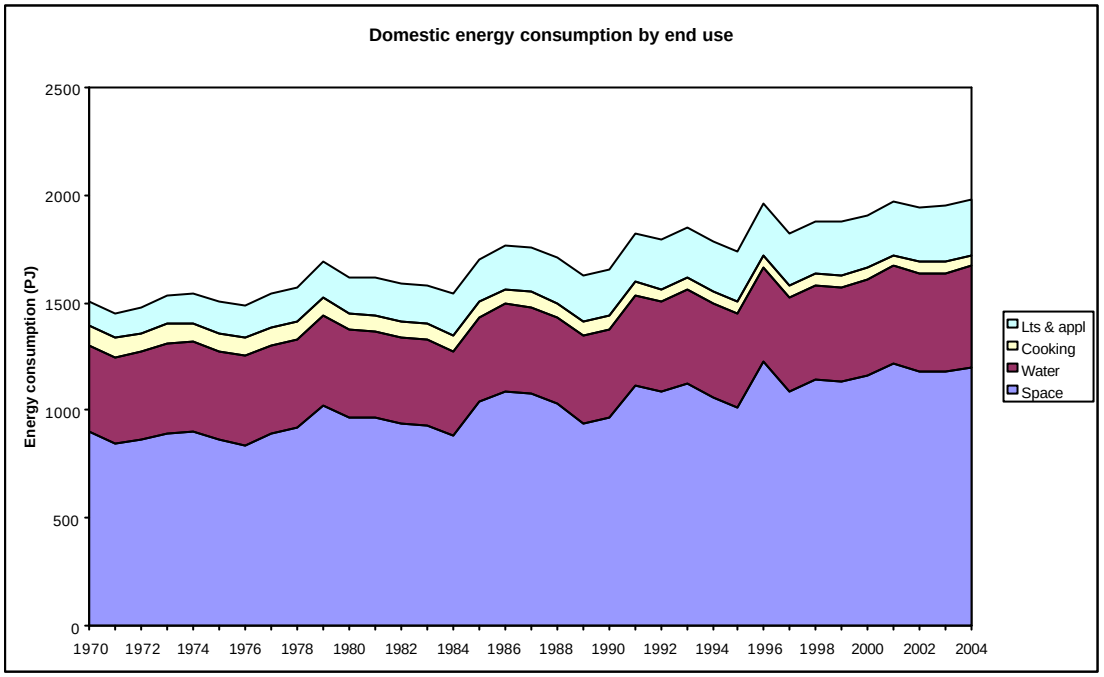
Owner occupied, local authority and RSL dwellings have similar internal temperatures with private rented dwellings slightly cooler. A general upward trend in internal temperatures can be seen for all tenures. These figures are obtained by assuming temperatures in central and non centrally heated homes are the same as for the whole stock. They are based on updated values for the data used in the Domestic energy fact file 2003. The proportion of centrally heated homes in each tenure is then used to calculate an internal temperature for individual tenures.

Table 67 shows the percentage of centrally heated dwellings and the internal temperature for each tenure.

Energy consumption by end use

Figure 78 shows energy consumption by end use for the entire housing stock (i.e. all tenures and all dwellings).

Figure 78



This shows the energy consumption for space heating, water heating, cooking and lights and appliances for the total stock. All end uses consume more energy in 2004 than in 1970 except cooking. Cooking is defined as use of oven and main hob. Other appliances such as microwaves which are used for cooking are included in the lights and appliances category. Increased energy efficiency has held the increase in energy consumption at a lower level. However increasing numbers of households makes an increase in energy consumption inevitable unless greater efficiencies for heating systems are achieved and the growth in use of appliances is matched by the reduction in energy needed to power them.

Figure 79 shows the energy by end use per household for the total stock. Figures for the individual tenures are worked out by using the same proportions for each end use as in the total stock. Figures 80-84 show the breakdowns for the individual tenures on a per household basis allowing comparisons to be made between the sectors.

Figure 79

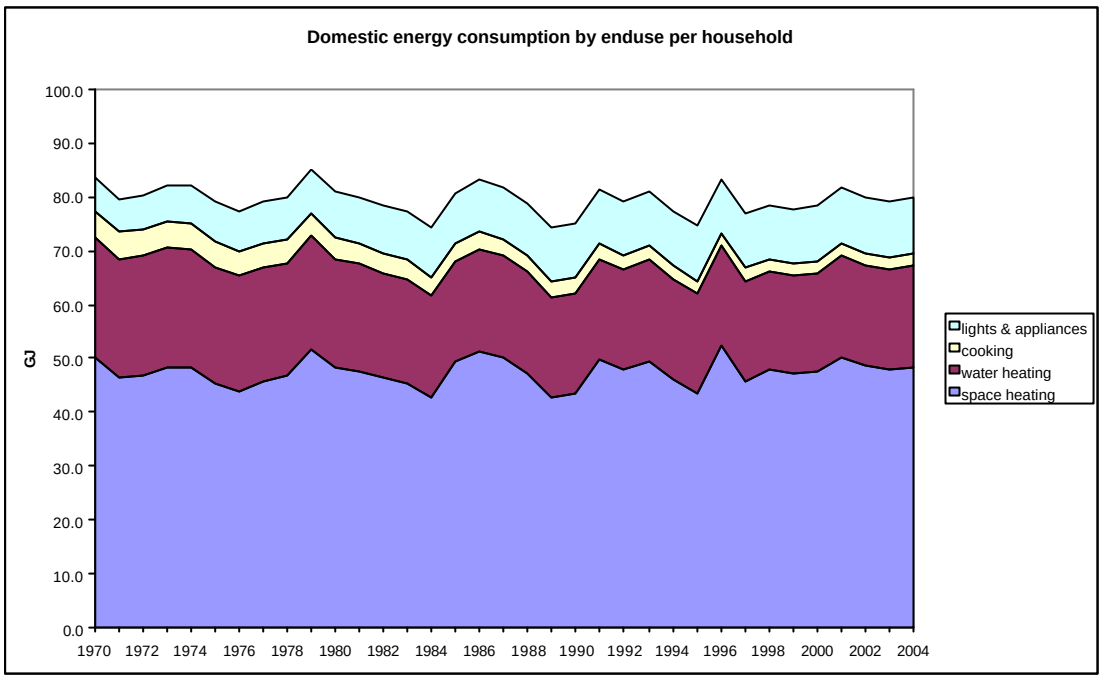


Figure 80

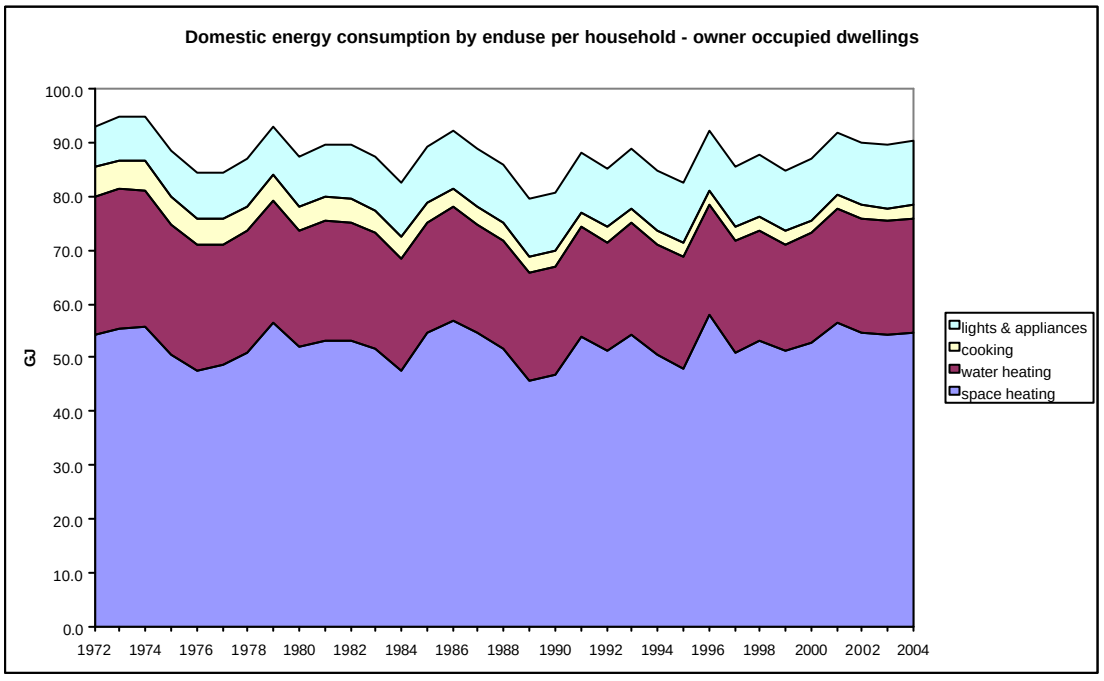


Figure 81

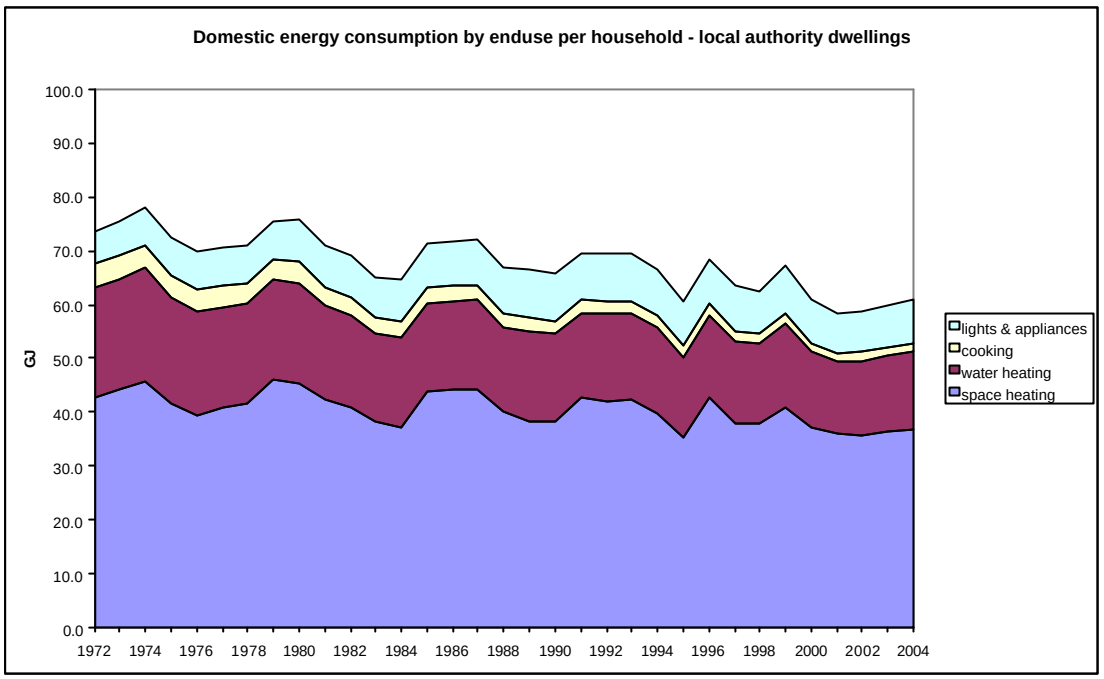


Figure 82

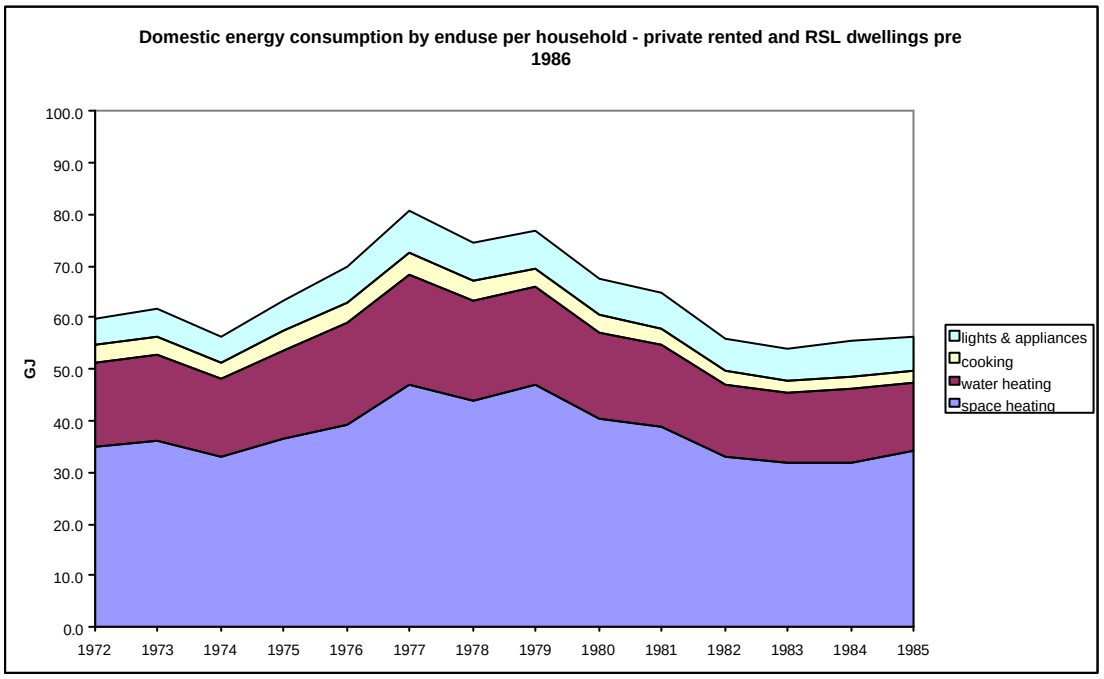


Figure 82 shows the energy consumption by end use of the combined private rented and RSL sectors pre 1986.

Figure 83

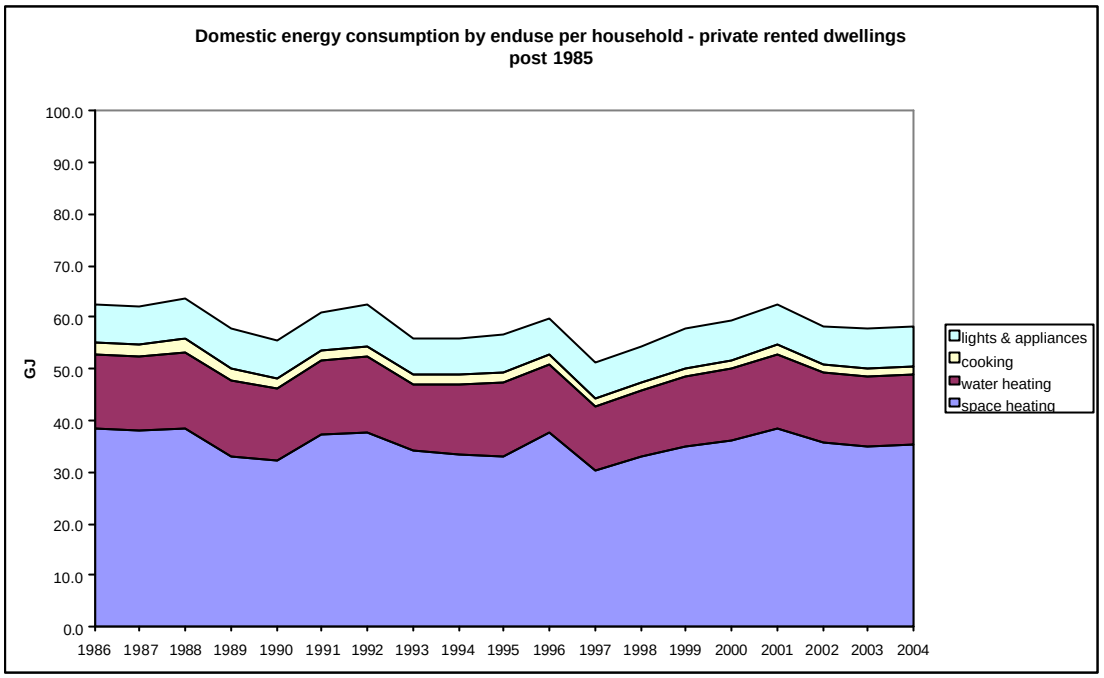


Figure 83 shows the energy consumption by end use post 1985.

Figure 84

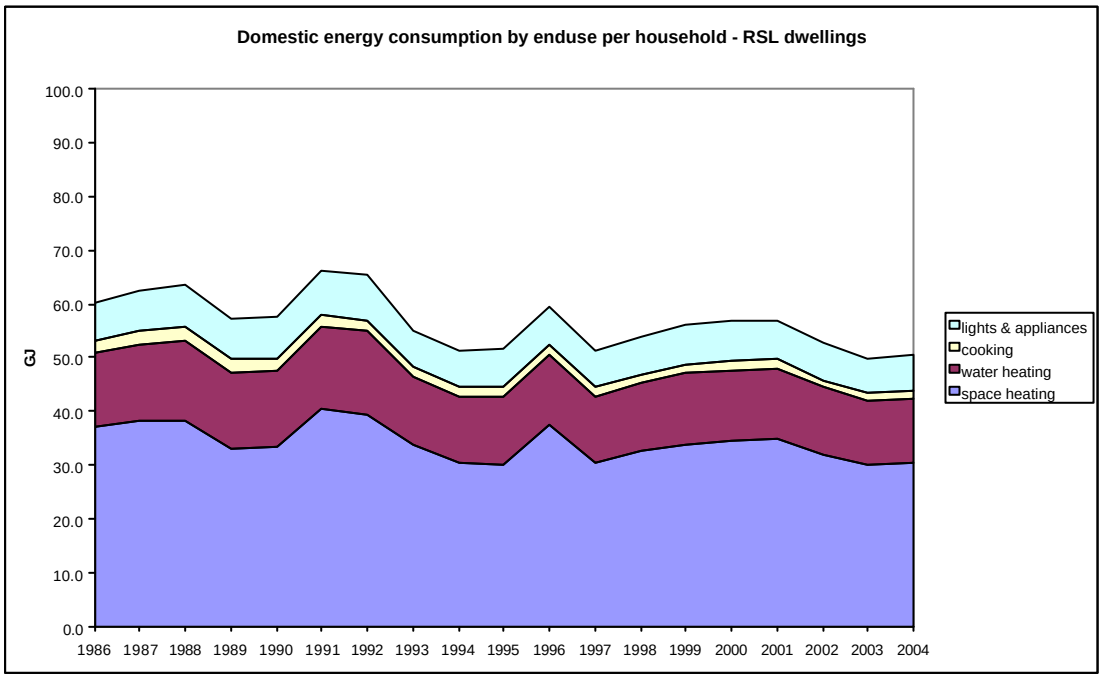


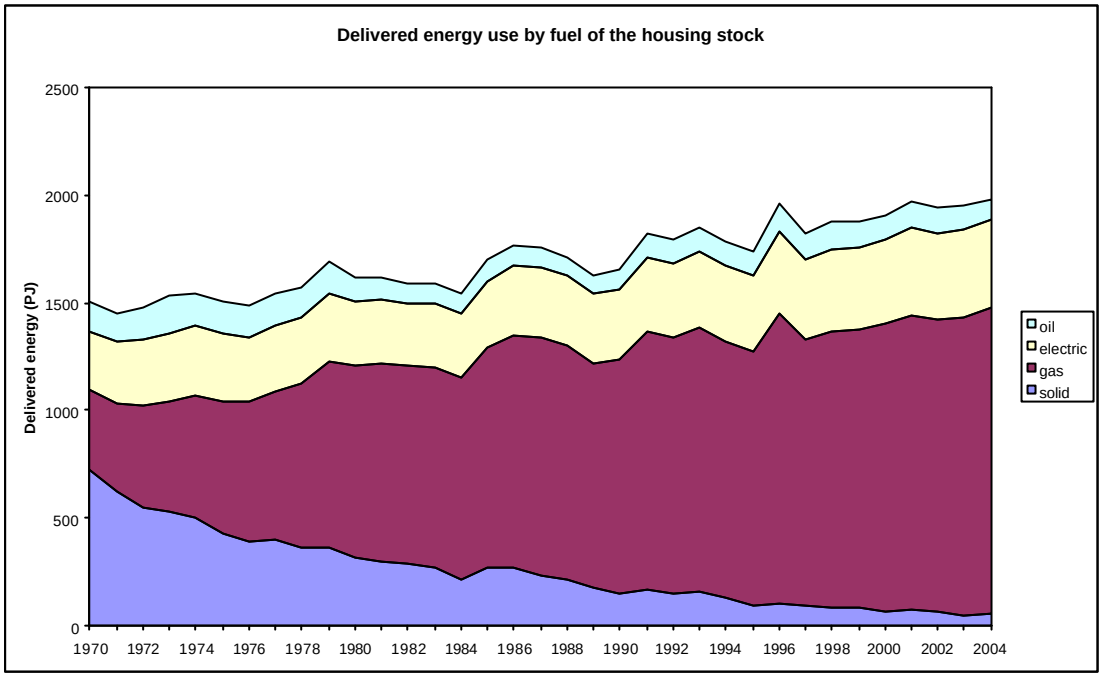
Figure 79 shows that the energy consumption per household has remained fairly steady throughout the period 1970 -2004. Local authority, private rented and RSL dwellings are showing a possible downward trend but it has to be borne in mind that sample sizes particularly for RSL dwellings are small and fluctuations are to be expected. Looking at the data for all tenures the energy consumption per household in 2004 is only slightly lower than in 1970.

Tables 68-72 show the data for end use in the different tenures.

Energy consumption by fuel

Figure 85 shows the energy consumption of each fuel.

Figure 85



This shows that the use of solid fuel is declining while that of gas is increasing. Overall energy usage is also increasing.
Figure 86 shows the energy consumption by fuel per household for all tenures and figures 87-91 show the energy consumption by fuel per household for the individual tenures.

Figure 86

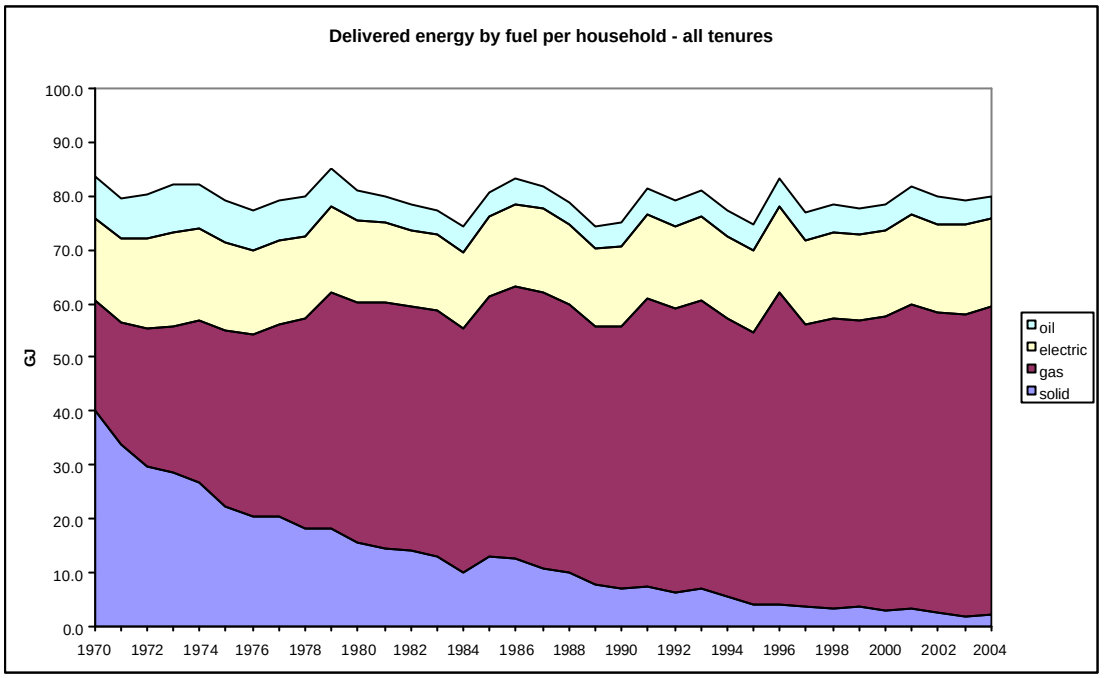


Figure 87

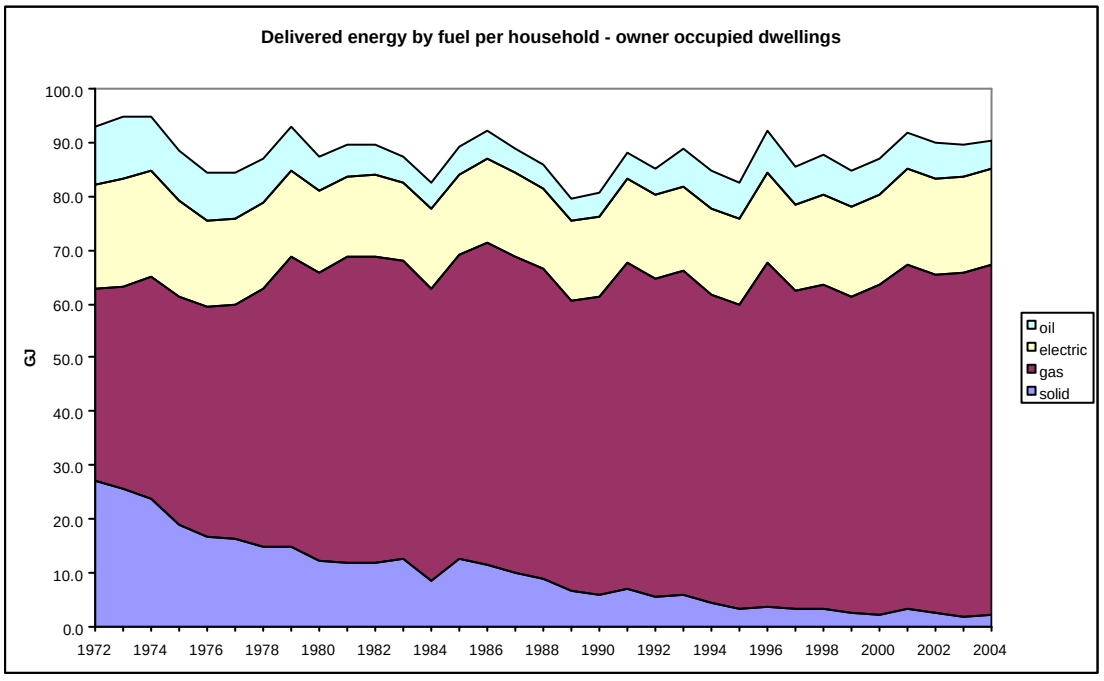


Figure 88

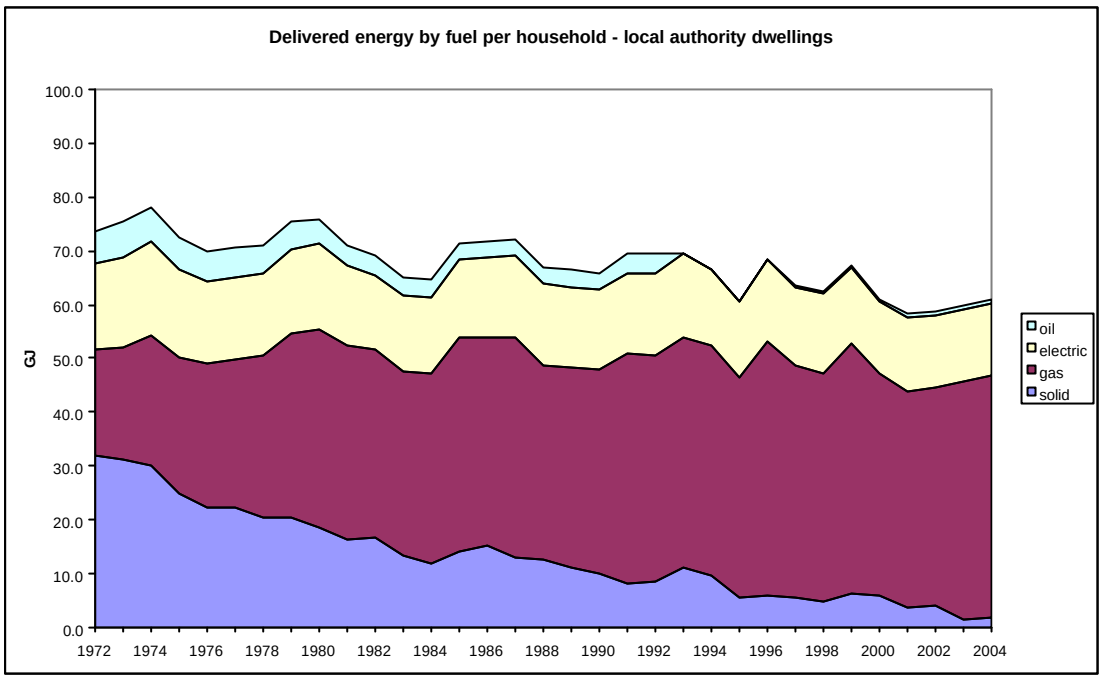


Figure 89

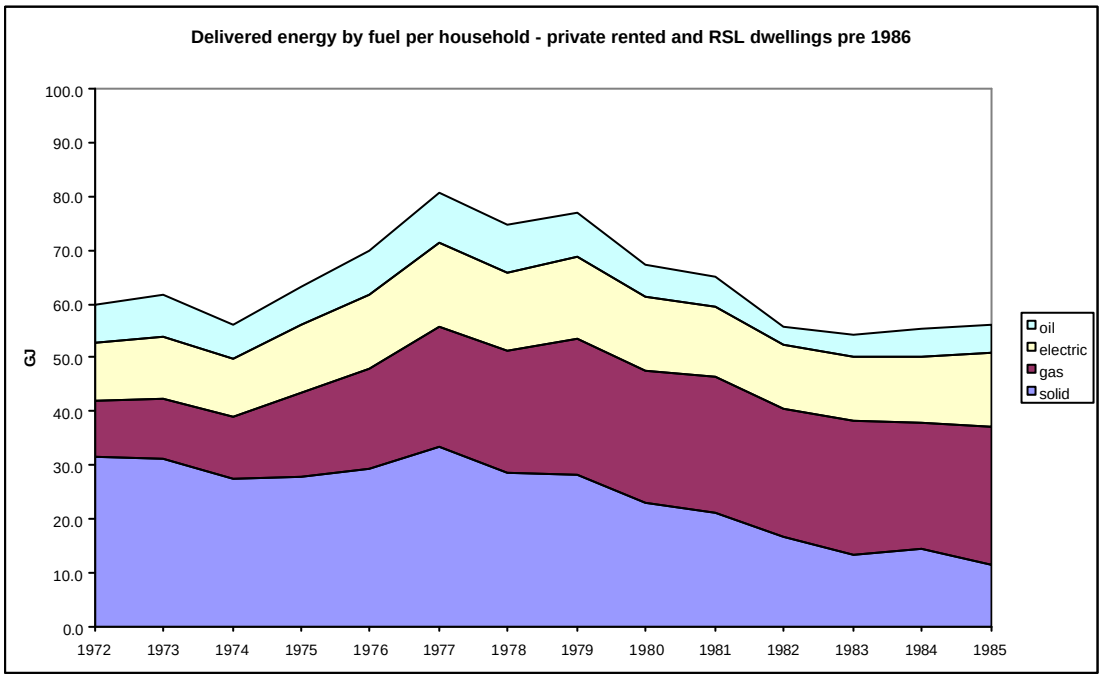


Figure 89 shows the delivered energy by fuel per household for the combined private rented and RSL sectors pre 1986.

Figure 90

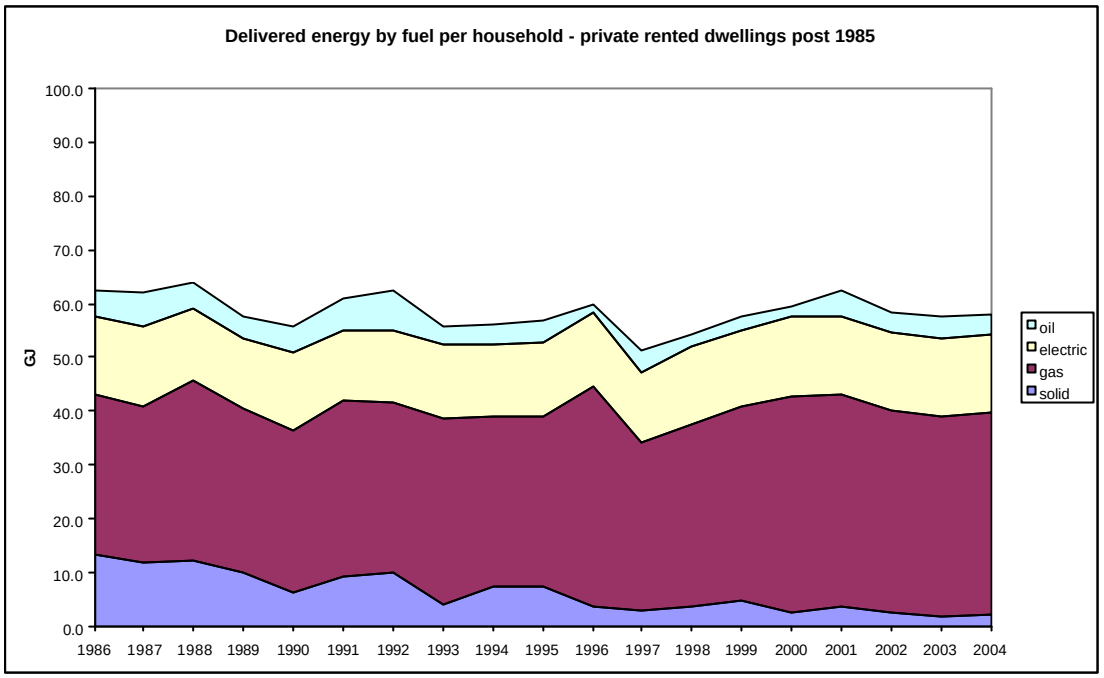
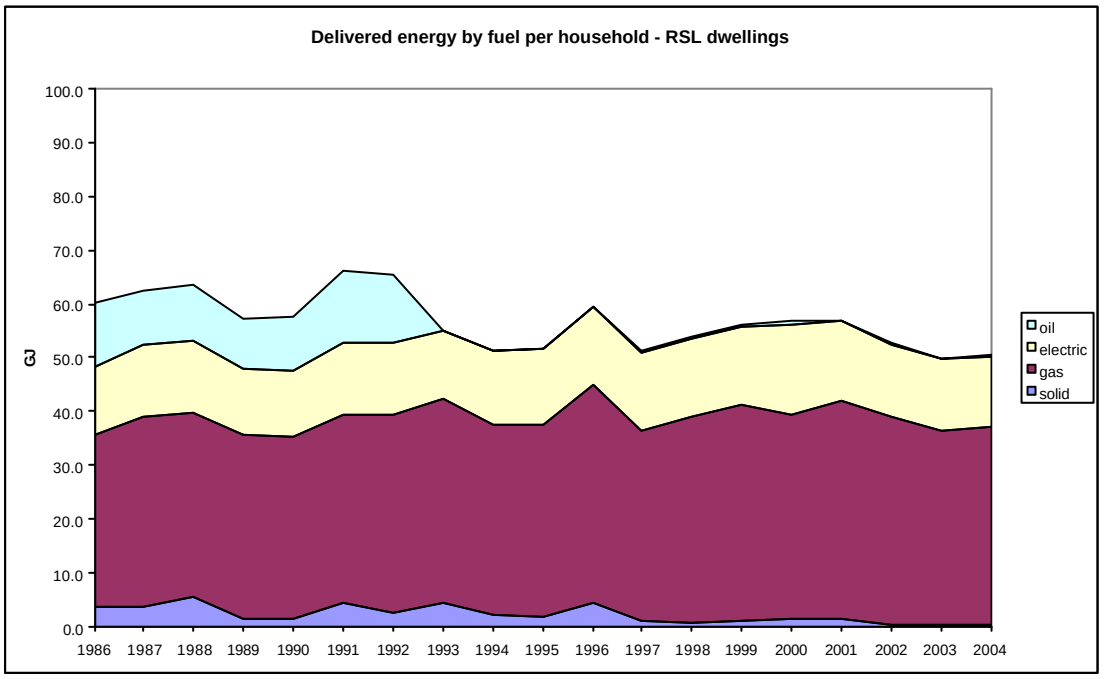


Figure 90 shows the delivered energy by fuel per household for the private rented sector post 1985.

Figure 91



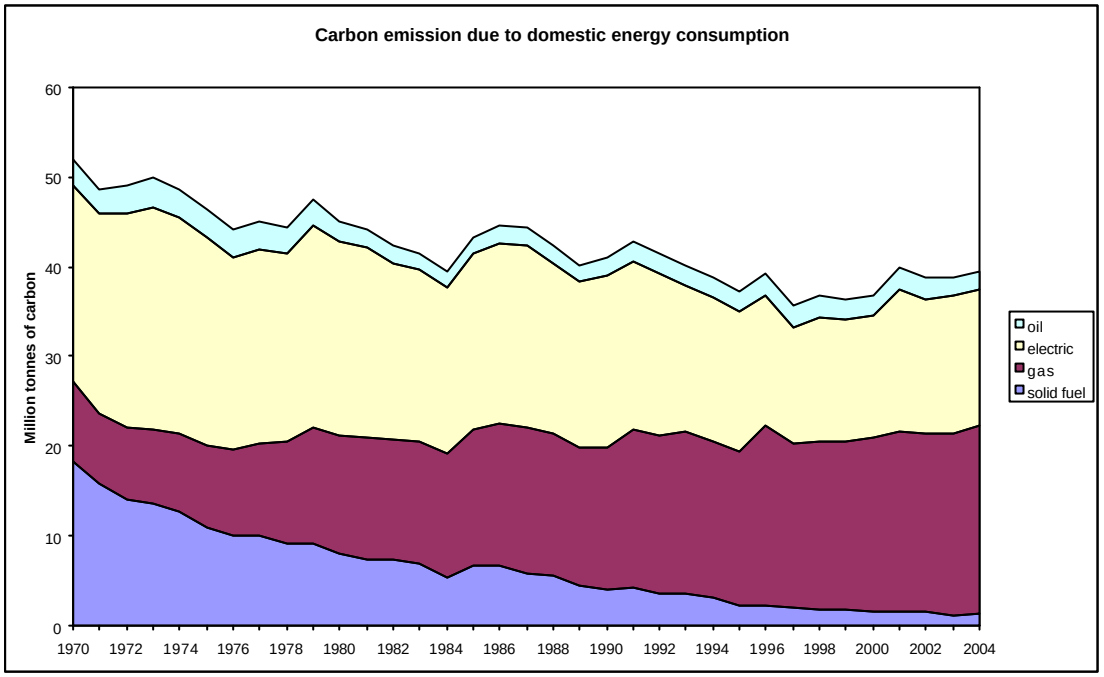
The individual tenures show similar increases in gas consumption and decreases in the use of solid fuel.
RSL and local authority dwellings also show a decrease in oil usage.

Tables 73-77 show the data used for these figures.

Carbon emission

Figure 92 shows the carbon emission related to each fuel for all tenures.

Figure 92



Carbon emissions have reduced by 24% between 1970 and 2004. In particular emissions from solid fuel have reduced by 93%. In the same period emissions from gas have more than doubled.

A detailed decomposition analysis for the period between 1970 and 2001 has been undertaken (6). This indicates that the reduction in carbon emissions can be explained by (a) increases due to household growth and rising levels of service, outweighed by (b) reductions related to improved thermal insulation, improved heating efficiency, changes in electricity generation, the changing fuel mix and variations in external temperatures.

The results of this analysis indicate that without the energy efficiency improvements that have been introduced since 1970 carbon emissions would have increased. Another conclusion was that continued reductions to carbon emissions would be more difficult to achieve in the first decade of the 21st century unless efforts to accelerate energy efficiency improvements were significantly stepped up from the rates seen in the nineties. The rise in emissions observed since 2000 seems to bear out this conclusion. Appendix 3 presents more details of this analysis.

Figure 93 shows the carbon emissions per household for each fuel for all tenures and figures 94-98 show the carbon emissions per household in the individual tenures.

Figure 93

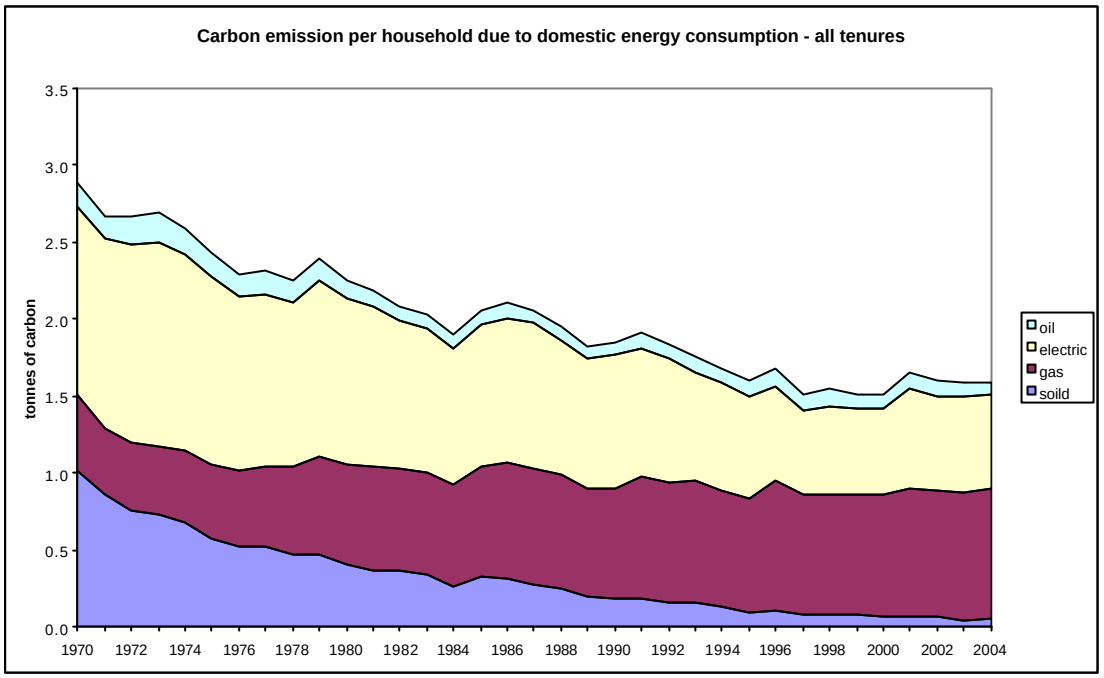


Figure 94

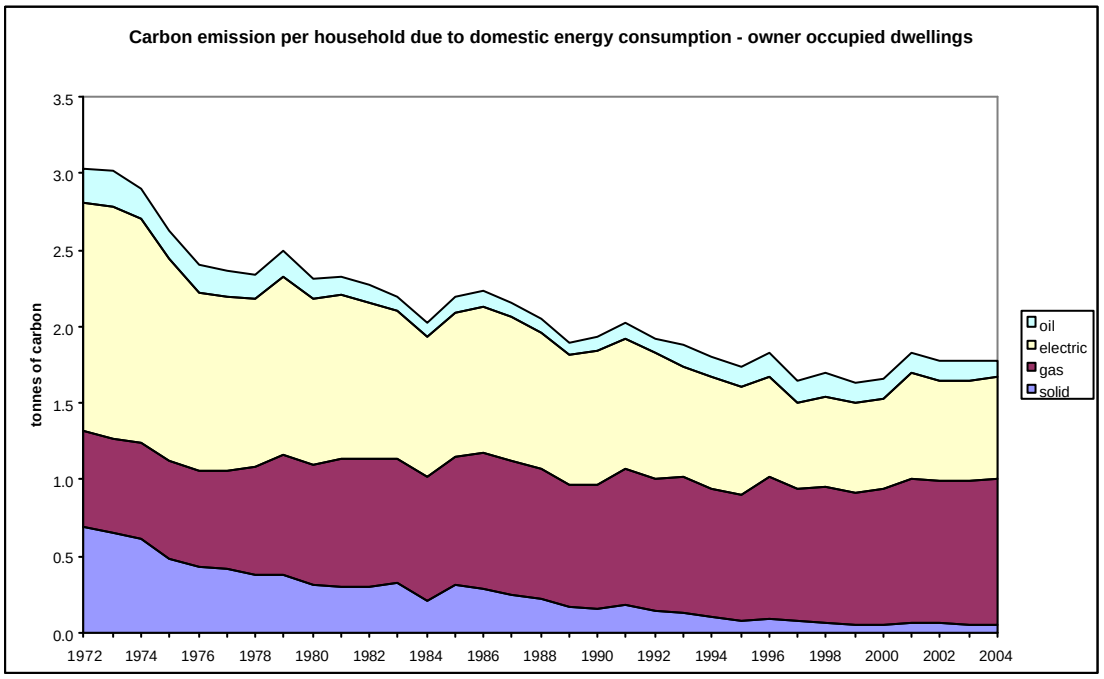


Figure 95

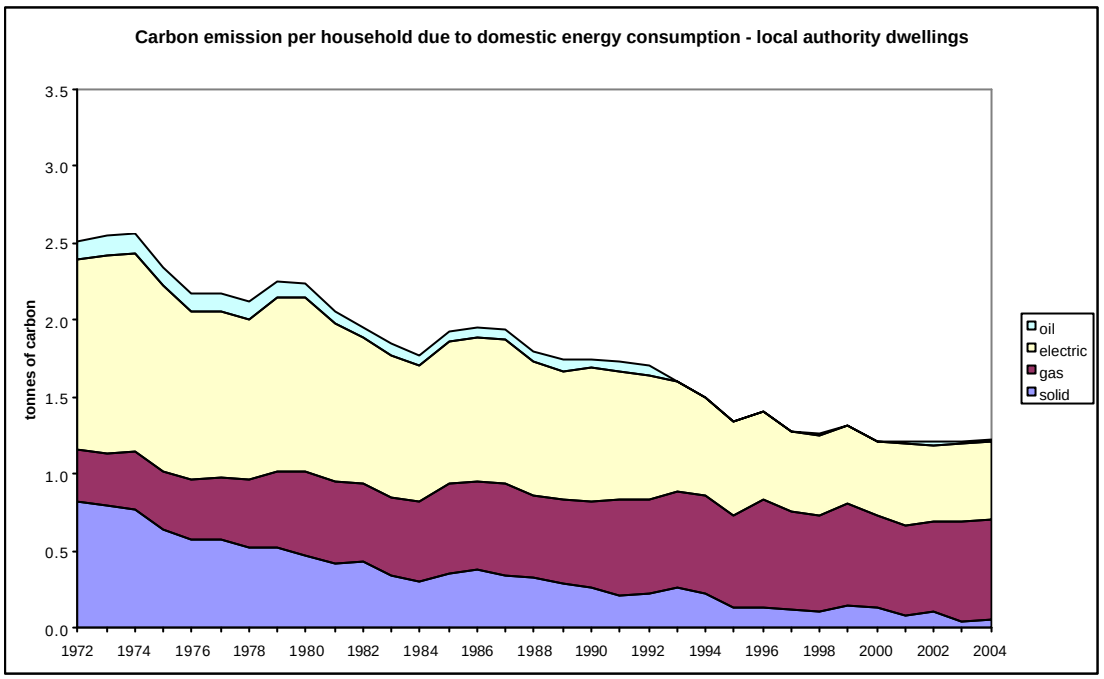


Figure 96

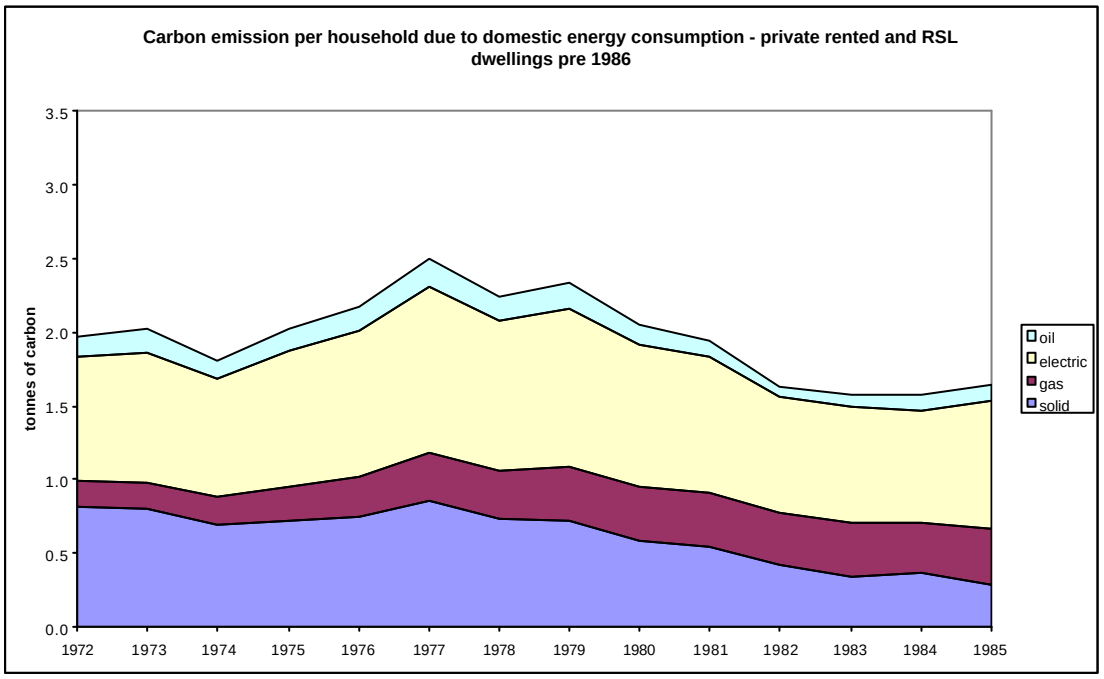


Figure 96 shows the carbon emissions by fuel for the combined private rented and RSL sectors for pre 1986.

Figure 97

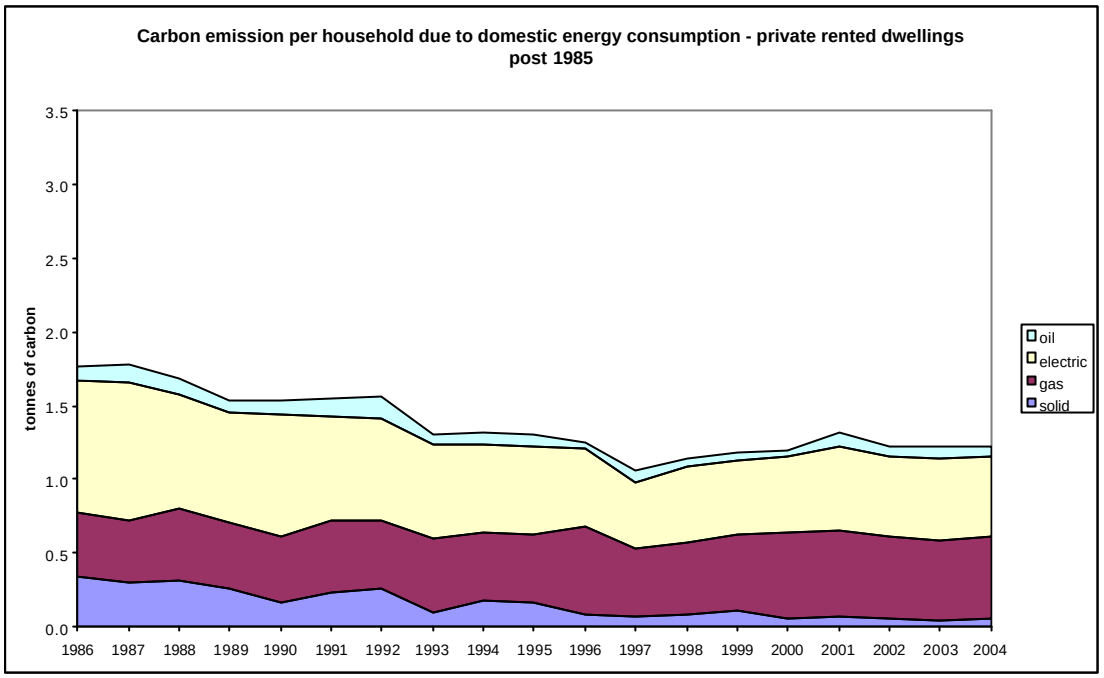
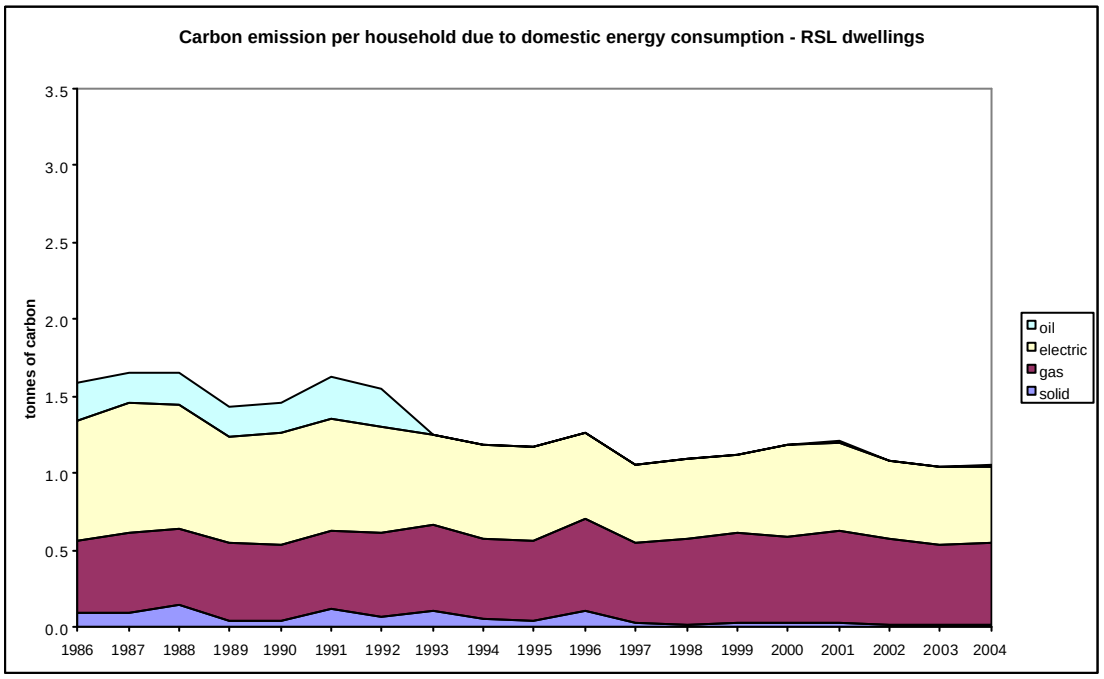


Figure 97 shows the carbon emissions by fuel per household in the private rented sector post 1985.

Figure 98



Carbon emissions in each sector have fallen since 1970. The emissions for owner occupied homes are higher than for the other tenures. RSL homes have the lowest carbon emissions. If figure 93 is compared with figure 86 it is possible to see that while carbon emissions per household are decreasing energy consumption per household is not. This is possible if fuel switching is taking place so that more gas and less solid fuel is being used but is limited in its effectiveness if energy consumption does not decrease as well (see Appendix 3 for more detail on the actual effect of fuel switching).

Tables 78-82 give the data for these figures

References

1. Domestic energy fact file 2003. L D Shorrock and J I Utley. BRE Report BR 457 2003
2. Domestic energy fact file : Owner occupied homes. G A Waters, I Kempson, and L D Shorrock. BRE Report BR 408 2000
3. Domestic energy fact file: Local authority homes. G A Walters, I Kempson and L D Shorrock BRE Report BR 409 2000
4. Domestic energy fact file: Private rented homes. G A Walters, I Kempson and L D Shorrock. BRE Report BR 410 2000
5. Domestic energy fact file: Registered social landlord (RSL) homes. G A Walters, I Kempson and L D Shorrock BRE report BR 411 2000.
6. A detailed analysis of the historical role of energy efficiency in reducing carbon emissions from the UK housing stock. L D Shorrock. Proceedings of ECEEE Summer Study. June 2003. (Available at http://www.bre.co.uk/housing/page.jsp?id=396)

In addition a number of sources have been referred to in compiling this report. The relevant sources are quoted below individual tables. Some tables simply quote their source as BREHOMES. For these tables a fuller explanation of the derivation of the figures can be obtained from the text accompanying the equivalent tables in the main Domestic energy fact file (1). For other tables, the relevant sources are listed below. In most cases several editions of these sources have been consulted.

GfK Home Audit. GfK Marketing Services Ltd. Home heating and insulation ownership reports. Produced annually.

Digest of United Kingdom Energy Statistics. Department of Trade and Industry. Published annually.

Family Expenditure Survey. Office of National Statistics. Published annually, recently replaced by *Expenditure and Food Survey*. Office for National Statistics.

Also the following web sites have been consulted to obtain some information:

www.statistics.gov.uk

www.defra.gov.uk

www.dti.gov.uk/energy

www.housing.odpm.gov.uk

Appendix 1 - Tables

Table 1 Weekly expenditure for all tenures

	Contemporary prices		2003 prices		
Year	All goods (£/week)	Fuel light & power (£/week)	All goods (£/week)	Fuel light & power (£/week)	% on Fuel light & power
1981	125.41	7.46	304.02	18.08	5.9%
1982	133.92	8.35	299.06	18.65	6.2%
1983	142.59	9.22	304.55	19.69	6.5%
1984	151.92	9.42	308.83	19.15	6.2%
1985	162.50	9.95	311.48	19.07	6.1%
1986	178.10	10.43	330.22	19.34	5.9%
1987	188.62	10.55	335.65	18.77	5.6%
1988	204.41	10.48	346.74	17.78	5.1%
1989	224.32	10.58	353.09	16.65	4.7%
1990	247.16	11.11	355.42	15.98	4.5%
1991	259.04	12.25	351.85	16.64	4.7%
1992	271.83	13.02	355.89	17.05	4.8%
1993	276.68	13.24	356.58	17.06	4.8%
1994	283.58	12.95	356.85	16.30	4.6%
1995	289.86	12.92	352.52	15.71	4.5%
1996	309.07	13.35	367.02	15.85	4.3%
1997	328.78	12.66	378.53	14.58	3.9%
1998	346.58	11.78	385.79	13.11	3.4%
1999	353.47	11.39	387.52	12.49	3.2%
2000	379.61	11.92	404.20	12.69	3.1%
2001	397.20	11.70	415.61	12.24	2.9%
2002	406.20	11.70	418.03	12.04	2.9%
2003	441.25	12.20	441.25	12.20	2.8%

Source: Family Expenditure Survey / Expenditure and Food Survey
This table refers to the UK. Generally the tables in this report apply to Great Britain.

Table 2 Weekly expenditure for owner occupied households

	Contemporary prices		2003 prices		
Year	All goods (£/week)	Fuel, light and power (£/week)	All goods (£/week)	Fuel, light and power (£/week)	% on fuel light & power
1981	145.94	7.95	353.79	19.26	5.4%
1982	158.90	9.18	354.85	20.49	5.8%
1983	169.04	10.11	361.04	21.59	6.0%
1984	183.52	10.09	373.07	20.51	5.5%
1985	195.39	10.68	374.53	20.47	5.5%
1986	217.60	11.26	403.45	20.88	5.2%
1987	228.36	11.20	406.37	19.93	4.9%
1988	243.57	11.13	413.16	18.88	4.6%
1989	264.92	11.29	417.00	17.78	4.3%
1990	289.70	11.70	416.59	16.82	4.0%
1991	307.81	13.01	418.10	17.68	4.2%
1992	323.60	13.72	423.67	17.97	4.2%
1993	324.42	13.94	418.11	17.97	4.3%
1994	333.33	13.90	419.45	17.49	4.2%
1995	341.31	13.93	415.09	16.94	4.1%
1996	364.88	14.43	433.30	17.14	4.0%
1997	390.50	13.76	449.59	15.84	3.5%
1998	408.95	12.77	455.22	14.21	3.1%
1999	415.29	12.29	455.30	13.47	3.0%
2000	438.83	12.91	467.25	13.75	2.9%
2001	485.01	13.10	507.48	13.71	2.7%
2002	492.08	13.08	506.41	13.46	2.7%
2003	509.53	13.45	509.53	13.45	2.6%

Source: Family Expenditure Survey / Expenditure and Food Survey
This table refers to the UK. Generally the tables in this report apply to Great Britain.

Table 3 Weekly expenditure for local authority households

	Contemporary prices		2003 prices		
Year	All goods (£/week)	Fuel, light and power (£/week)	All goods (£/week)	Fuel, light and power (£/week)	% on fuel light & power
1981	100.18	6.96	242.86	16.88	6.9%
1982	101.21	7.62	226.02	17.01	7.5%
1983	102.96	8.22	219.90	17.57	8.0%
1984	100.61	8.64	204.53	17.56	8.6%
1985	107.16	9.09	205.41	17.43	8.5%
1986	106.11	9.39	196.74	17.41	8.8%
1987	112.63	9.70	200.43	17.26	8.6%
1988	119.10	9.39	202.03	15.93	7.9%
1989	132.28	10.08	208.22	15.87	7.6%
1990	148.03	10.32	212.87	14.84	7.0%
1991	140.38	11.10	190.68	15.08	7.9%
1992	151.53	12.01	198.39	15.72	7.9%
1993	156.51	12.26	201.71	15.80	7.8%
1994	155.90	11.52	196.18	14.50	7.4%
1995	159.65	11.14	194.16	13.55	7.0%
1996	171.81	11.65	204.02	13.83	6.8%
1997	172.88	11.25	199.04	12.95	6.5%
1998	179.27	10.06	199.55	11.20	5.6%
1999	190.64	9.93	209.00	10.89	5.2%
2000	201.66	9.47	214.72	10.08	4.7%
2001	211.52	9.01	221.33	9.42	4.3%
2002	214.51	9.08	220.76	9.34	4.2%
2003	217.65	9.47	217.65	9.47	4.4%

Source: Family Expenditure Survey / Expenditure and Food Survey
This table refers to the UK. Generally the tables in this report apply to Great Britain.

Table 4 Weekly expenditure for private rented households

	Contemporary prices		2003 prices		
Year	All goods (£/week)	Fuel, light and power (£/week)	All goods (£/week)	Fuel, light and power (£/week)	% on fuel light & power
1981	106.55	6.63	258.30	16.07	6.2%
1982	103.54	6.30	231.22	14.07	6.1%
1983	108.60	6.95	231.95	14.83	6.4%
1984	116.34	7.66	236.50	15.57	6.6%
1985	121.72	7.93	233.32	15.20	6.5%
1986	147.32	8.56	273.15	15.87	5.8%
1987	155.82	8.91	277.28	15.86	5.7%
1988	172.40	8.83	292.44	14.97	5.1%
1989	204.31	8.85	321.60	13.93	4.3%
1990	218.18	9.29	313.75	13.36	4.3%
1991	215.90	9.79	293.26	13.30	4.5%
1992	222.20	10.78	290.91	14.12	4.9%
1993	259.16	10.83	334.00	13.95	4.2%
1994	293.63	10.31	369.50	12.97	3.5%
1995	268.83	10.85	326.95	13.19	4.0%
1996	291.05	10.79	345.63	12.82	3.7%
1997	298.19	9.38	343.31	10.80	3.1%
1998	293.51	9.47	326.72	10.54	3.2%
1999	318.76	9.14	349.47	10.02	2.9%
2000	347.24	9.77	369.73	10.40	2.8%
2001	384.82	9.60	402.66	10.04	2.5%
2002	383.75	9.34	394.93	9.61	2.4%
2003	399.30	9.59	399.30	9.59	2.4%

Source: Family Expenditure Survey / Expenditure and Food Survey
This table refers to the UK. Generally the tables in this report apply to Great Britain.

The figures shown for the years 1981 to 1985 are for private rented and RSL sectors combined.

Table 5 Weekly expenditure for RSL households

	Contemporary prices		2003 prices		
Year	All goods (£/week)	Fuel, light and power (£/week)	All goods (£/week)	Fuel, light and power (£/week)	% on fuel light and power
1986	96.92	8.37	179.70	15.52	8.6%
1987	115.74	8.75	205.96	15.57	7.6%
1988	118.37	9.26	200.79	15.71	7.8%
1989	124.62	8.84	196.16	13.92	7.1%
1990	133.75	9.20	192.33	13.22	6.9%
1991	139.04	10.57	188.86	14.35	7.6%
1992	165.13	11.32	216.20	14.82	6.9%
1993	166.48	11.68	214.56	15.05	7.0%
1994	150.13	9.73	188.92	12.24	6.5%
1995	165.81	10.10	201.65	12.28	6.1%
1996	176.30	10.64	209.36	12.64	6.0%
1997	190.64	9.77	219.49	11.25	5.1%
1998	185.46	9.06	206.44	10.09	4.9%
1999	193.12	9.08	211.73	9.95	4.7%
2000	230.36	9.96	245.28	10.61	4.3%
2001	245.55	8.96	256.93	9.38	3.6%
2002	218.89	8.35	225.27	8.60	3.8%
2003	234.71	8.29	234.71	8.29	3.5%

Source: Family Expenditure Survey / Expenditure and Food Survey
This table refers to the UK. Generally the tables in this report apply to Great Britain.

Table 6 Percentage of expenditure spent on fuel, light and power.

Year	owner occupied	local authority	private rented	RSL
1981	5.4%	6.9%	6.2%	
1982	5.8%	7.5%	6.1%	
1983	6.0%	8.0%	6.4%	
1984	5.5%	8.6%	6.6%	
1985	5.5%	8.5%	6.5%	
1986	5.2%	8.8%	5.8%	8.6%
1987	4.9%	8.6%	5.7%	7.6%
1988	4.6%	7.9%	5.1%	7.8%
1989	4.3%	7.6%	4.3%	7.1%
1990	4.0%	7.0%	4.3%	6.9%
1991	4.2%	7.9%	4.5%	7.6%
1992	4.2%	7.9%	4.9%	6.9%
1993	4.3%	7.8%	4.2%	7.0%
1994	4.2%	7.4%	3.5%	6.5%
1995	4.1%	7.0%	4.0%	6.1%
1996	4.0%	6.8%	3.7%	6.0%
1997	3.5%	6.5%	3.1%	5.1%
1998	3.1%	5.6%	3.2%	4.9%
1999	3.0%	5.2%	2.9%	4.7%
2000	2.9%	4.7%	2.8%	4.3%
2001	2.7%	4.3%	2.5%	3.6%
2002	2.7%	4.2%	2.4%	3.8%
2003	2.6%	4.4%	2.4%	3.5%

Source: Family Expenditure Survey / Expenditure and Food Survey
This table refers to the UK. Generally the tables in this report apply to Great Britain.

The figures shown for the years 1981 to 1985 are for private rented and RSL sectors combined.

Table 7 Number of households and mean household size

	Owner occupied		Local authority		Private rented		RSL		All tenures	
Year	households ('000s)	mean household size	households ('000s)	mean household size	households ('000s)	mean household size	households ('000s)	mean household size	households ('000s)	mean household size
1972	8742		6423		3261				18426	
1973	8948	2.93	6429	2.92	3227	2.20			18603	2.83
1974	9094		6223		3466				18783	
1975	9685	2.89	6430	2.86	2872	2.24			18988	2.78
1976	10138		6552		2525				19215	
1977	10529	2.81	6685	2.78	2236	2.23			19450	2.71
1978	10550	2.82	6703	2.75	2397	2.23			19650	
1979	10672	2.77	6718	2.62	2437	2.21			19827	2.67
1980	11023	2.80	6402	2.72	2585	2.11			20010	
1981	10778	2.81	6777	2.73	2153	2.13	469	1.97	20177	2.70
1982	10857		6828		2159		483		20327	
1983	12175	2.79	6030	2.56	1816	2.15	504	1.84	20525	2.64
1984	12319	2.77	6102	2.43	1823	2.16	525	1.98	20769	2.59
1985	12884	2.71	5903	2.41	1682	2.17	548	2.12	21017	2.56
1986	13029	2.69	5972	2.39	1687	2.12	565	2.11	21254	2.55
1987	13778	2.70	5751	2.34	1290	2.23	666	2.04	21485	2.55
1988	14132	2.62	5645	2.27	1238	2.19	694	1.99	21710	2.48
1989	14607	2.66	5369	2.28	1250	2.10	701	1.95	21927	2.51
1990	14813	2.59	5289	2.28	1284	2.14	753	1.97	22140	2.46
1991	15048	2.59	5173	2.33	1433	2.17	739	1.99	22392	2.48
1992	15207	2.57	5084	2.24	1558	2.22	746	2.04	22595	2.45
1993	15405	2.53	4930	2.35	1597	2.18	890	1.98	22822	2.44
1994	15599	2.52	4845	2.35	1593	2.12	1039	2.09	23076	2.44
1995	15714	2.50	4897	2.24	1655	2.18	1050	2.03	23315	2.40
1996	15859	2.54	4790	2.26	1715	2.14	1128	2.19	23492	
1997	16017		4833		1729		1115		23694	
1998	16201		4827		1743		1124		23896	2.32
1999	16353		4630		1955		1182		24120	
2000	16672		4387		1974		1343		24375	2.30
2001	16626		4061		2055		1428		24170	2.33
2002	16760		4093		2072		1439		24365	
2003	16945		3542		1574		2533		24595	
2004	17103		3575		1590		2557		24825	

Source: Housing and Construction Statistics / General Household Survey / www.housing.odpm.gov.uk

Household size for 1973, 1975 and 1979 has been extrapolated or interpolated.

The figures shown for the years 1972 to 1980 are for private rented and RSL sectors combined.

Table 8 Housing stock distribution by age ('000s of homes)

Year	pre 1918	1918-38	1939-59	1960-71	1972-	total
1970	4474	4779	4625	4109	0	17987
1971	4474	4779	4625	4343	0	18221
1972	4544	4725	5094	3809	254	18426
1973	4404	4800	4965	3880	554	18603
1974	4271	4623	4645	4261	983	18783
1975	4403	4707	4452	4070	1357	18988
1976	4187	4773	4563	4031	1660	19215
1977	4040	4722	4522	4156	2009	19450
1978	4639	4170	4815	3906	2120	19650
1979	4863	4350	4143	4025	2446	19827
1980	5111	4432	4140	3978	2349	20010
1981	5041	4359	3994	4025	2758	20177
1982	5061	4356	3984	3885	3041	20327
1983	4964	4332	4003	3956	3270	20525
1984	4882	4364	4028	3948	3546	20769
1985	4851	4363	4033	3980	3791	21017
1986	4718	4422	4082	4064	3968	21254
1987	4622	4470	4120	3997	4276	21485
1988	4452	4493	4170	4038	4557	21710
1989	4493	4514	4211	3964	4744	21927
1990	4536	4473	4260	3968	4904	22140
1991	4568	4501	4255	3947	5121	22392
1992	4542	4497	4271	3966	5320	22595
1993	4585	4543	4315	3920	5459	22822
1994	4592	4546	4315	3930	5693	23076
1995	4639	4595	4363	3934	5783	23315
1996	4649	4627	4396	3913	5908	23492
1997	4642	4620	4384	3911	6138	23694
1998	4659	4636	4397	3908	6297	23896
1999	4678	4631	4415	3926	6470	24120
2000	4727	4682	4437	3951	6578	24375
2001	4663	4592	4402	3898	6614	24170
2002	4701	4630	4437	3930	6667	24365
2003	4721	4674	4453	3929	6818	24595
2004	4592	4524	4333	4093	7282	24825

Source: GfK Home Audit

Table 9 Housing stock distribution by age – owner occupied ('000s of homes)

Year	pre 1918	1918-38	1939-59	1960-71	1972-	total
1978	3013	2385	1797	2334	1021	10550
1979	3120	2494	1600	2300	1157	10672
1980	3367	2546	1629	2292	1189	11023
1981	3206	2457	1371	2343	1402	10778
1982	3244	2395	1548	2340	1329	10857
1983	3465	2684	1727	2587	1711	12175
1984	3548	2666	1680	2531	1893	12319
1985	3565	2773	1894	2623	2029	12884
1986	3477	2882	1950	2731	1989	13029
1987	3580	2933	1910	2575	2780	13778
1988	3484	3012	2078	2611	2947	14132
1989	3421	3087	2254	2655	3189	14607
1990	3484	2965	2236	2718	3410	14813
1991	3521	3066	2297	2670	3494	15048
1992	3436	3122	2346	2586	3718	15207
1993	3471	3253	2535	2470	3676	15405
1994	3637	3265	2467	2562	3670	15599
1995	3492	3232	2590	2615	3785	15714
1996	3579	3259	2511	2576	3932	15859
1997	3524	3107	2477	2642	4267	16017
1998	3586	3208	2430	2563	4415	16201
1999	3398	3256	2433	2648	4617	16353
2000	3574	3370	2640	2567	4520	16672
2001	3444	3319	2609	2569	4687	16626
2002	3472	3345	2629	2589	4724	16760
2003	3536	3494	2697	2656	4563	16945
2004	3450	3396	2653	2792	4813	17103

Source: GfK Home Audit

Table 10 Housing stock distribution by age – local authority ('000s of homes)

Year	pre 1918	1918-1938	1939-1959	1960-1971	1972-	total
1978	301	1333	2751	1568	751	6703
1979	263	1371	2320	1803	961	6718
1980	290	1406	2244	1522	941	6402
1981	362	1409	2404	1574	1029	6777
1982	411	1522	2157	1557	1181	6828
1983	250	1256	2063	1422	1039	6030
1984	185	1229	2135	1490	1063	6102
1985	228	1158	1954	1417	1146	5903
1986	200	1243	2070	1427	1032	5972
1987	185	1225	1989	1229	1122	5751
1988	144	1129	1875	1261	1237	5645
1989	166	1098	1758	1129	1218	5369
1990	223	1222	1792	1089	962	5289
1991	146	1093	1737	1084	1112	5173
1992	183	981	1692	1130	1100	5084
1993	250	904	1475	1198	1104	4930
1994	170	818	1499	1093	1264	4845
1995	178	948	1492	1079	1200	4897
1996	180	915	1616	997	1082	4790
1997	183	1035	1580	1028	1006	4833
1998	183	929	1661	1061	993	4827
1999	195	799	1643	1023	969	4630
2000	125	781	1417	1026	1037	4387
2001	119	766	1412	964	800	4061
2002	119	773	1424	972	806	4093
2003	105	684	1269	825	661	3543
2004	102	655	1228	858	734	3576

Source: GfK Home Audit

Table 11 Housing stock distribution by age – private rented ('000s of homes)

Year	pre 1918	1918-38	1939-59	1960-71	1972-	total
1978	1310	455	294	257	82	2398
1979	1396	511	254	172	104	2437
1980	1454	480	268	192	191	2585
1981	1474	493	219	222	215	2623
1982	1404	439	278	227	294	2642
1983	1248	392	212	177	291	2320
1984	1150	469	213	193	323	2348
1985	1058	431	185	216	339	2229
1986	1129	376	128	207	413	2253
1987	704	251	99	108	128	1290
1988	661	241	121	79	136	1238
1989	702	229	90	71	157	1250
1990	625	181	173	80	224	1284
1991	739	262	120	128	183	1432
1992	729	315	126	142	247	1559
1993	711	297	125	131	332	1597
1994	615	370	217	162	230	1595
1995	833	344	128	109	242	1656
1996	728	347	150	162	328	1715
1997	778	373	165	128	284	1728
1998	702	377	220	170	275	1743
1999	905	401	191	146	312	1955
2000	863	427	245	148	293	1975
2001	923	403	187	167	375	2054
2002	930	406	189	169	379	2072
2003	727	307	145	113	281	1574
2004	719	300	145	124	301	1590

Source: GfK Home Audit
The figures shown for the years 1978 to 1986 are for private rented and RSL sectors combined.

Table 12 Housing stock distribution by age – RSL ('000s of homes)

Year	pre 1918	1918-38	1939-59	1960-71	1972-	total
1987	152	62	122	85	246	666
1988	162	112	95	88	237	694
1989	203	99	111	109	181	701
1990	202	104	59	81	307	753
1991	162	79	101	65	333	739
1992	194	82	107	108	255	746
1993	153	91	179	120	347	890
1994	168	93	134	114	530	1039
1995	137	72	153	132	556	1050
1996	162	104	118	179	564	1128
1997	155	103	162	112	581	1115
1998	187	121	86	114	616	1124
1999	180	175	148	109	570	1182
2000	165	104	136	210	728	1343
2001	178	105	195	198	754	1428
2002	179	105	196	200	759	1439
2003	353	189	341	335	1315	2534
2004	321	173	308	320	1435	2558

Source: GfK Home Audit

Table 13 Housing stock distribution by type ('000s of homes)

Year	semi detached	terraced	flat	detached	bungalow	other	total
1970	5794	5566	3003	1915	1392	317	17987
1971	5869	5638	3043	1940	1410	321	18221
1972	5992	5667	3100	1905	1439	322	18426
1973	6254	5583	3036	1945	1443	342	18603
1974	6224	5442	3209	2039	1525	344	18783
1975	6341	5701	3298	1986	1422	239	18988
1976	6707	5680	3301	1834	1505	187	19215
1977	6359	5879	3226	2231	1564	191	19450
1978	6293	5752	3277	2377	1643	309	19650
1979	6332	6023	3027	2581	1663	201	19827
1980	6347	6293	3104	2491	1569	207	20010
1981	6362	6139	3092	2687	1697	201	20177
1982	6412	6185	3115	2705	1708	203	20327
1983	6441	6239	3160	2755	1785	144	20525
1984	6519	6315	3200	2783	1806	147	20769
1985	6583	6334	3275	2871	1829	126	21017
1986	6674	6419	3295	2891	1849	126	21254
1987	6618	6361	3432	3030	1936	108	21485
1988	6621	6340	3537	3128	1952	130	21710
1989	6687	6159	3768	3293	1932	88	21927
1990	6796	6218	3766	3365	1929	67	22140
1991	6785	6338	3919	3314	1970	67	22392
1992	6779	6418	4044	3276	2011	68	22595
1993	6757	6390	4176	3376	2054	68	22822
1994	6784	6368	4290	3487	2078	69	23076
1995	6807	6458	4359	3546	2075	69	23315
1996	6860	6459	4416	3619	2068	71	23492
1997	6917	6494	4454	3696	2061	72	23694
1998	6976	6547	4492	3731	2079	72	23896
1999	7019	6584	4535	3811	2098	73	24120
2000	7067	6606	4581	3950	2097	74	24375
2001	6865	6696	4591	3915	2030	73	24170
2002	6920	6750	4629	3946	2047	73	24365
2003	6986	6813	4672	3984	2066	74	24595
2004	7052	6876	4716	4021	2086	74	24825

Source: GfK Home Audit

Table 14 Housing stock distribution by type – owner occupied ('000s of homes)

Year	semi detached	terraced	flat	detached	bungalow	other	total
1976	4009	2772	455	1681	1170	52	10138
1977	3811	2867	459	2071	1265	56	10529
1978	3580	2789	561	2190	1308	122	10550
1979	3840	2847	447	2303	1143	93	10672
1980	3669	3404	509	2241	1116	85	11023
1981	3732	2960	487	2325	1212	62	10778
1982	3759	3019	442	2394	1189	55	10857
1983	4254	3474	511	2540	1340	56	12175
1984	4344	3537	587	2486	1318	47	12319
1985	4463	3786	651	2629	1310	45	12884
1986	4610	3707	652	2636	1362	61	13029
1987	4762	3948	769	2781	1472	45	13778
1988	4832	4020	810	2903	1467	100	14132
1989	4988	4081	883	3063	1543	48	14607
1990	4970	3974	988	3213	1642	26	14813
1991	5077	4192	1098	3119	1525	36	15048
1992	5060	4172	1153	3077	1721	23	15207
1993	5144	4169	1278	3168	1617	28	15405
1994	5244	4242	1197	3267	1603	48	15599
1995	5281	4188	1127	3396	1674	47	15714
1996	5206	4221	1300	3443	1657	32	15859
1997	5102	4231	1412	3578	1641	53	16017
1998	5254	4298	1303	3584	1715	47	16201
1999	5411	4203	1405	3665	1637	33	16353
2000	5367	4242	1560	3816	1623	63	16672
2001	5402	4459	1395	3753	1572	46	16626
2002	5445	4495	1406	3783	1584	46	16760
2003	5510	4579	1359	3839	1606	51	16945
2004	5573	4602	1384	3864	1626	54	17103

Source: GfK Home Audit

Table 15 Housing stock distribution by type – local authority ('000s of homes)

Year	semi detached	terraced	flat	detached	bungalow	other	total
1976	2156	1872	2190	24	259	51	6552
1977	2170	2026	2127	24	282	56	6685
1978	2303	2093	1932	59	257	59	6703
1979	2228	2065	1949	42	399	35	6718
1980	2164	1856	1877	59	397	49	6402
1981	2165	2116	1951	79	402	64	6777
1982	2136	2124	1943	94	445	87	6828
1983	1717	1820	2048	32	383	30	6030
1984	1750	1880	1936	64	420	52	6102
1985	1708	1738	1892	63	451	51	5903
1986	1652	1977	1847	27	432	37	5972
1987	1571	1775	1960	44	366	34	5751
1988	1460	1683	2043	33	417	10	5645
1989	1369	1392	2190	67	340	13	5369
1990	1475	1621	1928	19	235	12	5289
1991	1352	1375	2017	15	398	13	5173
1992	1372	1408	2044	54	201	7	5084
1993	1240	1438	1864	14	344	30	4930
1994	1141	1281	2058	24	336	5	4845
1995	1133	1384	2077	19	274	9	4897
1996	1141	1317	2001	21	290	21	4790
1997	1296	1332	1866	24	309	5	4833
1998	1210	1326	1968	35	280	7	4827
1999	1007	1340	1902	11	357	13	4630
2000	951	1254	1845	12	324	1	4387
2001	895	1043	1785	10	317	11	4061
2002	902	1051	1800	10	320	11	4093
2003	773	893	1582	8	277	10	3543
2004	761	892	1635	8	273	9	3576

Source: GfK Home Audit

Table 16 Housing stock distribution by type – private rented ('000s of homes)

Year	semi detached	terraced	flat	detached	bungalow	other	total
1976	543	1037	656	129	51	110	2525
1977	414	970	638	119	30	65	2236
1978	450	868	740	136	95	108	2397
1979	488	1005	605	200	88	53	2437
1980	514	1033	719	190	56	73	2585
1981	466	1062	654	282	83	76	2622
1982	517	1043	730	216	74	62	2642
1983	471	945	602	184	61	58	2320
1984	428	896	679	231	68	45	2348
1985	411	809	733	180	67	30	2230
1986	412	733	794	227	57	29	2252
1987	199	481	389	152	48	21	1290
1988	231	438	400	119	31	17	1238
1989	210	428	453	111	27	20	1250
1990	250	381	522	73	40	19	1284
1991	249	565	460	117	32	10	1433
1992	246	620	524	94	42	31	1558
1993	235	567	609	123	55	9	1597
1994	222	585	568	142	61	14	1593
1995	219	622	688	76	46	4	1655
1996	314	633	598	105	50	15	1715
1997	297	625	683	71	47	6	1729
1998	314	600	717	71	32	10	1743
1999	308	690	793	84	58	23	1955
2000	389	747	676	97	59	5	1974
2001	259	777	846	105	56	11	2055
2002	262	784	853	106	57	11	2072
2003	190	606	647	77	44	9	1574
2004	196	601	664	75	45	8	1590

Source: GfK Home Audit
The figures shown for the years 1976 to 1986 are for private rented and RSL sectors combined.

Table 17 Housing stock distribution by type – RSL ('000s of homes)

Year	semi detached	terraced	flat	detached	bungalow	other	total
1987	86	157	315	54	48	7	666
1988	100	198	283	72	37	4	694
1989	121	258	242	52	21	6	701
1990	101	243	328	59	13	9	753
1991	107	205	343	62	16	7	739
1992	103	219	323	49	46	6	746
1993	138	216	426	70	39	2	890
1994	178	260	467	54	78	3	1039
1995	175	263	465	55	83	10	1050
1996	200	289	517	50	71	3	1128
1997	220	306	494	23	63	7	1115
1998	198	321	505	40	53	8	1124
1999	293	351	436	52	47	4	1182
2000	360	364	499	25	90	4	1343
2001	309	418	566	46	84	4	1428
2002	311	420	571	46	86	4	1439
2003	512	734	1085	60	138	3	2533
2004	523	781	1035	74	141	3	2557

Source: GfK Home Audit

Table 18 Regional distribution of the housing stock ('000s of homes)

Year	South West	Wales	South East	East Anglia	Yorks/ Humber	East Midlands	West Midlands	North West	North	Scotland	Total GB
1970	1390	876	5889	504	1708	1057	1654	2213	1053	1643	17987
1971	1408	887	5966	511	1730	1071	1675	2242	1067	1665	18221
1972	1424	897	6033	516	1750	1083	1694	2267	1079	1683	18426
1973	1437	906	6091	521	1766	1093	1710	2289	1089	1699	18603
1974	1451	915	6150	527	1784	1104	1727	2311	1100	1716	18783
1975	1540	918	6286	576	1776	1168	1661	2318	991	1753	18988
1976	1396	988	6230	634	1758	1223	1795	2359	1112	1719	19215
1977	1537	962	6177	648	1761	1348	1824	2321	1096	1777	19450
1978	1513	993	6141	716	1773	1546	1727	2303	1120	1817	19650
1979	1679	1041	6040	753	1750	1346	1919	2339	1174	1786	19827
1980	1633	1010	6236	688	1841	1411	1887	2353	1154	1797	20010
1981	1648	1001	6426	710	1816	1403	1869	2371	1115	1818	20177
1982	1661	1008	6474	716	1828	1414	1884	2389	1123	1831	20327
1983	1660	1037	6481	712	1851	1433	1895	2412	1176	1868	20525
1984	1680	1049	6559	720	1873	1450	1917	2440	1190	1890	20769
1985	1726	1051	6729	742	1877	1469	1952	2409	1162	1900	21017
1986	1746	1063	6805	751	1897	1486	1974	2436	1175	1921	21254
1987	1772	1083	6740	774	1942	1519	1992	2496	1220	1946	21485
1988	1808	1053	6867	793	1975	1546	2013	2472	1220	1963	21710
1989	1845	1054	6940	805	1991	1561	2030	2483	1223	1995	21927
1990	1880	1069	7014	817	2006	1576	2044	2491	1229	2015	22140
1991	1905	1080	7125	840	2015	1610	2060	2501	1222	2033	22392
1992	1928	1089	7197	849	2020	1631	2076	2524	1229	2052	22595
1993	1938	1159	7207	847	2015	1625	2081	2572	1271	2107	22822
1994	1975	1171	7317	869	2014	1646	2109	2509	1304	2162	23076
1995	1987	1175	7375	875	2056	1672	2121	2613	1289	2152	23315
1996	2001	1180	7435	876	2089	1682	2137	2634	1299	2159	23492
1997	2035	1187	7528	895	2097	1703	2144	2635	1301	2168	23693
1998	2045	1195	7608	896	2115	1716	2170	2664	1312	2175	23895
1999	2075	1206	7694	916	2122	1737	2171	2678	1327	2195	24121
2000	2121	1195	7824	951	2145	1755	2170	2681	1317	2218	24376
2001	2103	1184	7759	942	2127	1740	2151	2659	1305	2200	24169
2002	2120	1194	7821	950	2144	1754	2169	2681	1316	2217	24366
2003	2140	1205	7896	959	2164	1771	2189	2705	1328	2238	24596
2004	2140	1259	8033	945	2150	1820	2289	2711	1296	2182	24825

Source: GfK Home Audit

Table 19 Regional distribution of the housing stock – owner occupied ('000s of homes)

Year	South West	Wales	South East	East Anglia	Yorks/ Humber	East Midlands	West Midlands	North West	North	Scotland	Total GB
1977	999	601	3564	439	812	735	994	1240	526	620	10529
1978	883	613	3435	395	949	898	893	1285	525	676	10550
1979	986	612	3575	430	960	751	833	1296	523	706	10672
1980	977	622	3866	398	964	812	926	1335	480	643	11023
1981	1014	542	3688	437	984	760	876	1318	458	702	10778
1982	918	551	3844	395	946	801	857	1352	463	730	10857
1983	1078	673	4149	441	1104	899	1005	1428	578	823	12175
1984	1029	699	4324	475	1079	866	1074	1451	549	772	12319
1985	1202	706	4111	451	1310	936	1231	1574	612	749	12884
1986	1190	676	4156	432	1235	1012	1190	1558	735	846	13029
1987	1386	778	4219	511	1390	978	1237	1712	628	940	13778
1988	1344	723	4417	531	1354	1079	1266	1728	734	957	14132
1989	1386	772	4625	610	1400	1163	1299	1706	688	956	14607
1990	1346	743	4965	559	1432	1170	1282	1577	785	952	14813
1991	1530	730	4725	596	1309	1177	1344	1800	776	1063	15048
1992	1475	713	4920	613	1304	1162	1423	1755	822	1018	15207
1993	1422	913	5030	536	1413	1053	1339	1697	808	1192	15405
1994	1439	772	4811	596	1391	1167	1473	1821	901	1229	15599
1995	1475	851	4861	606	1320	1262	1633	1768	825	1112	15714
1996	1468	804	4888	628	1432	1298	1449	1858	774	1261	15859
1997	1544	811	4890	734	1471	1189	1464	1668	794	1451	16017
1998	1455	869	5169	659	1391	1262	1478	1695	840	1385	16201
1999	1613	863	5254	663	1422	1154	1472	1875	757	1280	16353
2000	1626	891	5341	732	1394	1200	1483	1733	872	1399	16672
2001	1496	790	5417	718	1526	1291	1401	1846	841	1301	16626
2002	1477	786	5392	729	1559	1269	1415	1917	883	1332	16760
2003	1493	795	5452	737	1576	1283	1431	1938	893	1347	16945
2004	1431	829	5560	726	1589	1338	1518	1948	867	1298	17103

Source: GfK Home Audit

Table 20 Regional distribution of the housing stock – local authority ('000s of homes)

Year	South West	Wales	South East	East Anglia	Yorks/ Humber	East Midlands	West Midlands	North West	North	Scotland	Total GB
1977	350	314	1785	134	628	438	697	883	468	986	6685
1978	454	306	1841	215	545	428	697	812	477	929	6703
1979	454	310	1649	253	588	397	934	805	467	861	6718
1980	452	292	1449	210	607	416	802	749	499	926	6402
1981	468	303	1788	187	631	404	818	781	489	909	6777
1982	546	337	1556	230	661	448	864	776	469	942	6828
1983	413	252	1510	189	545	412	722	703	433	851	6030
1984	423	280	1431	168	575	486	707	637	430	966	6102
1985	345	279	1857	155	418	413	529	551	403	952	5903
1986	395	323	1833	161	488	383	629	569	309	884	5972
1987	273	239	1815	146	418	424	595	542	440	858	5751
1988	305	288	1640	175	493	351	619	623	353	798	5645
1989	304	218	1538	88	487	309	612	602	386	826	5369
1990	312	255	1369	186	454	286	633	574	315	906	5289
1991	237	295	1675	120	562	259	549	365	319	793	5173
1992	278	277	1312	128	568	360	516	514	312	819	5084
1993	289	148	1278	163	410	478	531	525	372	736	4930
1994	330	273	1566	155	405	377	381	406	321	629	4845
1995	285	215	1674	76	534	228	329	508	280	769	4897
1996	278	255	1414	155	464	274	481	500	373	594	4790
1997	206	245	1375	98	476	355	458	798	419	404	4833
1998	342	184	1318	114	531	362	444	574	345	613	4827
1999	189	239	1259	146	454	384	410	506	412	632	4630
2000	217	148	1310	99	529	418	363	554	317	432	4387
2001	202	169	1174	116	382	258	463	431	363	503	4061
2002	204	170	1183	117	385	261	466	434	365	508	4093
2003	188	147	999	107	343	229	399	367	339	426	3543
2004	163	152	1076	104	334	223	416	376	340	393	3576

Source: GfK Home Audit

Table 21 Regional distribution of the housing stock – private rented ('000s of homes)

Year	South West	Wales	South East	East Anglia	Yorks/ Humber	East Midlands	West Midlands	North West	North	Scotland	Total GB
1977	181	53	821	77	282	178	145	229	92	174	2236
1978	164	80	850	108	258	219	156	227	128	208	2397
1979	248	134	805	67	216	193	177	258	171	168	2437
1980	204	97	920	80	269	184	159	270	175	228	2585
1981	168	156	951	88	202	237	175	272	169	207	2622
1982	157	122	1073	91	221	163	161	261	192	197	2642
1983	170	112	824	83	203	122	168	280	165	194	2320
1984	228	69	805	77	218	98	135	353	211	152	2348
1985	179	65	761	136	147	120	193	283	147	198	2230
1986	161	64	815	158	178	91	156	308	130	192	2252
1987	86	54	472	72	116	93	93	153	47	105	1290
1988	105	29	479	74	77	91	119	92	74	99	1238
1989	141	52	503	66	81	61	77	120	67	82	1250
1990	137	37	480	50	92	79	82	165	56	106	1284
1991	113	45	485	82	124	110	100	202	55	116	1433
1992	110	80	635	79	98	94	112	182	36	132	1558
1993	139	56	605	74	104	81	154	213	64	108	1597
1994	155	87	573	91	106	81	155	138	36	173	1593
1995	173	65	595	73	134	114	114	166	82	137	1655
1996	177	95	657	46	110	83	124	200	73	152	1715
1997	177	73	775	47	123	108	108	117	59	140	1729
1998	166	86	660	69	130	82	159	235	67	88	1743
1999	184	53	701	68	206	126	209	184	80	146	1955
2000	134	104	623	65	159	93	216	300	80	201	1974
2001	255	143	610	60	149	81	133	283	84	255	2055
2002	258	145	615	61	151	82	134	285	86	258	2072
2003	195	116	477	49	115	62	102	204	63	189	1574
2004	184	121	493	48	112	66	103	212	62	189	1590

Source: GfK Home Audit
The figures shown for the years 1977 to 1986 are for private rented and RSL sectors combined.

Table 22 Regional distribution of the housing stock – RSL ('000s of homes)

Year	South West	Wales	South East	East Anglia	Yorks/ Humber	East Midlands	West Midlands	North West	North	Scotland	Total GB
1987	27	11	233	44	19	25	68	91	104	43	666
1988	55	12	331	11	53	26	7	29	59	109	694
1989	14	12	275	40	21	28	43	54	83	131	701
1990	85	34	200	22	28	43	45	175	73	50	753
1991	25	9	240	42	21	66	68	135	73	61	739
1992	64	19	329	29	49	14	25	73	60	82	746
1993	88	42	294	73	90	14	56	137	27	70	890
1994	50	39	367	28	111	21	100	146	46	130	1039
1995	53	42	244	118	69	68	45	171	104	134	1050
1996	79	24	476	46	83	26	84	78	79	152	1128
1997	108	56	488	16	27	52	115	50	29	172	1115
1998	83	56	461	55	63	11	89	160	60	89	1124
1999	88	51	482	41	41	73	81	111	80	138	1182
2000	143	51	550	55	63	44	107	95	48	187	1343
2001	149	82	557	49	70	109	155	100	17	141	1428
2002	151	82	562	49	70	110	157	100	17	142	1439
2003	264	147	967	66	130	196	258	195	35	275	2533
2004	363	158	904	68	116	193	252	175	27	302	2557

Source: GfK Home Audit

Table 23 Ownership and depth of loft insulation ('000s of homes)

Year	<1"	1"	2"	3"	4"	4"+	5"	5"+	6"+	Not stated	Total with	Potential	Total houses
1974										5945	5945	14005	18783
1975										6384	6384	14158	18988
1976	424	877	2447	1909		422				1166	7246	14327	19215
1977	495	1396	2668	2253		624				790	8226	14627	19450
1978	398	1203	2682	2814		993				874	8965	14626	19650
1979	348	900	2711	3411		1475				1346	10192	15265	19827
1980	321	789	3291	3943		1944				902	11189	15748	20010
1981	308	1106	3282	3996		2627				1074	12392	15860	20177
1982	297	811	3387	3921		3321				1219	12957	16189	20327
1983	274	691	2964	3772		4774				1347	13821	16469	20525
1984	235	638	2826	4034		5869				1254	14857	16884	20769
1985	143	921	2427	3187		6244				2019	14941	17133	21017
1986	180	820	2379	3588		6853				1723	15543	17503	21254
1987	271	824	2101	3502	5035			2408		1588	15728	17530	21485
1988	137	588	2050	3544	5085			2769		1762	15934	17821	21710
1989	142	575	2016	3684	4960			2659		1908	15943	17614	21927
1990	168	583	2281	3764	4935			2865		1807	16403	18054	22140
1991	122	634	2055	3823	4251			3064		2183	16133	17986	22392
1992	256	422	1908	3456	4890			2890		2515	16335	18018	22595
1993	178	356	2200	3607	4618			2955		2742	16657	18426	22822
1994	98	382	1729	3039	4657		1455		2585	2550	16494	18147	23076
1995	150	330	1724	3078	4235		1490		2945	2814	16765	18334	23315
1996	132	401	1717	2794	4466		1398		3310	2911	17129	18613	23492
1997	50	302	1588	3426	4661		1548		3643	2281	17497	18866	23694
1998	112	352	1759	3078	4739		1901		3318	2378	17638	18864	23896
1999	66	332	1409	3631	4442		1641		3495	2415	17430	18832	24120
2000	59	249	1715	3674	4854		1426		3187	2396	17561	19229	24375
2001	31	153	1201	3236	4928		2149		3451	2431	17581	18798	24170
2002	32	154	1192	3210	4894		2135		3467	2447	17530	18949	24365
2003	33	161	1181	3138	4867		2166		3470	2558	17572	19206	24595
2004	33	162	1209	3319	5050		2209		3770	2563	18315	19383	24825

Source: GfK Home Audit

Table 24 Ownership and depth of loft insulation – owner occupied dwellings ('000s of homes)

Year	<1"	1"	2"	3"	4"	4"+	5"	5"+	6"+	Not stated	Total with	Potential	Total houses
1974										4207	4207	7894	9094
1975										4876	4876	8407	9685
1976	280	649	1880	1595		373				793	5570	8800	10138
1977	345	1086	2220	1987		589				564	6790	9158	10529
1978	245	844	1926	2157		810				553	6535	9119	10550
1979	237	590	1802	2459		1203				707	6999	9375	10672
1980	213	505	2130	2737		1508				458	7550	9909	11023
1981	192	667	1928	2744		1968				562	8060	9707	10778
1982	194	552	2021	2486		2394				580	8227	9793	10857
1983	197	432	2001	2533		3559				761	9483	10982	12175
1984	171	463	1794	2591		4301				725	10044	11217	12319
1985	101	659	1594	2168		4811				1176	10509	11735	12884
1986	133	540	1541	2325		5343				1050	10932	11900	13029
1987	185	545	1363	2443	3359			2515		977	11388	12460	13778
1988	98	381	1376	2636	3419			2886		1090	11888	12987	14132
1989	103	389	1395	2676	4036			2264		1271	12134	13159	14607
1990	133	396	1535	2710	3979			2421		1200	12375	13354	14813
1991	80	426	1477	2798	3463			2552		1563	12359	13427	15048
1992	193	314	1338	2565	3859			2427		1718	12414	13457	15207
1993	118	288	1559	2728	3739			2437		1825	12694	13700	15405
1994	68	280	1269	2298	3693		1136		2129	1834	12707	13788	15599
1995	118	256	1327	2330	3324		1154		2365	2047	12921	13930	15714
1996	107	285	1262	2147	3547		1065		2637	2056	13106	14043	15859
1997	46	197	1158	2465	3634		1232		2896	1557	13186	14064	16017
1998	69	255	1347	2296	3669		1534		2600	1669	13439	14260	16201
1999	57	233	1010	2754	3585		1240		2792	1746	13417	14310	16353
2000	49	205	1279	2797	3772		1143		2559	1749	13553	14585	16672
2001	28	103	896	2382	3945		1755		2804	1748	13662	14404	16626
2002	28	107	903	2400	3982		1772		2861	1764	13818	14520	16760
2003	28	112	929	2387	4004		1804		2862	1896	14022	14733	16945
2004	29	111	937	2459	4061		1796		3017	1789	14197	14874	17103

Source: GfK Home Audit

Table 25 Ownership and depth of loft insulation – local authority dwellings ('000s of homes)

Year	<1"	1"	2"	3"	4"	4"+	5"	5"+	6"+	Not stated	Total with	Potential	Total houses
1974										1074	1074	4008	6223
1975										1263	1263	4141	6430
1976	114	195	485	235		34				295	1359	4220	6552
1977	155	347	553	384		65				235	1739	4319	6685
1978	149	299	632	585		146				257	2067	4430	6703
1979	95	270	832	815		249				489	2749	4649	6718
1980	87	242	961	1032		362				379	3063	4626	6402
1981	92	365	1133	1012		558				442	3601	4872	6777
1982	91	221	1160	1242		746				539	4000	4966	6828
1983	56	209	762	1056		952				452	3487	4106	6030
1984	50	142	850	1185		1186				432	3846	4278	6102
1985	32	207	721	851		1140				587	3538	4104	5903
1986	39	233	705	1058		1165				491	3691	4187	5972
1987	68	219	589	913	639			605		474	3508	3891	5751
1988	34	160	573	716	633			678		536	3330	3784	5645
1989	21	149	502	782	711			310		475	2950	3294	5369
1990	29	158	613	870	768			348		467	3254	3609	5289
1991	33	169	464	780	599			377		466	2888	3338	5173
1992	48	84	485	637	798			356		542	2951	3293	5084
1993	42	47	486	641	645			352		623	2837	3237	4930
1994	24	53	301	523	648		204		307	518	2579	2861	4845
1995	31	51	267	536	637		226		366	492	2606	2891	4897
1996	15	82	312	422	627		229		463	550	2701	2937	4790
1997	3	71	319	665	655		191		486	522	2912	3161	4833
1998	32	82	287	540	710		224		462	412	2749	2933	4827
1999	5	68	234	537	541		274		432	386	2478	2728	4630
2000	9	34	275	507	565		159		366	336	2253	2567	4387
2001	3	34	174	491	561		201		377	382	2225	2389	4061
2002	3	34	175	494	476		254		424	394	2254	2408	4093
2003	3	29	139	425	378		263		346	361	1945	2078	3543
2004	3	28	138	431	485		172		333	340	1930	2060	3576

Source: GfK Home Audit

Table 26 Ownership and depth of loft insulation – private rented dwellings ('000s of homes)

Year	<1"	1"	2"	3"	4"	4"+	5"	5"+	6"+	Not stated	Total with	Potential	Total houses
1974										439	439	1795	3466
1975										357	357	1488	2872
1976	30	33	82	79		15				78	317	1308	2525
1977	24	49	93	64		20				39	289	1099	2236
1978	9	52	130	96		36				65	387	1129	2397
1979	16	54	100	163		31				137	501	1307	2437
1980	22	43	194	164		67				66	555	1429	2585
1981	24	73	219	230		92				70	707	1569	2622
1982	11	37	203	186		167				103	708	1422	2642
1983	20	50	196	175		246				138	825	1373	2320
1984	12	28	173	242		323				99	877	1317	2348
1985	10	56	112	167		289				267	891	1295	2230
1986	7	45	132	203		337				184	908	1410	2252
1987	19	40	83	99	114			79		82	515	797	1290
1988	3	42	81	113	95			78		77	490	780	1238
1989	12	18	57	137	141			46		75	486	739	1250
1990	5	16	63	112	118			47		57	418	648	1284
1991	6	38	94	153	126			50		96	563	833	1433
1992	10	15	52	164	140			49		189	619	870	1558
1993	14	17	107	136	132			41		166	612	933	1597
1994	5	19	118	100	194		35		65	104	641	872	1593
1995	2	11	78	112	171		53		89	135	652	861	1655
1996	7	23	103	151	133		62		75	178	732	1010	1715
1997	1	25	66	186	214		64		121	128	804	994	1729
1998	3	3	75	148	157		103		137	182	810	978	1743
1999	0	18	113	187	185		81		135	136	855	1043	1955
2000	1	7	87	237	240		67		115	171	925	1188	1974
2001	0	2	70	184	225		90		77	182	830	1085	2055
2002	0	2	73	185	226		90		77	188	841	1094	2072
2003	0	2	51	137	182		58		62	153	646	828	1574
2004	0	2	53	136	180		67		75	141	655	829	1590

Source: GfK Home Audit

Table 27 Ownership and depth of loft insulation – RSL dwellings ('000s of homes)

Year	<1"	1"	2"	3"	4"	4"+	5"	5"+	6"+	Not stated	Total with	Potential	Total houses
1987	-	20	65	43	42			72		57	299	377	666
1988	4	10	35	103	47			65		72	336	400	694
1989	5	21	64	89	64			31		90	364	422	701
1990	-	13	72	72	65			45		85	353	445	753
1991	3	3	22	91	50			73		62	305	387	739
1992	5	8	32	90	91			55		68	349	398	746
1993	5	3	48	100	97			119		130	503	556	890
1994	-	30	42	118	118		78		79	92	557	624	1039
1995	-	12	52	100	102		57		126	138	588	653	1050
1996	3	11	43	74	149		40		126	132	578	625	1128
1997	-	9	46	114	151		57		133	78	588	647	1115
1998	7	12	49	95	194		38		112	122	629	693	1124
1999	4	11	54	152	121		45		130	151	667	753	1182
2000	-	2	74	132	270		55		138	144	815	889	1343
2001	1	13	61	180	189		99		183	124	849	920	1428
2002	1	12	60	179	188		98		183	143	865	927	1439
2003	1	22	94	276	329		176		313	223	1434	1566	2533
2004	1	22	82	294	318		170		338	298	1523	1619	2557

Source: GfK Home Audit

Table 28 Ownership of cavity wall insulation ('000s of homes)

Year	with cavity insulation	not known if cavity insulated	potential	total households
1974	295		12411	18783
1975	375		12570	18988
1976	485		12744	19215
1977	626		12938	19450
1978	674		13225	19650
1979	1029		13434	19827
1980	1115		13616	20010
1981	1275	2365	13787	20177
1982	1464	2550	13946	20327
1983	1773	2532	14134	20525
1984	2156	2569	14326	20769
1985	2230	2464	14515	21017
1986	2501	2623	14695	21254
1987	2672	2935	14951	21485
1988	2895	3070	15144	21710
1989	3150	3086	15514	21927
1990	3369	3448	15461	22140
1991	3475	3746	15874	22392
1992	3756	4198	16289	22595
1993	3653	3775	15767	22822
1994	3678	4673	15986	23076
1995	3970	4932	16086	23315
1996	4019	5544	16750	23492
1997	4193	5262	16832	23694
1998	4428	5054	16524	23896
1999	4869	1830	16922	24120
2000	5695	1863	16833	24375
2001	5588	2108	17296	24170
2002	5859	1761	17436	24365
2003	6095	1767	17641	24595
2004	6655	1712	18073	24825

Source: GfK Home Audit

Table 29 Ownership of cavity wall insulation – owner occupied dwellings ('000s of homes)

Year	with cavity insulation	not known if cavity insulated	potential	total households
1974	204		6009	9094
1975	241		6412	9685
1976	328		6724	10138
1977	450		7004	10529
1978	488		7101	10550
1979	692		7231	10672
1980	762		7501	11023
1981	980	604	7365	10778
1982	981	662	7449	10857
1983	1332	843	8384	12175
1984	1464	743	8497	12319
1985	1756	740	8899	12884
1986	1850	954	9009	13029
1987	1913	1208	9405	13778
1988	2165	1268	9551	14132
1989	2304	1417	9991	14607
1990	2489	1645	10115	14813
1991	2664	1851	10543	15048
1992	2843	2272	10943	15207
1993	2687	1860	10414	15405
1994	2808	2269	10515	15599
1995	2952	2623	10828	15714
1996	3081	2904	11179	15859
1997	3112	2783	11263	16017
1998	3260	3025	11128	16201
1999	3553	1166	11559	16353
2000	4099	1177	11308	16672
2001	4140	1383	11871	16626
2002	4359	1210	11967	16760
2003	4364	1216	12028	16945
2004	4679	1183	12312	17103

Source: GfK Home Audit

Table 30 Ownership of cavity wall insulation – local authority dwellings ('000s of homes)

Year	with cavity insulation	not known if cavity insulated	potential	total households
1974	77		4112	6223
1975	123		4257	6430
1976	145		4346	6552
1977	167		4447	6685
1978	162		4512	6703
1979	292		4552	6718
1980	318		4356	6402
1981	256	1474	4631	6777
1982	419	1552	4685	6828
1983	397	1310	4152	6030
1984	583	1477	4209	6102
1985	620	1165	4077	5903
1986	568	1275	4129	5972
1987	660	1340	4553	5751
1988	625	1406	4627	5645
1989	739	1284	4474	5369
1990	777	1323	4227	5289
1991	609	1388	4160	5173
1992	786	1374	4133	5084
1993	749	1309	3999	4930
1994	687	1569	3917	4845
1995	756	1573	3815	4897
1996	672	1640	3833	4790
1997	816	1624	3859	4833
1998	872	1209	3637	4827
1999	988	412	3608	4630
2000	868	431	3561	4387
2001	806	410	3288	4061
2002	836	313	3316	4093
2003	722	265	2857	3542
2004	797	254	2909	3575

Source: GfK Home Audit

Table 31 Ownership of cavity wall insulation – private rented dwellings ('000s of homes)

Year	with cavity insulation	not known if cavity insulated	potential	total households
1974	15		2290	3466
1975	11		1902	2872
1976	11		1674	2525
1977	9		1487	2236
1978	25		1613	2397
1979	45		1651	2437
1980	34		1759	2585
1981	39	287	1791	2622
1982	64	337	1813	2642
1983	44	379	1598	2320
1984	109	349	1620	2348
1985	87	325	1540	2230
1986	82	395	1557	2252
1987	44	236	513	1290
1988	39	217	514	1238
1989	61	210	546	1250
1990	32	283	601	1284
1991	39	281	628	1433
1992	58	361	697	1558
1993	42	348	687	1597
1994	75	439	758	1593
1995	89	374	673	1655
1996	79	567	855	1715
1997	69	448	823	1729
1998	71	498	898	1743
1999	84	113	874	1955
2000	170	141	868	1974
2001	176	144	988	2055
2002	180	112	997	2072
2003	133	80	742	1574
2004	148	82	769	1590

Source: GfK Home Audit
The figures shown for the years 1974 to 1986 are for private rented and RSL sectors combined.

Table 32 Ownership of cavity wall insulation – RSL dwellings ('000s of homes)

Year	with cavity insulation	not known if cavity insulated	potential	total households
1987	55	152	481	666
1988	65	179	451	694
1989	45	176	503	701
1990	72	197	519	753
1991	162	225	543	739
1992	69	191	515	746
1993	175	258	669	890
1994	108	397	797	1039
1995	171	362	771	1050
1996	188	433	883	1128
1997	195	406	887	1115
1998	225	324	860	1124
1999	244	141	881	1182
2000	558	116	1096	1343
2001	467	169	1148	1428
2002	484	126	1158	1439
2003	875	207	2012	2533
2004	1030	194	2084	2557

Source: GfK Home Audit

Table 33 Ownership of double glazing ('000s of homes)

Year	Less than 20% of rooms	20% to 39% of rooms	40% to 59% of rooms	60% to 79% of rooms	80% or more of rooms	Not stated	Total with double glazing	Potential
1974						1473	1473	18783
1975						1763	1763	18988
1976						1856	1856	19215
1977						2414	2414	19450
1978						2980	2980	19650
1979						3339	3339	19827
1980						3926	3926	20010
1981						4222	4222	20177
1982						4695	4695	20327
1983	1126	1102	835	632	1884	97	5675	20525
1984	830	1042	952	848	1958	129	5758	20769
1985	804	1185	1032	970	1921	692	6604	21017
1986	819	1235	1169	1239	2360	378	7201	21254
1987	1499	1380	1258	1387	2986	90	8600	21485
1988	1252	1408	1195	1427	3436	700	9419	21710
1989	1198	1298	1311	1589	3844	769	10008	21927
1990	1096	1424	1270	1758	4470	671	10689	22140
1991	1138	1441	1291	2014	4924	661	11470	22392
1992	1076	1239	1375	2051	5361	671	11773	22595
1993	951	1357	1380	2397	5965	616	12666	22822
1994	1000	1075	1345	2271	7408	630	13729	23076
1995	877	1019	1283	2317	8165	630	14291	23315
1996	699	912	1208	2446	8848	591	14705	23492
1997	604	972	1260	2660	8576	1979	16051	23694
1998	573	804	1048	2728	9548	1558	16260	23896
1999	629	918	1025	2514	10257	1454	16798	24120
2000	495	598	976	2715	9705	3116	17606	24375
2001	414	576	940	2531	10060	3586	18107	24170
2002	416	581	948	2551	10145	4322	18962	24365
2003	430	581	946	2611	10436	4856	19862	24595
2004	423	574	931	2683	10631	5336	20578	24825

Source: GfK Home Audit

Table 34 Ownership of double glazing – owner occupied dwellings ('000s of homes)

Year	Less than 20% of rooms	20% to 39% of rooms	40% to 59% of rooms	60% to 79% of rooms	80% or more of rooms	Not stated	Total with double glazing	Potential
1974						1243	1243	9094
1975						1507	1507	9685
1976						1606	1606	10138
1977						2126	2126	10529
1978						2658	2658	10550
1979						2897	2897	10672
1980						3499	3499	11023
1981						3716	3716	10778
1982						4154	4154	10857
1983	1025	974	724	577	1721	69	5090	12175
1984	719	923	836	762	1864	103	5206	12319
1985	691	1040	928	894	1771	577	5902	12884
1986	667	1122	1012	1156	2157	344	6457	13029
1987	1347	1202	1097	1251	2723	88	7708	13778
1988	1077	1193	1015	1232	3095	614	8224	14132
1989	1047	1175	1141	1380	3468	671	8882	14607
1990	978	1235	1065	1524	3837	566	9203	14813
1991	983	1211	1055	1680	4200	565	9695	15048
1992	901	1044	1168	1753	4524	570	9960	15207
1993	826	1081	1118	2025	5009	517	10577	15405
1994	775	870	1084	1812	5975	515	11031	15599
1995	683	759	1087	1828	6550	573	11482	15714
1996	559	731	946	1938	7166	500	11838	15859
1997	468	731	961	1940	6821	1650	12571	16017
1998	438	625	871	2085	7375	1283	12678	16201
1999	438	645	774	1896	8026	1210	12989	16353
2000	345	473	733	2012	7615	2309	13487	16672
2001	297	426	693	1870	7674	2834	13794	16626
2002	299	430	698	1885	7738	3240	14290	16760
2003	313	443	702	1895	7867	3568	14788	16945
2004	310	440	689	1935	7963	3875	15212	17103

Source: GfK Home Audit

Table 35 Ownership of double glazing – local authority dwellings ('000s of homes)

Year	Less than 20% of rooms	20% to 39% of rooms	40% to 59% of rooms	60% to 79% of rooms	80% or more of rooms	Not stated	Total with double glazing	Potential
1974						166	166	6223
1975						194	194	6430
1976						199	199	6552
1977						237	237	6685
1978						247	247	6703
1979						365	365	6718
1980						311	311	6402
1981						371	371	6777
1982						313	313	6828
1983	57	79	70	35	94	16	350	6030
1984	61	76	50	41	59	13	302	6102
1985	81	88	74	54	120	69	486	5903
1986	100	77	88	77	86	20	449	5972
1987	92	112	79	94	164	5	548	5751
1988	89	108	122	129	214	65	728	5645
1989	95	64	117	143	295	45	760	5369
1990	59	109	137	195	521	73	1093	5289
1991	103	172	142	260	591	58	1323	5173
1992	126	117	132	239	539	65	1218	5084
1993	77	167	147	255	611	63	1321	4930
1994	153	119	172	260	975	47	1726	4845
1995	135	141	119	271	1069	23	1757	4897
1996	73	109	129	308	1103	53	1774	4790
1997	73	155	170	476	1150	208	2233	4833
1998	88	74	103	407	1490	154	2315	4827
1999	127	133	150	383	1355	167	2314	4630
2000	97	70	157	431	1107	446	2308	4387
2001	82	75	119	348	1321	373	2318	4061
2002	83	76	119	350	1335	539	2502	4093
2003	71	64	102	298	1141	606	2282	3542
2004	69	64	103	299	1189	684	2409	3575

Source: GfK Home Audit

Table 36 Ownership of double glazing – private rented dwellings ('000s of homes)

Year	Less than 20% of rooms	20% to 39% of rooms	40% to 59% of rooms	60% to 79% of rooms	80% or more of rooms	Not stated	Total with double glazing	Potential
1974						63	63	3466
1975						62	62	2872
1976						51	51	2525
1977						50	50	2236
1978						75	75	2397
1979						76	76	2437
1980						116	116	2585
1981						134	134	2622
1982						227	227	2642
1983	44	49	41	20	69	13	235	2320
1984	49	43	64	45	34	12	248	2348
1985	31	56	30	22	29	48	217	2230
1986	52	36	69	6	118	13	294	2252
1987	45	27	40	19	70	0	200	1290
1988	44	56	21	18	40	9	188	1238
1989	31	42	29	31	40	44	216	1250
1990	33	40	24	32	74	21	221	1284
1991	39	42	68	55	86	24	315	1433
1992	36	53	63	43	126	26	347	1558
1993	32	64	77	46	212	23	455	1597
1994	47	52	64	93	190	31	476	1593
1995	29	79	47	101	222	17	494	1655
1996	45	52	108	107	257	27	597	1715
1997	34	58	87	98	240	75	592	1729
1998	32	83	58	159	273	51	656	1743
1999	44	116	59	115	396	37	766	1955
2000	26	42	60	151	416	157	851	1974
2001	20	50	76	134	458	216	953	2055
2002	21	50	77	135	461	334	1076	2072
2003	18	36	57	104	340	281	835	1574
2004	18	36	60	117	344	321	895	1590

Source: GfK Home Audit
The figures shown for the years 1974 to 1986 are for private rented and RSL sectors combined.

Table 37 Ownership of double glazing – RSL dwellings ('000s of homes)

Year	Less than 20% of rooms	20% to 39% of rooms	40% to 59% of rooms	60% to 79% of rooms	80% or more of rooms	Not stated	Total with double glazing	Potential
1987	14	39	41	25	25	0	143	666
1988	22	20	8	23	36	2	112	694
1989	26	15	27	35	41	9	152	701
1990	25	42	45	9	42	14	177	753
1991	13	17	27	17	46	15	137	739
1992	13	25	11	14	172	11	247	746
1993	16	44	38	71	134	11	314	890
1994	23	34	23	106	268	39	495	1039
1995	31	40	29	117	325	16	557	1050
1996	22	20	25	94	322	12	496	1128
1997	29	28	41	145	365	45	653	1115
1998	15	24	17	77	411	69	611	1124
1999	21	26	43	121	482	39	731	1182
2000	27	14	26	122	566	205	960	1343
2001	15	25	53	180	606	163	1041	1428
2002	15	25	53	181	611	209	1094	1439
2003	28	38	86	315	1089	401	1957	2533
2004	26	35	79	332	1135	455	2061	2557

Source: GfK Home Audit

Table 38 Ownership of draught proofing ('000s of homes)

Year	Less than 20%	20% to 39%	40% to 59%	60% to 79%	80% or more	Not stated	Total with draught proofing	Potential
1983	2546	2767	1358	854	2316	296	10138	20525
1984	2227	2852	1496	1119	2471	134	10298	20769
1985	2348	3198	1735	1318	2725	692	12016	21017
1986	2513	3266	1798	1631	3149	378	12734	21254
1987	2876	3319	2026	1829	4050	90	14190	21485
1988	2470	3249	1911	1802	4367	700	14500	21710
1989	2362	3044	1911	1948	4745	769	14779	21927
1990	2218	2948	1971	2052	5352	671	15212	22140
1991	2215	2997	1867	2357	5781	678	15895	22392
1992	1973	2767	1901	2391	6194	688	15914	22595
1993	1838	2811	1891	2711	6763	636	16650	22822
1994	1701	2232	1774	2620	8348	655	17329	23076
1995	1449	2051	1826	2679	9145	650	17800	23315
1996	1224	1896	1692	2796	9814	600	18023	23492
1997	1154	1806	1697	2986	9413	1995	19050	23694
1998	1094	1558	1449	3042	10380	1573	19096	23896
1999	1028	1603	1421	2807	10840	1493	19192	24120
2000	957	1371	1343	2885	10352	3133	20040	24375
2001	685	1087	1154	2697	10483	3638	19745	24170
2002	540	1065	1199	2844	10542	4335	20527	24365
2003	500	995	1216	2925	10878	4867	21381	24595
2004	538	897	1067	2801	10817	5338	21458	24825

Source: GfK Home Audit

Table 39 Ownership of draught proofing – owner occupied dwellings ('000s of homes)

Year	Less than 20%	20% to 39%	40% to 59%	60% to 79%	80% or more	Not stated	Total with draught proofing	Potential
1983	1850	1884	1018	713	1942	184	7591	12175
1984	1506	1965	1142	903	2114	103	7733	12319
1985	1604	2149	1322	1070	2155	577	8877	12884
1986	1663	2145	1314	1334	2513	344	9313	13029
1987	2086	2238	1567	1484	3225	88	10688	13778
1988	1792	2187	1415	1407	3565	614	10980	14132
1989	1696	2042	1436	1569	3863	671	11278	14607
1990	1682	2042	1479	1655	4237	566	11661	14813
1991	1597	2000	1327	1833	4595	578	11931	15048
1992	1406	1793	1427	1894	4888	588	11997	15207
1993	1350	1863	1384	2172	5346	537	12653	15405
1994	1203	1490	1315	1935	6390	537	12870	15599
1995	954	1290	1346	1965	6913	585	13054	15714
1996	848	1253	1158	2073	7538	506	13376	15859
1997	737	1104	1159	2065	7167	1660	13892	16017
1998	684	952	1030	2215	7681	1297	13859	16201
1999	654	997	926	1979	8243	1232	14031	16353
2000	582	845	895	2093	7895	2322	14632	16672
2001	428	659	791	1962	7868	2860	14569	16626
2002	353	643	812	2058	7912	3250	15028	16760
2003	340	625	836	2079	8033	3576	15488	16945
2004	367	596	760	1998	8060	3877	15656	17103

Source: GfK Home Audit

Table 40 Ownership of draught proofing – local authority dwellings ('000s of homes)

Year	Less than 20%	20% to 39%	40% to 59%	60% to 79%	80% or more	Not stated	Total with draught proofing	Potential
1983	535	706	248	111	274	82	1957	6030
1984	476	688	240	153	245	18	1821	6102
1985	561	765	311	185	442	69	2333	5903
1986	640	841	347	246	453	20	2547	5972
1987	559	855	313	269	599	5	2600	5751
1988	490	799	403	288	626	65	2671	5645
1989	412	750	326	286	676	45	2494	5369
1990	357	628	368	325	926	73	2676	5289
1991	386	797	381	430	935	58	2987	5173
1992	401	689	336	406	934	65	2831	5084
1993	311	656	318	382	983	63	2713	4930
1994	328	490	289	438	1398	47	2989	4845
1995	376	497	341	435	1550	27	3225	4897
1996	225	422	313	465	1550	53	3028	4790
1997	249	472	331	621	1539	214	3427	4833
1998	279	393	265	550	1879	154	3520	4827
1999	235	352	303	536	1612	174	3213	4630
2000	251	362	313	481	1380	448	3233	4387
2001	172	253	176	402	1490	383	2876	4061
2002	144	244	184	435	1487	543	3038	4093
2003	99	194	166	376	1301	609	2745	3542
2004	104	162	136	313	1199	684	2598	3575

Source: GfK Home Audit

Table 41 Ownership of draught proofing – private rented dwellings ('000s of homes)

Year	Less than 20%	20% to 39%	40% to 59%	60% to 79%	80% or more	Not stated	Total with draught proofing	Potential
1983	202	225	107	35	111	39	717	1816
1984	245	198	114	62	113	12	744	1823
1985	182	284	102	62	130	48	807	1682
1986	210	281	136	52	182	13	874	1687
1987	130	134	78	47	132	0	522	1290
1988	135	177	62	34	85	9	503	1238
1989	95	136	86	57	83	44	502	1250
1990	95	167	56	51	103	21	493	1284
1991	109	151	130	73	126	24	613	1433
1992	116	206	100	56	169	26	673	1558
1993	122	194	131	69	236	23	777	1597
1994	112	162	122	126	226	33	782	1593
1995	63	164	88	141	295	22	774	1655
1996	77	144	164	138	312	29	865	1715
1997	93	159	134	129	294	75	885	1729
1998	88	136	105	189	343	51	911	1743
1999	88	193	130	141	442	42	1035	1955
2000	82	116	97	181	483	159	1117	1974
2001	57	111	108	142	503	233	1154	2055
2002	57	111	114	151	510	334	1157	2072
2003	30	75	79	117	397	281	979	1574
2004	37	92	80	154	391	321	1075	1590

Source: GfK Home Audit
The figures shown for the years 1983 to 1986 are for private rented and RSL sectors combined.

Table 42 Ownership of draught proofing – RSL dwellings ('000s of homes)

Year	Less than 20%	20% to 39%	40% to 59%	60% to 79%	80% or more	Not stated	Total with draught proofing	Potential
1987	61	90	62	43	81	0	337	666
1988	67	107	26	56	74	2	332	694
1989	96	105	58	49	124	9	442	701
1990	58	105	77	27	70	14	351	753
1991	43	73	45	20	106	20	306	739
1992	48	78	41	34	202	11	414	746
1993	54	98	57	86	195	11	500	890
1994	56	91	46	119	334	41	687	1039
1995	56	100	49	137	386	16	744	1050
1996	76	75	57	122	414	14	757	1128
1997	74	72	71	168	411	45	841	1115
1998	44	79	50	87	478	70	806	1124
1999	51	61	62	152	544	44	913	1182
2000	42	47	39	130	595	205	1058	1343
2001	27	62	79	191	626	163	1147	1428
2002	16	57	87	201	632	209	1201	1439
2003	31	102	135	354	1146	401	2169	2534
2004	32	47	92	336	1165	456	2128	2558

Source: GfK Home Audit

Table 43 Ownership and depth of hot water tank insulation ('000s of homes)

Year	1" or less	2"	3"	3" or more	>3"	not stated	total with	potential	total households
1976	2988	4870		2918		1552	12328	16588	19215
1977	3751	4660		2625		2240	13277	16804	19450
1978	3211	5025	2505		750	2124	13615	16783	19650
1979	3982	5892	2754		809	1126	14563	17305	19827
1980	3182	6554	3742		919	718	15116	17579	20010
1981	3484	6165	3741		1176	677	15243	17471	20177
1982	3785	6428	3593		1154	742	15701	17639	20327
1983	3594	6745	3706		1460	843	16348	18116	20525
1984	3494	6625	3816		1716	1227	16878	18489	20769
1985	2870	6877	4742		1791	1457	17737	19139	21017
1986	3158	7025	4203		1822	1756	17964	19307	21254
1987	2197	5539	7804		1811	1026	18377	19581	21485
1988	1900	5777	8075		1814	963	18528	19803	21710
1989	1687	5044	9182		1473	1308	18694	19893	21927
1990	1749	4925	9440		1731	1022	18867	20059	22140
1991	1535	4842	9899		1731	1111	19117	20194	22392
1992	1555	4322	9924		1854	1122	18778	19956	22595
1993	1225	4330	10321		1536	1370	18783	20068	22822
1994	988	3843	10977		1786	1377	18971	20113	23076
1995	1214	3606	11487		1455	1160	18921	20035	23315
1996	1186	3310	11266		1865	1117	18743	19797	23492
1997	1203	3535	11876		1862	881	19357	20246	23694
1998	1031	3206	12281		1262	954	18732	19821	23896
1999	987	2737	12375		1056	1025	18179	19234	24120
2000	823	2918	12284		1157	1085	18267	19446	24375
2001	761	2081	12216		1286	1279	17623	18595	24170
2002	767	2098	12314		1297	1303	17779	18783	24365
2003	724	2111	12389		1215	1314	17753	18769	24595
2004	707	2103	12472		1230	1321	17833	18860	24825

Source: GfK Home Audit

Table 44 Ownership and depth of hot water tank insulation – owner occupied dwellings ('000s of homes)

Year	1" or less	2"	3"	3" or more	>3"	not stated	total with	potential	total households
1976	1811	2943		1929		890	7573	9121	10138
1977	2263	2897		1766		1277	8203	9516	10529
1978	1891	3052	1673		507	1173	8298	9449	10550
1979	2197	3512	1817		593	574	8693	9639	10672
1980	1783	3865	2361		627	362	8997	9898	11023
1981	1894	3568	2336		794	279	8872	9564	10778
1982	2090	3676	2258		784	331	9139	9801	10857
1983	2218	4126	2500		1057	438	10338	11002	12175
1984	2092	4108	2496		1216	671	10583	11135	12319
1985	1720	4255	3139		1355	820	11289	11837	12884
1986	1990	4421	2711		1363	935	11420	11933	13029
1987	1372	3636	5245		1350	519	12122	12615	13778
1988	1204	3884	5408		1299	535	12329	12875	14132
1989	1087	3358	6436		1143	707	12732	13292	14607
1990	1170	3308	6415		1392	603	12887	13394	14813
1991	1022	3282	6718		1301	741	13063	13514	15048
1992	1105	2969	6818		1397	699	12987	13563	15207
1993	796	2979	7163		1132	885	12954	13528	15405
1994	697	2560	7503		1461	879	13100	13624	15599
1995	840	2674	7687		1097	754	13054	13603	15714
1996	840	2377	7675		1342	752	12985	13468	15859
1997	825	2358	8079		1425	585	13271	13669	16017
1998	708	2312	8459		906	615	12999	13548	16201
1999	684	1909	8776		789	602	12759	13202	16353
2000	580	1954	8579		870	744	12729	13296	16672
2001	548	1468	8476		968	794	12254	12741	16626
2002	552	1480	8545		976	809	12362	12862	16760
2003	526	1505	8539		934	827	12331	12871	16945
2004	515	1512	8612		938	817	12395	12954	17103

Source: GfK Home Audit

Table 45 Ownership and depth of hot water tank insulation – local authority ('000s of homes)

Year	1" or less	2"	3"	3" or more	>3"	not stated	total with	potential	total households
1976	929	1491		730		527	3678	5797	6552
1977	1199	1479		715		758	4151	5848	6685
1978	1028	1587	696		206	762	4278	5798	6703
1979	1371	1921	729		206	439	4665	6032	6718
1980	1079	2087	1042		215	283	4706	5873	6402
1981	1249	1995	1034		300	321	4899	5998	6777
1982	1254	2200	1032		267	328	5081	6052	6828
1983	1036	1982	900		319	322	4559	5331	6030
1984	986	1928	1032		372	431	4749	5521	6102
1985	870	1969	1291		331	465	4926	5472	5903
1986	861	2008	1126		329	589	4912	5513	5972
1987	650	1462	2047		337	358	4854	5351	5576
1988	544	1483	2080		384	297	4788	5331	5441
1989	435	1268	2097		282	466	4548	4980	5245
1990	437	1185	2262		254	296	4434	4939	5160
1991	368	1101	2380		272	270	4391	4828	5036
1992	299	949	2288		327	317	4179	4584	4956
1993	300	909	2154		319	327	4009	4530	4837
1994	157	833	2341		211	366	3908	4292	4749
1995	251	678	2505		245	291	3970	4261	4797
1996	233	542	2373		382	266	3796	4153	4747
1997	263	775	2497		320	197	4052	4368	4826
1998	243	576	2453		229	259	3760	4090	4848
1999	184	540	2168		163	246	3302	3655	4644
2000	151	652	2051		187	198	3240	3591	4391
2001	130	349	2084		185	304	3051	3326	4133
2002	130	351	2101		186	312	3080	3354	4158
2003	109	290	1797		163	279	2638	2863	3589
2004	109	291	1834		154	281	2667	2897	3619

Source: GfK Home Audit

Table 46 Ownership and depth of hot water tank insulation – private rented dwellings ('000s of homes)

Year	1" or less	2"	3"	3" or more	>3"	not stated	total with	potential	total households
1976	247	436		260		134	1077	1671	2525
1977	264	306		157		207	945	1445	2236
1978	274	420	149		47	182	1073	1557	2397
1979	418	484	228		13	96	1239	1671	2437
1980	321	602	340		78	74	1415	1808	2585
1981	334	603	372		82	76	1467	1911	2622
1982	440	551	301		104	83	1478	1788	2642
1983	339	636	307		85	83	1450	1782	2320
1984	415	590	288		127	126	1545	1833	2348
1985	280	653	312		106	173	1523	1830	2230
1986	308	598	365		131	232	1635	1859	2252
1987	110	322	319		46	88	884	1032	1290
1988	100	279	319		75	50	822	966	1238
1989	101	271	399		45	54	871	1007	1250
1990	106	279	460		53	48	946	1083	1284
1991	106	304	505		61	61	1037	1165	1433
1992	96	266	513		88	79	1034	1187	1558
1993	100	306	564		52	102	1123	1263	1597
1994	74	291	626		62	70	1124	1293	1593
1995	81	174	689		63	71	1079	1245	1655
1996	79	266	592		111	62	1110	1247	1715
1997	74	255	707		76	59	1172	1300	1729
1998	64	209	809		71	41	1194	1354	1743
1999	77	188	843		82	125	1314	1453	1955
2000	56	220	809		65	89	1240	1440	1974
2001	76	209	1188		158	192	1825	2053	2055
2002	53	147	832		111	135	1278	1443	2072
2003	36	106	608		83	115	947	1081	1574
2004	36	106	616		84	118	959	1091	1590

Source: GfK Home Audit

The figures shown for the years 1976 to 1986 are for private rented and RSL sectors combined.

Table 47 Ownership and depth of hot water tank insulation – RSL dwellings ('000s of homes)

Year	1" or less	2"	3"	>3"	not stated	total with	potential	total households
1987	66	120	194	77	62	519	583	666
1988	53	132	269	55	81	589	632	694
1989	62	146	250	3	81	543	613	701
1990	37	153	302	31	74	598	644	753
1991	39	155	296	97	40	626	687	739
1992	55	149	305	42	28	579	622	746
1993	30	135	441	34	56	696	749	890
1994	59	159	506	52	62	839	906	1039
1995	41	81	606	49	43	819	925	1050
1996	34	125	625	29	38	852	928	1128
1997	40	146	596	41	40	862	910	1115
1998	17	109	560	56	39	779	828	1124
1999	42	100	588	23	52	804	923	1182
2000	36	92	844	35	53	1060	1120	1343
2001	30	119	830	24	47	1051	1102	1428
2002	32	120	837	24	48	1059	1124	1439
2003	53	210	1447	35	92	1837	1954	2533
2004	49	196	1409	54	106	1814	1919	2557

Source: GfK Home Audit

Table 48 Households with full and no insulation measures ('000s of homes)

Year	total households with no insulation	total households with full insulation	total households
1987	3971	724	21485
1988	4061	970	21710
1989	3864	1018	21927
1990	3701	1053	22140
1991	3638	1177	22392
1992	3596	1372	22595
1993	3383	1430	22822
1994	3535	2032	23076
1995	3469	2341	23315
1996	3114	2388	23492
1997	2751	2370	23694
1998	2764	2915	23896
1999	3034	3220	24120
2000	2660	3174	24375
2001	2512	3398	24170
2002	2360	3915	24365
2003	2150	3669	24595
2004	1953	3895	24825

Source: GfK Home Audit

Table 49 Households with full and no insulation – owner occupied dwellings ('000s of homes)

Year	total households with no insulation	total households with full insulation	total households
1987	1278	703	13778
1988	1359	937	14132
1989	1267	910	14607
1990	1284	942	14813
1991	1298	1045	15048
1992	1220	1183	15207
1993	1155	1263	15405
1994	1211	1664	15599
1995	1125	1893	15714
1996	938	1968	15859
1997	912	1924	16017
1998	902	2300	16201
1999	1061	2469	16353
2000	923	2477	16672
2001	891	2734	16626
2002	938	3005	16760
2003	869	2847	16945
2004	767	2948	17103

Source: GfK Home Audit

Table 50 Households with full and no insulation measures – local authority dwellings ('000s of homes)

Year	total households with no insulation	total households with full insulation	total households
1987	1787	35	5751
1988	1814	57	5645
1989	1742	82	5369
1990	1410	92	5289
1991	1399	116	5173
1992	1443	137	5084
1993	1320	125	4930
1994	1388	258	4845
1995	1425	285	4897
1996	1167	300	4790
1997	932	312	4833
1998	981	471	4827
1999	1030	479	4630
2000	905	288	4387
2001	746	324	4061
2002	716	474	4093
2003	571	289	3542
2004	539	351	3575

Source: GfK Home Audit

Table 51 Households with full and no insulation measures – private rented dwellings ('000s of homes)

Year	total households with no insulation	total households with full insulation	total households
1987	620	13	1290
1988	613	11	1238
1989	601	16	1250
1990	703	12	1284
1991	677	8	1433
1992	722	32	1558
1993	689	18	1597
1994	669	56	1593
1995	708	79	1655
1996	668	51	1715
1997	649	39	1729
1998	597	51	1743
1999	702	134	1955
2000	654	161	1974
2001	693	116	2055
2002	642	156	2072
2003	490	92	1574
2004	452	93	1590

Source: GfK Home Audit

Table 52 Households with full and no insulation measures – RSL dwellings ('000s of homes)

Year	total households with no insulation	total households with full insulation	total households
1987	285	9	666
1988	274	3	694
1989	253	7	701
1990	305	5	753
1991	262	9	739
1992	210	21	746
1993	218	24	890
1994	267	54	1039
1995	210	86	1050
1996	341	69	1128
1997	258	95	1115
1998	285	125	1124
1999	240	136	1182
2000	177	247	1343
2001	183	222	1428
2002	175	245	1439
2003	328	451	2533
2004	282	506	2557

Source: GfK Home Audit

Table 53 Domestic energy consumption by sector and external temperatures.

	owner occupied dwellings		local authority dwellings		private rented dwellings		RSL dwellings		all tenures		
Year	delivered energy (PJ)	average consumption per dwelling (GJ)	delivered energy (PJ)	average consumption per dwelling (GJ)	delivered energy (PJ)	average consumption per dwelling (GJ)	delivered energy (PJ)	average consumption per dwelling (GJ)	delivered energy (PJ)	average consumption per dwelling (GJ)	average external temperature
1970	791.6	93.6	495.6	79.9	214.5	64.4			1501.5	83.5	5.8
1971	780.7	90.9	472.1	74.8	199.2	60.1			1452.0	79.7	6.7
1972	813.2	93.0	473.0	73.6	195.1	59.8			1481.3	80.4	6.4
1973	846.4	94.6	485.5	75.5	198.8	61.6			1530.6	82.3	6.1
1974	862.9	94.9	485.9	78.1	194.7	56.2			1543.4	82.2	6.7
1975	855.2	88.3	465.8	72.4	181.8	63.3			1502.7	79.1	6.4
1976	854.4	84.3	457.5	69.8	176.3	69.8			1488.2	77.5	5.8
1977	886.3	84.2	471.6	70.5	180.7	80.8			1538.5	79.1	6.6
1978	916.7	86.9	476.6	71.1	178.7	74.5			1572.0	80.0	6.4
1979	990.2	92.8	508.1	75.6	187.6	77.0			1685.9	85.0	5.1
1980	960.4	87.1	484.5	75.7	174.3	67.4			1619.3	80.9	5.8
1981	963.5	89.4	480.5	70.9	170.3	79.1			1614.2	80.0	5.1
1982	972.4	89.6	472.0	69.1	147.2	68.2			1591.6	78.3	5.8
1983	1065.0	87.5	393.2	65.2	125.5	69.1			1583.6	77.2	6.2
1984	1014.9	82.4	395.4	64.8	130.4	71.5			1540.6	74.2	5.8
1985	1149.1	89.2	421.9	71.5	125.2	74.5			1696.3	80.7	4.8
1986	1200.4	92.1	427.7	71.6	105.2	62.4	34.0	60.2	1767.3	83.2	5.2
1987	1222.0	88.7	415.2	72.2	80.0	62.0	41.6	62.4	1758.8	81.9	4.9
1988	1213.0	85.8	376.8	66.7	78.9	63.8	44.2	63.6	1712.9	78.9	6.2
1989	1159.4	79.4	357.4	66.6	72.1	57.7	40.2	57.3	1629.1	74.3	6.9
1990	1195.7	80.7	347.6	65.7	71.4	55.6	43.4	57.6	1658.1	74.9	7.6
1991	1323.9	88.0	359.1	69.4	87.5	61.1	48.8	66.1	1819.4	81.3	6.0
1992	1292.0	85.0	353.7	69.6	97.1	62.3	48.7	65.3	1791.6	79.3	6.1
1993	1367.6	88.8	341.9	69.4	89.1	55.8	49.1	55.1	1847.7	81.0	6.1
1994	1319.4	84.6	322.7	66.6	89.3	56.1	53.2	51.2	1784.6	77.3	7.2
1995	1294.5	82.4	295.8	60.4	94.0	56.8	54.1	51.5	1738.4	74.6	6.9
1996	1462.1	92.2	327.2	68.3	102.7	59.9	67.2	59.5	1959.2	83.4	5.7
1997	1368.8	85.5	307.0	63.5	88.3	51.1	57.1	51.2	1821.2	76.9	7.3
1998	1418.6	87.6	301.8	62.5	94.7	54.3	60.4	53.8	1875.5	78.5	7.5
1999	1382.7	84.6	311.3	67.2	112.8	57.7	66.3	56.0	1873.0	77.7	7.2
2000	1446.7	86.8	266.7	60.8	117.1	59.3	76.1	56.7	1906.7	78.2	7.1
2001	1525.4	91.7	236.7	58.3	128.5	62.5	81.2	56.9	1971.8	81.6	6.6
2002	1506.9	89.9	240.4	58.7	120.9	58.4	75.9	52.7	1944.1	79.8	7.7
2003	1517.9	89.6	212.3	59.9	90.9	57.8	126.5	50.0	1947.6	79.2	6.7
2004	1543.1	90.2	217.3	60.8	92.4	58.1	129.0	50.4	1981.8	79.8	6.9

Source: Family Expenditure Survey / Expenditure and Food Survey
Digest of UK Energy Statistics

Table 54 Heat loss of the average dwelling

Average dwelling heat loss (W/°C)					
Year	All tenures	RSL	Owner occupied	Local authority	Private rented*
1970	376.0				
1971	374.0				
1972	371.0				
1973	367.0				
1974	362.0				
1975	357.0				
1976	351.9		378.9	305.7	363.3
1977	345.5		373.1	297.3	359.6
1978	339.4		367.5	289.3	356.1
1979	334.4		362.8	282.5	353.2
1980	328.7		356.2	273.1	349.0
1981	321.2	306.6	350.6	265.0	354.0
1982	314.7	303.8	344.7	256.5	350.3
1983	310.2	295.7	336.7	248.3	342.6
1984	306.1	289.1	332.7	244.1	338.7
1985	304.0	280.5	328.1	246.0	330.9
1986	300.4	282.2	323.1	242.4	336.4
1987	296.9	275.8	319.1	238.2	332.8
1988	294.7	276.0	315.5	235.8	336.1
1989	292.9	265.0	314.1	231.9	322.7
1990	290.3	259.8	310.3	231.4	320.6
1991	287.8	251.8	306.5	230.8	315.9
1992	281.3	241.8	300.6	224.9	295.9
1993	279.8	217.9	300.7	220.8	294.9
1994	278.5	215.0	301.8	213.7	288.5
1995	275.0	207.1	299.5	212.2	271.3
1996	272.9	202.4	295.8	212.2	277.7
1997	270.4	197.4	293.4	210.9	270.7
1998	269.7	196.0	293.0	209.5	268.0
1999	270.1	189.9	293.1	208.7	272.2
2000	268.8	182.1	291.3	208.3	271.7
2001	267.5	174.3	289.6	207.9	271.2
2002	265.8	173.4	287.7	206.7	269.6
2003	262.4	170.0	287.5	205.4	268.9
2004	259.0	165.8	284.2	202.6	264.8

* Prior to 1981 includes RSL

Total heat loss for 2000 is interpolated between 1999 and 2001
Figures for 1977-1981 inclusive are interpolated

Source: BREHOMES

Table 55 Central heating ownership ('000s of homes)

	all tenures			owner occupied			local authority			private rented			RSL		
Year	total	central heating	non central heating	total	central heating	non central heating	total	central heating	non central heating	total	central heating	non central heating	total	central heating	non central heating
1977	19450	10454	8996	10529	6817	3712	6685	3101	3584	2236	530	1706			
1978	19650	10633	9017	10550	6904	3646	6703	3051	3652	2397	670	1727			
1979	19827	11192	8635	10672	7131	3541	6718	3401	3317	2437	660	1777			
1980	20010	11517	8493	11023	7492	3531	6402	3294	3108	2585	731	1855			
1981	20177	11851	8326	10778	7696	3082	6777	3333	3444	2622	822	1799			
1982	20327	12374	7953	10857	7897	2960	6828	3540	3288	2642	937	1705			
1983	20525	13443	7082	12175	9306	2869	6030	3230	2800	2320	905	1415			
1984	20769	14029	6740	12319	9590	2729	6102	3512	2590	2348	926	1422			
1985	21017	14778	6239	12884	9821	3063	5903	3879	2024	2230	1077	1153			
1986	21254	15337	5917	13029	10429	2600	5972	3707	2265	1687	777	911	565	429	136
1987	21485	15981	5504	13778	11074	2704	5751	3778	1973	1290	627	664	666	506	160
1988	21710	16396	5314	14132	11566	2566	5645	3733	1912	1238	574	664	694	525	169
1989	21927	17089	4838	14607	12204	2403	5369	3737	1632	1250	625	624	701	540	161
1990	22140	17573	4567	14813	12517	2296	5289	3803	1486	1284	707	577	753	596	158
1991	22392	18309	4083	15048	12897	2151	5173	3976	1197	1433	814	619	739	623	116
1992	22595	18727	3868	15207	13131	2075	5084	3940	1144	1558	1035	523	746	621	125
1993	22822	19229	3593	15405	13505	1900	4930	3882	1048	1597	1074	523	890	775	115
1994	23076	19782	3294	15599	13795	1805	4845	4067	777	1593	1052	542	1039	868	170
1995	23315	20274	3041	15714	13967	1748	4897	4136	760	1655	1220	435	1050	953	97
1996	23492	20438	3054	15859	14228	1631	4790	4030	760	1715	1163	552	1128	1018	110
1997	23694	20791	2903	16017	14465	1552	4833	4053	780	1729	1243	487	1115	1029	85
1998	23896	21294	2602	16201	14766	1436	4827	4251	576	1743	1254	490	1124	1024	101
1999	24120	21517	2603	16353	14985	1368	4630	4074	555	1955	1382	573	1182	1077	106
2000	24375	21718	2657	16672	15109	1563	4387	3834	552	1974	1513	461	1343	1262	81
2001	24170	21803	2367	16626	15348	1278	4061	3566	495	2055	1515	540	1428	1374	54
2002	24365	21979	2386	16760	15621	1140	4093	3594	499	2072	1528	545	1439	1385	54
2003	24595	22474	2121	16945	15829	1116	3542	3114	428	1574	1190	385	2533	2430	103
2004	24825	22729	2096	17103	15911	1192	3575	3162	413	1590	1193	396	2557	2462	95

Source: GfK Home Audit

The figures for the years 1977 to 1985 are for private rented and RSL sectors combined.

Table 56 Main form of heating in centrally heated dwellings for all tenures ('000s of homes)

Year	solid fuel	electric storage	other electric	all electric	gas	oil	other	oil & other	total centrally heated homes
1970	1615	1094	436	1529	1856	460	167	627	5628
1971	1543	1280	510	1789	2201	555	184	739	6271
1972	1483	1417	564	1981	2563	649	189	839	6867
1973	1434	1577	640	2217	3109	685	225	909	7669
1974	1461	1733	703	2436	3747	688	295	984	8628
1975	1394	1869	803	2672	4213	676	360	1035	9315
1976	1407	1739	747	2486	5003	647	345	992	9888
1977	1398	1626	698	2324	5704	671	357	1028	10454
1978	1073	1665	715	2380	6160	666	354	1020	10633
1979	1052	1457	626	2083	7113	615	328	943	11192
1980	1134	1395	599	1994	7655	478	255	733	11517
1981	1209	1219	580	1799	8102	488	252	740	11851
1982	1303	1065	570	1635	8677	505	253	758	12374
1983	1457	947	584	1531	9644	545	265	810	13443
1984	1273	1319	708	2027	9977	552	199	751	14029
1985	1521	1313	632	1945	10422	528	363	891	14778
1986	1523	1154	466	1620	11414	490	291	780	15337
1987	1499	1267	404	1671	11871	565	375	940	15981
1988	1515	1384	474	1858	12050	600	372	972	16396
1989	1284	1513	545	2058	12821	535	392	927	17089
1990	1277	1641	454	2095	13223	557	421	978	17573
1991	1262	1802	413	2215	13790	620	421	1041	18309
1992	1047	1881	420	2301	14419	569	391	960	18727
1993	982	1991	376	2367	14850	659	371	1030	19229
1994	890	1910	468	2378	15490	626	397	1024	19782
1995	786	1994	395	2389	15870	721	507	1228	20274
1996	840	2113	390	2503	15608	915	572	1487	20438
1997	896	2249	400	2650	15803	932	510	1442	20791
1998	740	2105	256	2361	16932	780	481	1261	21294
1999	721	2172	465	2637	16862	842	456	1298	21517
2000	668	2140	436	2576	17198	841	435	1276	21718
2001	659	1927	423	2350	17396	936	461	1397	21803
2002	700	1616	852	2468	17398	1055	359	1413	21979
2003	547	1249	804	2054	18696	916	262	1178	22474
2004	365	1295	611	1906	19049	1135	274	1409	22729

Source: GfK Home Audit

Table 57 Main form of heating in centrally heated home – owner occupied dwellings ('000s of homes)

Year	solid fuel	electric storage	other electric	all electric	gas	oil	other	oil & other	total centrally heated homes
1977	736			1241	4133			707	6817
1978	610			1142	4476			676	6904
1979	557			955	5018			601	7131
1980	614			874	5509			495	7492
1981	603	711	190	901	5778	403	11	414	7696
1982	627	713	182	895	5998	368	9	377	7897
1983	753	806	293	1099	6950	466	39	505	9306
1984	727	802	291	1093	7253	488	29	517	9590
1985	897	789	234	1023	7420	463	17	480	9821
1986	867	687	153	840	8254	417	52	469	10429
1987	832	618	265	883	8801	477	81	558	11074
1988	931	690	342	1032	8927	512	164	676	11566
1989	813	758	357	1115	9614	497	166	662	12204
1990	767	834	385	1219	9837	520	174	694	12517
1991	740	884	453	1336	10087	543	190	733	12897
1992	599	932	417	1349	10560	488	136	624	13131
1993	573	885	401	1286	10881	604	160	763	13505
1994	467	884	410	1295	11317	558	158	717	13795
1995	477	849	428	1278	11436	624	150	775	13967
1996	490	979	395	1374	11332	840	194	1034	14228
1997	495	1042	407	1448	11422	862	238	1100	14465
1998	412	914	355	1269	12200	704	181	885	14766
1999	401	1009	371	1380	12278	771	155	926	14985
2000	359	996	398	1394	12462	749	143	892	15109
2001	363	849	345	1194	12759	844	187	1031	15348
2002	385	879	490	1370	12809	888	168	1056	15621
2003	298	735	436	1171	13451	778	131	909	15829
2004	196	706	275	981	13688	902	143	1045	15911

Source: GfK Home Audit

Table 58 Main form of heating in centrally heated homes – local authority dwellings ('000s of homes)

Year	solid fuel	electric storage	other electric	all electric	gas	oil	other	oil & other	total centrally heated homes
1977	576			902	1342			280	3101
1978	386			971	1443			251	3051
1979	393			886	1838			284	3401
1980	462			903	1733			196	3294
1981	422	291	551	842	1815	38	216	254	3333
1982	466	286	491	777	2074	15	207	222	3540
1983	395	289	464	753	1878	26	178	204	3230
1984	441	326	407	733	2067	23	248	271	3512
1985	496	342	358	700	2368	25	290	315	3879
1986	541	292	264	556	2402	20	188	208	3707
1987	491	229	290	519	2523	18	228	245	3778
1988	469	272	317	589	2468	39	169	208	3733
1989	382	291	366	657	2492	12	195	206	3737
1990	438	304	290	594	2563	16	191	207	3803
1991	437	322	275	598	2765	24	153	177	3976
1992	349	338	272	610	2784	19	178	197	3940
1993	342	382	277	659	2722	11	149	160	3882
1994	338	365	273	638	2909	13	169	182	4067
1995	244	376	266	643	2956	28	264	292	4136
1996	281	406	221	627	2868	18	236	254	4030
1997	321	461	211	671	2883	19	159	178	4053
1998	245	449	152	601	3164	20	220	240	4251
1999	236	426	263	688	2924	7	220	227	4074
2000	217	380	208	588	2805	36	189	225	3834
2001	205	367	139	506	2666	29	160	189	3566
2002	217	327	179	506	2719	50	101	151	3594
2003	108	186	152	338	2575	31	62	93	3114
2004	106	203	97	301	2638	49	68	117	3162

Source: GfK Home Audit

Table 59 Main form of heating in centrally heated homes – private rented ('000s of homes)

Year	solid fuel	electric storage	other electric	all electric	gas	oil	other	oil & other	total centrally heated homes
1977	74			178	239			39	530
1978	74			236	281			79	670
1979	106			238	266			50	660
1980	73			252	357			49	731
1981	98	196	54	250	398	26	50	76	822
1982	110	135	74	209	523	36	59	95	937
1983	112	127	56	183	534	36	40	76	905
1984	96	176	67	243	535	31	21	52	926
1985	132	169	64	233	612	33	67	100	1077
1986	89	143	34	177	451	31	28	59	777
1987	75	88	35	122	373	26	31	57	627
1988	69	78	50	128	334	19	22	41	574
1989	45	97	56	153	392	16	18	35	625
1990	57	105	55	160	455	16	19	35	707
1991	67	96	59	155	546	32	13	46	814
1992	58	127	74	201	692	48	37	84	1035
1993	64	143	69	213	748	30	21	51	1074
1994	60	155	74	229	700	38	25	63	1052
1995	49	222	68	290	800	41	41	81	1220
1996	50	192	52	243	788	33	48	81	1163
1997	53	184	77	261	839	27	63	90	1243
1998	50	210	58	267	849	35	52	87	1254
1999	48	225	106	331	921	50	32	82	1382
2000	57	238	85	322	1072	32	29	62	1513
2001	53	234	79	314	1012	48	87	135	1515
2002	70	235	81	316	993	99	49	148	1528
2003	74	95	112	207	808	84	15	100	1190
2004	34	107	113	220	795	122	21	144	1193

Source: GfK Home Audit
The figures for the years 1977 to 1985 are for private rented and RSL sectors combined.

Table 60 Main form of heating in centrally heated homes – RSL dwellings ('000s of homes)

Year	solid fuel	electric storage	other electric	all electric	gas	oil	other	oil & other	total centrally heated homes
1986	45	63	29	92	237	17	35	52	429
1987	58	61	38	99	296	20	33	53	506
1988	56	90	34	124	297	24	23	47	525
1989	44	97	33	130	342	12	12	24	540
1990	20	83	42	124	405	5	41	46	596
1991	25	68	61	129	385	14	71	85	623
1992	48	82	67	150	370	11	43	54	621
1993	13	125	90	215	492	11	43	54	775
1994	32	130	83	213	563	12	48	60	868
1995	23	158	42	200	646	20	63	84	953
1996	21	182	79	261	619	21	96	117	1018
1997	30	179	94	273	655	20	51	71	1029
1998	40	155	56	211	726	14	33	48	1024
1999	35	150	67	217	764	16	45	61	1077
2000	35	195	78	272	855	22	77	99	1262
2001	37	251	76	326	976	15	19	35	1374
2002	26	172	105	277	1024	22	37	60	1385
2003	62	238	96	334	1957	23	56	79	2430
2004	30	291	128	419	1925	42	46	88	2462

Source: GfK Home Audit

Table 61 Main form of heating in non-centrally heated dwellings – all tenures ('000s of homes)

Year	solid fuel	electric	gas	oil	other	oil & other	total non-centrally heated homes
1970	3840	2351	5447	469	251	720	12359
1971	3714	2274	5266	454	242	696	11950
1972	3593	2199	5094	439	235	673	11559
1973	3398	2080	4819	415	222	637	10934
1974	3155	1931	4477	386	206	591	10155
1975	3006	1840	4262	368	197	564	9673
1976	2963	1621	4191	360	192	552	9327
1977	2615	1466	4386	345	184	529	8996
1978	2661	1478	4349	344	184	528	9017
1979	2439	1372	4333	304	188	492	8635
1980	2415	1182	4393	301	203	504	8493
1981	2234	1173	4447	212	260	472	8326
1982	1997	1133	4381	178	264	442	7953
1983	1670	1033	4074	92	213	305	7082
1984	1554	938	4033	56	159	215	6740
1985	1390	813	3876	32	127	159	6239
1986	1247	700	3781	22	166	188	5917
1987	1030	710	3605	25	133	158	5504
1988	943	748	3450	23	150	172	5314
1989	917	630	3136	16	138	154	4838
1990	835	628	2978	7	121	127	4567
1991	728	503	2718	15	119	134	4083
1992	641	529	2572	10	115	125	3868
1993	563	486	2434	6	104	110	3593
1994	552	486	2169	3	84	88	3294
1995	461	471	2019	7	83	90	3041
1996	519	463	1986	4	81	85	3054
1997	475	563	1797	3	65	69	2903
1998	435	433	1662	2	69	71	2602
1999	293	449	1791	5	66	71	2603
2000	275	550	1782	2	48	51	2657
2001	302	740	1262	0	63	63	2367
2002	318	908	1115	0	45	45	2386
2003	297	768	1001	0	55	55	2121
2004	465	519	1065	0	48	48	2096

Source: GfK Home Audit

Table 62 Main form of heating in non-centrally heated dwellings – owner occupied dwellings ('000s of homes)

Year	solid fuel	electric	gas	oil	other	oil & other	total non-centrally heated homes
1977	979	597	2108			29	3712
1978	968	571	2079			29	3646
1979	865	563	2079			34	3541
1980	765	667	1904			195	3531
1981	523	556	1826			176	3082
1982	493	510	1795			162	2960
1983	594	375	1775			125	2869
1984	559	369	1723			78	2729
1985	549	464	1983			67	3063
1986	515	241	1787			57	2600
1987	447	252	1940	8	57	65	2704
1988	426	247	1845	5	42	48	2566
1989	448	234	1668	4	49	53	2403
1990	386	248	1615	3	44	48	2296
1991	368	221	1517	7	38	45	2151
1992	324	226	1490	3	32	35	2075
1993	297	217	1348	0	37	37	1900
1994	274	231	1267	1	32	33	1805
1995	249	232	1244	2	22	23	1748
1996	282	208	1113	1	28	28	1631
1997	236	253	1029	2	32	34	1552
1998	241	202	954	2	37	39	1436
1999	147	198	984	2	36	38	1368
2000	167	301	1073	0	23	23	1563
2001	160	330	758	0	30	30	1278
2002	138	380	605	0	17	17	1140
2003	144	355	589	0	28	28	1116
2004	237	278	668	0	10	10	1192

Source: GfK Home Audit

Table 63 Main form of heating in non-centrally heated dwellings – local authority dwellings ('000s of homes)

Year	solid fuel	electric	gas	oil	other	oil & other	total non-centrally heated homes
1977	1080	485	1981			38	3584
1978	1202	486	1927			37	3652
1979	1081	421	1773			41	3317
1980	1030	442	1428			209	3108
1981	1127	500	1553			264	3444
1982	1006	515	1508			260	3288
1983	710	456	1523	34	77	111	2800
1984	684	452	1382	21	51	72	2590
1985	547	307	1116	9	45	54	2024
1986	519	282	1388	8	68	76	2265
1987	368	294	1257	11	43	54	1973
1988	351	348	1126	13	73	86	1912
1989	301	253	1013	10	54	64	1632
1990	321	219	907	2	37	39	1486
1991	236	144	759	6	52	58	1197
1992	200	154	736	5	48	53	1144
1993	153	147	718	4	26	30	1048
1994	159	121	474	1	22	24	777
1995	112	113	505	2	29	31	760
1996	118	113	499	2	29	31	760
1997	113	146	509	0	11	11	780
1998	98	88	377	0	14	14	576
1999	65	72	414	0	4	4	555
2000	48	94	403	0	8	8	552
2001	78	167	242	0	8	8	495
2002	61	205	229	0	3	3	499
2003	52	213	163	0	0	0	428
2004	107	123	183	0	0	0	413

Source: GfK Home Audit

Table 64 Main form of heating in non-centrally heated dwellings – private rented dwellings ('000s of homes)

Year	solid fuel	electric	gas	oil	other	oil & other	total non-centrally heated homes
1977	512	374	791			28	1706
1978	462	380	854			31	1727
1979	425	373	949			30	1777
1980	465	382	901			106	1855
1981	425	407	928			40	1799
1982	431	338	896			39	1705
1983	335	281	706	28	64	92	1415
1984	306	249	793	15	61	76	1422
1985	280	173	653	12	35	47	1153
1986	184	160	510	5	51	56	911
1987	151	108	374	7	25	31	664
1988	130	142	352	6	33	39	664
1989	130	134	324	4	33	36	624
1990	94	135	313	0	35	35	577
1991	101	122	368	3	25	28	619
1992	94	118	282	2	28	30	523
1993	94	94	299	2	35	36	523
1994	84	109	321	2	26	28	542
1995	71	106	230	3	24	27	435
1996	106	133	292	2	19	21	552
1997	110	145	211	0	21	21	487
1998	71	126	276	0	17	17	490
1999	74	141	326	3	29	32	573
2000	55	131	260	2	12	14	461
2001	59	222	233	0	27	27	540
2002	83	226	212	0	23	23	545
2003	83	102	171	0	28	28	385
2004	68	132	190	0	6	6	396

Source: GfK Home Audit

The figures for the years 1977 to 1985 are for private rented and RSL sectors combined.

Table 65 Main form of heating in non-centrally heated dwellings – RSL dwellings ('000s of homes)

Year	solid fuel	electric	gas	oil	other	oil & other	total non-centrally heated homes
1986	32	24	75	1	3	4	136
1987	38	39	80	0	3	3	160
1988	39	27	98	0	6	6	169
1989	35	21	102	0	3	3	161
1990	32	22	99	1	3	4	158
1991	23	20	69	0	4	4	116
1992	22	23	74	0	5	5	125
1993	18	24	69	0	5	5	115
1994	28	31	108	0	4	4	170
1995	25	12	57	0	3	3	97
1996	16	18	70	0	6	6	110
1997	20	26	35	1	3	4	85
1998	24	21	54	0	2	2	101
1999	10	47	49	0	0	0	106
2000	7	22	47	1	4	5	81
2001	5	25	22	0	2	2	54
2002	13	33	6	0	2	2	54
2003	13	53	37	0	1	1	103
2004	40	15	39	0	0	0	95

Source: GfK Home Audit

Table 66 Weighted average space heating efficiencies for centrally and non-centrally heated dwellings

	all tenures			owner occupied			local authority			private rented			RSL		
Year	average efficiency central heated homes	average efficiency non-central heated homes	overall average	average efficiency central heated homes	average efficiency non-central heated homes	overall average	average efficiency central heated homes	average efficiency non-central heated homes	overall average	average efficiency central heated homes	average efficiency non-central heated homes	overall average	average efficiency central heated homes	average efficiency non-central heated homes	overall average
1970	59.0%	45.8%	49.2%												
1971	59.9%	45.8%	49.8%												
1972	60.4%	46.3%	50.7%												
1973	60.8%	46.3%	51.3%												
1974	60.9%	46.3%	52.0%												
1975	61.4%	46.7%	53.0%												
1976	60.7%	46.2%	52.7%												
1977	60.3%	46.5%	53.0%	59.1%	47.9%	54.6%	62.5%	46.9%	53.0%	64.0%	49.2%	52.1%			
1978	60.8%	46.9%	53.5%	59.1%	48.4%	54.9%	63.8%	47.0%	53.4%	65.2%	50.3%	53.7%			
1979	60.2%	48.1%	54.2%	58.7%	48.8%	55.0%	62.5%	47.0%	53.7%	65.8%	50.4%	53.8%			
1980	60.2%	48.5%	54.6%	58.6%	51.7%	56.2%	63.3%	48.8%	55.3%	65.7%	51.6%	55.0%			
1981	60.2%	48.7%	54.8%	59.2%	52.3%	57.1%	63.2%	49.2%	55.2%	64.9%	51.6%	55.2%			
1982	60.1%	50.0%	55.7%	59.6%	52.8%	57.6%	62.6%	50.4%	56.1%	62.8%	51.2%	54.8%			
1983	60.2%	50.8%	56.6%	60.3%	50.7%	57.7%	63.6%	50.6%	56.8%	62.7%	52.5%	56.0%			
1984	61.6%	51.1%	57.7%	60.8%	51.2%	58.4%	63.4%	51.1%	57.5%	65.0%	52.5%	56.8%			
1985	61.7%	50.8%	58.0%	61.0%	52.0%	58.6%	63.1%	50.4%	58.1%	64.2%	51.1%	56.7%			
1986	61.7%	50.7%	58.2%	61.0%	50.1%	58.5%	62.8%	50.6%	57.6%	65.2%	53.1%	58.1%	65.4%	52.1%	61.6%
1987	62.3%	51.4%	59.1%	61.6%	50.8%	59.2%	63.1%	51.9%	58.8%	64.8%	51.9%	57.5%	64.9%	53.4%	61.7%
1988	63.2%	51.9%	60.0%	62.6%	50.7%	60.0%	64.3%	53.2%	60.1%	66.4%	54.1%	59.2%	66.8%	51.4%	62.3%
1989	64.1%	51.4%	60.8%	63.3%	50.5%	60.8%	65.5%	52.3%	60.8%	67.5%	53.9%	59.9%	67.4%	50.7%	62.6%
1990	64.6%	51.7%	61.5%	64.1%	51.0%	61.7%	65.6%	51.3%	60.8%	67.5%	55.5%	61.5%	67.2%	51.3%	63.1%
1991	65.2%	51.5%	62.2%	64.8%	50.9%	62.3%	65.8%	51.4%	61.8%	67.0%	54.0%	60.7%	67.9%	52.3%	64.9%
1992	65.8%	52.1%	63.0%	65.3%	51.2%	62.9%	66.6%	52.1%	62.7%	67.9%	54.8%	62.8%	69.1%	53.4%	65.8%
1993	66.4%	52.1%	63.7%	65.8%	51.4%	63.6%	67.5%	52.4%	63.6%	68.3%	53.7%	62.7%	70.8%	54.4%	68.2%
1994	67.0%	52.2%	64.4%	66.3%	51.8%	64.3%	67.8%	51.7%	64.6%	69.6%	54.4%	63.6%	70.4%	53.0%	66.8%
1995	67.6%	52.7%	65.2%	66.9%	52.0%	64.8%	68.6%	52.9%	65.6%	70.8%	55.8%	66.1%	70.2%	50.2%	67.7%
1996	68.5%	52.3%	65.8%	67.8%	51.4%	65.7%	69.2%	52.8%	65.9%	70.8%	54.5%	64.5%	72.4%	53.8%	70.0%
1997	69.3%	53.4%	66.8%	68.7%	52.8%	66.7%	69.9%	53.4%	66.6%	71.4%	55.5%	66.1%	72.9%	55.9%	71.3%
1998	69.5%	52.7%	67.2%	68.9%	52.0%	67.0%	70.2%	52.2%	67.4%	72.2%	55.9%	66.7%	71.7%	52.1%	69.4%
1999	70.6%	54.0%	68.3%	69.9%	53.3%	68.1%	71.6%	52.3%	68.5%	73.5%	56.5%	67.5%	72.4%	62.5%	71.4%
2000	71.2%	54.9%	69.0%	70.7%	54.4%	68.7%	72.0%	54.1%	69.1%	73.4%	57.2%	68.8%	73.8%	58.6%	72.7%
2001	71.7%	57.8%	70.1%	71.1%	56.1%	69.6%	72.3%	57.6%	70.1%	74.3%	62.4%	70.8%	74.5%	64.6%	74.1%
2002	72.8%	59.7%	71.3%	72.3%	58.3%	71.2%	73.1%	59.7%	71.1%	75.2%	61.1%	70.9%	74.7%	65.9%	74.3%
2003	73.1%	59.1%	71.7%	72.8%	57.9%	71.6%	73.2%	59.1%	71.2%	75.0%	55.5%	69.1%	73.9%	64.5%	73.5%
2004	74.0%	53.7%	71.7%	73.6%	53.4%	71.7%	73.9%	53.7%	70.8%	76.6%	57.2%	70.6%	75.7%	47.5%	74.1%

Source: BREHOMES

The figures for the years 1977 to 1985 are for private rented and RSL sectors combined.

Table 67 Standards of comfort: mean internal and average winter external temperatures

	all tenures		owner occupied		local authority		private rented *		RSL		
Year	% of dwellings with central heating	average internal temperature	% of dwellings with central heating	average internal temperature	% of dwellings with central heating	average internal temperature	% of dwellings with central heating	average internal temperature	% of dwellings with central heating	average internal temperature	external temperature
1970	31.3%	12.1									5.8
1971	34.4%	12.9									6.7
1972	37.3%	12.7									6.4
1973	41.2%	12.7									6.1
1974	45.9%	13.4									6.7
1975	49.1%	13.0									6.4
1976	51.5%	12.4									5.8
1977	53.7%	13.5	64.7%	13.8	46.4%	13.3	23.7%	12.7			6.6
1978	54.1%	13.6	65.4%	13.9	45.5%	13.4	28.0%	12.9			6.4
1979	56.4%	12.8	66.8%	13.1	50.6%	12.7	27.1%	12.1			5.1
1980	57.6%	13.4	68.0%	13.6	51.5%	13.2	28.3%	12.7			5.8
1981	58.7%	12.8	71.4%	13.2	49.2%	12.6	31.4%	12.2			5.1
1982	60.9%	13.6	72.7%	13.9	51.8%	13.4	35.5%	12.9			5.8
1983	65.5%	14.1	76.4%	14.4	53.6%	13.8	39.0%	13.4			6.2
1984	67.5%	13.6	77.8%	13.8	57.6%	13.3	39.4%	12.9			5.8
1985	70.3%	13.3	76.2%	13.4	65.7%	13.2	48.3%	12.7			4.8
1986	72.2%	14.1	80.1%	14.3	62.1%	13.8	46.0%	13.4	75.4%	14.1	5.2
1987	74.4%	13.8	80.4%	14.0	65.7%	13.6	48.6%	13.2	76.0%	13.8	4.9
1988	75.5%	14.9	81.8%	15.1	66.2%	14.7	46.3%	14.2	75.5%	14.9	6.2
1989	77.9%	15.2	83.5%	15.4	69.6%	15.0	50.0%	14.5	77.0%	15.2	6.9
1990	79.4%	16.2	84.5%	16.3	71.9%	16.0	55.1%	15.5	79.0%	16.1	7.6
1991	81.8%	15.4	85.7%	15.5	76.9%	15.3	56.8%	14.8	84.3%	15.5	6.0
1992	82.9%	15.5	86.4%	15.6	77.5%	15.4	66.4%	15.1	83.3%	15.6	6.1
1993	84.3%	15.8	87.7%	15.9	78.7%	15.7	67.3%	15.4	87.1%	15.9	6.1
1994	85.7%	16.5	88.4%	16.6	84.0%	16.5	66.0%	16.1	83.6%	16.5	7.2
1995	87.0%	16.1	88.9%	16.2	84.4%	16.1	73.7%	15.8	90.8%	16.2	6.9
1996	87.0%	16.1	89.7%	16.2	84.1%	16.1	67.8%	15.6	90.2%	16.2	5.7
1997	87.7%	17.1	90.3%	17.2	83.9%	17.0	71.9%	16.7	92.4%	17.2	7.3
1998	89.1%	17.6	91.1%	17.7	88.1%	17.6	71.9%	17.2	91.1%	17.7	7.5
1999	89.2%	17.3	91.6%	17.3	88.0%	17.2	70.7%	16.8	91.1%	17.3	7.2
2000	89.1%	17.5	90.6%	17.5	87.4%	17.4	76.7%	17.2	94.0%	17.6	7.1
2001	90.2%	17.5	92.3%	17.5	87.8%	17.4	73.7%	17.1	96.2%	17.6	6.6
2002	90.2%	18.5	93.2%	18.5	85.3%	18.4	73.7%	18.1	91.3%	18.5	7.7
2003	91.4%	17.6	93.4%	17.6	88.0%	17.5	75.5%	17.2	91.0%	17.6	6.7
2004	91.6%	18.0	93.0%	18.1	88.4%	18.0	75.1%	17.6	96.3%	18.0	6.9

Source: BREHOMES

*The figures for the years 1977 to 1985 are for private rented and RSL sectors combined.

Table 68 Domestic energy consumption by end use

Year	Space (PJ)	Water (PJ)	Cooking (PJ)	Lts & appl (PJ)	Total (PJ)	all energy per household (GJ)	space heating per household (GJ)
1970	901.4	402.2	89.5	108.4	1501.5	83.5	50.1
1971	846.9	401.4	89.0	114.7	1452.0	79.7	46.5
1972	861.0	410.4	88.4	121.6	1481.3	80.4	46.7
1973	896.3	417.3	87.8	129.3	1530.6	82.3	48.2
1974	904.9	414.8	87.0	136.8	1543.4	82.2	48.2
1975	862.6	410.7	86.2	143.2	1502.7	79.1	45.4
1976	839.3	414.6	85.3	149.0	1488.2	77.5	43.7
1977	891.6	408.7	84.4	153.9	1538.5	79.1	45.8
1978	922.6	407.4	83.3	158.6	1572.0	80.0	47.0
1979	1026.0	414.5	82.2	163.2	1685.9	85.0	51.7
1980	966.0	404.4	80.9	167.9	1619.3	80.9	48.3
1981	961.5	400.3	79.6	172.8	1614.2	80.0	47.7
1982	941.5	394.7	78.1	177.3	1591.6	78.3	46.3
1983	932.0	392.5	76.4	182.7	1583.6	77.2	45.4
1984	886.5	390.6	74.5	189.1	1540.6	74.2	42.7
1985	1036.2	391.7	72.6	195.9	1696.3	80.7	49.3
1986	1087.8	406.1	70.5	202.9	1767.3	83.2	51.2
1987	1080.9	400.1	68.4	209.4	1758.8	81.9	50.3
1988	1027.2	405.4	66.2	214.1	1712.9	78.9	47.3
1989	935.7	410.6	64.2	218.7	1629.1	74.3	42.7
1990	963.8	409.8	62.3	222.2	1658.1	74.9	43.5
1991	1115.6	417.9	60.7	225.2	1819.4	81.3	49.8
1992	1082.5	421.7	59.3	228.1	1791.6	79.3	47.9
1993	1126.4	432.4	58.1	230.7	1847.7	81.0	49.4
1994	1062.6	431.6	57.2	233.3	1784.6	77.3	46.0
1995	1012.9	433.6	56.4	235.5	1738.4	74.6	43.4
1996	1229.8	436.0	55.8	237.7	1959.2	83.4	52.3
1997	1085.0	440.9	55.3	240.0	1821.2	76.9	45.8
1998	1141.2	436.9	54.8	242.5	1875.5	78.5	47.8
1999	1134.4	439.4	54.4	244.8	1873.0	77.7	47.0
2000	1162.9	442.5	54.1	247.3	1906.7	78.2	47.7
2001	1214.6	453.9	53.7	249.6	1971.8	81.6	50.3
2002	1184.3	453.7	53.7	252.5	1944.1	79.8	48.6
2003	1178.0	459.8	53.7	256.2	1947.6	79.2	47.9
2004	1201.4	466.1	53.7	260.6	1981.8	79.8	48.4

Source: BREHOMES

Table 69 Domestic energy consumption by end use – owner occupied dwellings

Year	Space (PJ)	Water (PJ)	Cooking (PJ)	Lts & appl (PJ)	Total (PJ)	all energy per household (GJ)	space heating per household (GJ)
1970	475.2	212.0	47.2	57.2	791.6	93.6	56.2
1971	455.4	215.8	47.9	61.7	780.7	90.9	53.0
1972	472.7	225.3	48.5	66.7	813.2	93.0	54.1
1973	495.6	230.8	48.5	71.5	846.4	94.6	55.4
1974	505.9	231.9	48.6	76.5	862.9	94.9	55.6
1975	490.9	233.7	49.0	81.5	855.2	88.3	50.7
1976	481.9	238.0	49.0	85.5	854.4	84.3	47.5
1977	513.6	235.4	48.6	88.7	886.3	84.2	48.8
1978	538.0	237.6	48.6	92.5	916.7	86.9	51.0
1979	602.6	243.5	48.3	95.8	990.2	92.8	56.5
1980	572.9	239.9	48.0	99.6	960.4	87.1	52.0
1981	573.9	238.9	47.5	103.1	963.5	89.4	53.2
1982	575.2	241.1	47.7	108.3	972.4	89.6	53.0
1983	626.8	263.9	51.4	122.9	1065.0	87.5	51.5
1984	584.0	257.3	49.1	124.5	1014.9	82.4	47.4
1985	701.9	265.4	49.2	132.7	1149.1	89.2	54.5
1986	738.9	275.9	47.9	137.8	1200.4	92.1	56.7
1987	751.0	278.0	47.5	145.5	1222.0	88.7	54.5
1988	727.4	287.1	46.9	151.6	1213.0	85.8	51.5
1989	665.9	292.2	45.7	155.6	1159.4	79.4	45.6
1990	695.0	295.5	44.9	160.3	1195.7	80.7	46.9
1991	811.7	304.1	44.1	163.9	1323.9	88.0	53.9
1992	780.6	304.1	42.8	164.5	1292.0	85.0	51.3
1993	833.8	320.1	43.0	170.8	1367.6	88.8	54.1
1994	785.5	319.1	42.3	172.5	1319.4	84.6	50.4
1995	754.2	322.9	42.0	175.4	1294.5	82.4	48.0
1996	917.8	325.4	41.6	177.4	1462.1	92.2	57.9
1997	815.5	331.4	41.5	180.4	1368.8	85.5	50.9
1998	863.2	330.5	41.5	183.4	1418.6	87.6	53.3
1999	837.4	324.4	40.2	180.7	1382.7	84.6	51.2
2000	882.3	335.7	41.0	187.6	1446.7	86.8	52.9
2001	939.7	351.1	41.5	193.1	1525.4	91.7	56.5
2002	917.9	351.6	41.6	195.7	1506.9	89.9	54.8
2003	918.0	358.3	41.9	199.7	1517.9	89.6	54.2
2004	935.5	363.0	41.8	202.9	1543.1	90.2	54.7

Source: BREHOMES

Table 70 Domestic energy consumption by end use – local authority

Year	Space (PJ)	Water (PJ)	Cooking (PJ)	Lts & appl (PJ)	Total (PJ)	all energy per household (GJ)	space heating per household (GJ)
1970	297.5	132.7	29.5	35.8	495.6	79.9	47.9
1971	275.4	130.5	28.9	37.3	472.1	74.8	43.6
1972	274.9	131.0	28.2	38.8	473.0	73.6	42.8
1973	284.3	132.4	27.8	41.0	485.5	75.5	44.2
1974	284.9	130.6	27.4	43.1	485.9	78.1	45.8
1975	267.4	127.3	26.7	44.4	465.8	72.4	41.6
1976	258.0	127.5	26.2	45.8	457.5	69.8	39.4
1977	273.3	125.3	25.9	47.2	471.6	70.5	40.9
1978	279.7	123.5	25.3	48.1	476.6	71.1	41.7
1979	309.2	124.9	24.8	49.2	508.1	75.6	46.0
1980	289.0	121.0	24.2	50.2	484.5	75.7	45.1
1981	286.2	119.1	23.7	51.4	480.5	70.9	42.2
1982	279.2	117.0	23.2	52.6	472.0	69.1	40.9
1983	231.4	97.4	19.0	45.4	393.2	65.2	38.4
1984	227.5	100.2	19.1	48.5	395.4	64.8	37.3
1985	257.7	97.4	18.0	48.7	421.9	71.5	43.7
1986	263.2	98.3	17.1	49.1	427.7	71.6	44.1
1987	255.2	94.4	16.1	49.4	415.2	72.2	44.4
1988	226.0	89.2	14.6	47.1	376.8	66.7	40.0
1989	205.3	90.1	14.1	48.0	357.4	66.6	38.2
1990	202.1	85.9	13.1	46.6	347.6	65.7	38.2
1991	220.2	82.5	12.0	44.5	359.1	69.4	42.6
1992	213.7	83.3	11.7	45.0	353.7	69.6	42.0
1993	208.5	80.0	10.8	42.7	341.9	69.4	42.3
1994	192.1	78.0	10.3	42.2	322.7	66.6	39.7
1995	172.3	73.8	9.6	40.1	295.8	60.4	35.2
1996	205.4	72.8	9.3	39.7	327.2	68.3	42.9
1997	182.9	74.3	9.3	40.5	307.0	63.5	37.8
1998	183.6	70.3	8.8	39.0	301.8	62.5	38.0
1999	188.5	73.0	9.0	40.7	311.3	67.2	40.7
2000	162.7	61.9	7.6	34.6	266.7	60.8	37.1
2001	145.8	54.5	6.4	30.0	236.7	58.3	35.9
2002	146.4	56.1	6.6	31.2	240.4	58.7	35.8
2003	128.4	50.1	5.9	27.9	212.3	59.9	36.3
2004	131.7	51.1	5.9	28.6	217.3	60.8	36.8

Source: BREHOMES

Table 71 Domestic energy consumption by end use – private rented

Year	Space (PJ)	Water (PJ)	Cooking (PJ)	Lts & appl (PJ)	Total (PJ)	all energy per household (GJ)	space heating per household (GJ)
1970	128.7	57.4	12.8	15.5	214.5	64.4	38.7
1971	116.2	55.1	12.2	15.7	199.2	60.1	35.1
1972	113.4	54.1	11.6	16.0	195.1	59.8	34.8
1973	116.4	54.2	11.4	16.8	198.8	61.6	36.1
1974	114.1	52.3	11.0	17.3	194.7	56.2	32.9
1975	104.3	49.7	10.4	17.3	181.8	63.3	36.3
1976	99.4	49.1	10.1	17.6	176.3	69.8	39.4
1977	104.7	48.0	9.9	18.1	180.7	80.8	46.8
1978	104.9	46.3	9.5	18.0	178.7	74.5	43.8
1979	114.1	46.1	9.1	18.2	187.6	77.0	46.8
1980	104.0	43.5	8.7	18.1	174.3	67.4	40.2
1981	101.4	42.2	8.4	18.2	170.3	79.1	47.1
1982	87.0	36.5	7.2	16.4	147.2	68.2	40.3
1983	73.8	31.1	6.1	14.5	125.5	69.1	40.7
1984	75.0	33.1	6.3	16.0	130.4	71.5	41.2
1985	76.5	28.9	5.4	14.5	125.2	74.5	45.5
1986	64.8	24.2	4.2	12.1	105.2	62.4	38.4
1987	49.2	18.2	3.1	9.5	80.0	62.0	38.1
1988	47.3	18.7	3.1	9.9	78.9	63.8	38.2
1989	41.4	18.2	2.8	9.7	72.1	57.7	33.1
1990	41.5	17.6	2.7	9.6	71.4	55.6	32.3
1991	53.7	20.1	2.9	10.8	87.5	61.1	37.5
1992	58.7	22.9	3.2	12.4	97.1	62.3	37.7
1993	54.3	20.9	2.8	11.1	89.1	55.8	34.0
1994	53.2	21.6	2.9	11.7	89.3	56.1	33.4
1995	54.8	23.4	3.0	12.7	94.0	56.8	33.1
1996	64.5	22.9	2.9	12.5	102.7	59.9	37.6
1997	52.6	21.4	2.7	11.6	88.3	51.1	30.4
1998	57.6	22.1	2.8	12.2	94.7	54.3	33.0
1999	68.3	26.5	3.3	14.7	112.8	57.7	34.9
2000	71.4	27.2	3.3	15.2	117.1	59.3	36.2
2001	79.1	29.6	3.5	16.3	128.5	62.5	38.5
2002	73.7	28.2	3.3	15.7	120.9	58.4	35.6
2003	55.0	21.5	2.5	12.0	90.9	57.8	34.9
2004	56.0	21.7	2.5	12.1	92.4	58.1	35.2

Source: BREHOMES
The figures for the years 1970 to 1985 are for private rented and RSL sectors combined

Table 72 Domestic energy consumption by end use – RSL dwellings

Year	Space (PJ)	Water (PJ)	Cooking (PJ)	Lts & appl (PJ)	Total (PJ)	all energy per household (GJ)	space heating per household (GJ)
1986	20.9	7.8	1.4	3.9	34.0	60.2	37.0
1987	25.6	9.5	1.6	5.0	41.6	62.4	38.4
1988	26.5	10.5	1.7	5.5	44.2	63.6	38.2
1989	23.1	10.1	1.6	5.4	40.2	57.3	32.9
1990	25.2	10.7	1.6	5.8	43.4	57.6	33.5
1991	29.9	11.2	1.6	6.0	48.8	66.1	40.5
1992	29.4	11.5	1.6	6.2	48.7	65.3	39.5
1993	29.9	11.5	1.5	6.1	49.1	55.1	33.6
1994	31.7	12.9	1.7	7.0	53.2	51.2	30.5
1995	31.5	13.5	1.8	7.3	54.1	51.5	30.0
1996	42.2	14.9	1.9	8.1	67.2	59.5	37.4
1997	34.0	13.8	1.7	7.5	57.1	51.2	30.5
1998	36.8	14.1	1.8	7.8	60.4	53.8	32.7
1999	40.1	15.5	1.9	8.7	66.3	56.0	33.9
2000	46.4	17.7	2.2	9.9	76.1	56.7	34.6
2001	50.0	18.7	2.2	10.3	81.2	56.9	35.0
2002	46.2	17.7	2.1	9.9	75.9	52.7	32.1
2003	76.5	29.9	3.5	16.6	126.5	50.0	30.2
2004	78.2	30.3	3.5	17.0	129.0	50.4	30.6

Source: BREHOMES

Table 73 Energy use of the housing stock by fuel – all tenures

Year	solid fuels (PJ)	gas (PJ)	electric (PJ)	oil (PJ)	all fuels (PJ)	average per household (GJ)
1970	720.9	371.6	271.5	137.5	1501.6	83.5
1971	618.6	412.4	285.2	135.9	1452.0	79.7
1972	545.0	473.3	306.8	156.2	1481.3	80.4
1973	531.4	505.7	322.7	170.9	1530.6	82.3
1974	499.5	565.4	327.0	151.5	1543.4	82.2
1975	422.9	619.1	314.5	146.3	1502.7	79.1
1976	391.2	651.0	299.9	146.0	1488.2	77.5
1977	396.0	693.2	302.3	147.1	1538.5	79.1
1978	361.3	764.1	302.0	144.7	1572.0	80.0
1979	363.6	865.7	315.5	141.0	1685.9	85.0
1980	315.1	888.5	302.9	112.8	1619.3	80.9
1981	292.8	922.9	297.5	101.1	1614.2	80.0
1982	287.8	918.4	291.4	93.9	1591.6	78.3
1983	267.7	934.6	292.0	89.3	1583.6	77.2
1984	210.5	941.2	295.2	93.7	1540.6	74.2
1985	270.0	1020.6	310.1	95.6	1696.3	80.7
1986	265.9	1079.5	322.9	99.0	1767.3	83.2
1987	229.7	1107.2	327.9	94.0	1758.8	81.9
1988	215.8	1081.6	324.5	91.0	1712.9	78.9
1989	172.1	1046.2	324.4	86.4	1629.1	74.3
1990	152.1	1081.7	329.6	94.7	1658.1	74.9
1991	165.1	1202.5	344.6	107.2	1819.4	81.3
1992	144.7	1188.6	349.3	108.9	1791.6	79.3
1993	157.2	1224.9	352.6	113.0	1847.7	81.0
1994	129.9	1187.2	355.8	111.7	1784.6	77.3
1995	95.4	1173.9	358.4	110.6	1738.4	74.6
1996	100.4	1353.1	376.8	128.9	1959.2	83.4
1997	88.1	1244.0	365.9	123.2	1821.2	76.9
1998	83.4	1281.3	383.1	127.8	1875.5	78.5
1999	84.9	1289.1	386.0	113.1	1873.0	77.7
2000	69.1	1331.6	391.2	114.8	1906.7	78.2
2001	77.5	1365.9	403.4	125.0	1971.8	81.6
2002	65.1	1354.7	400.6	123.7	1944.1	79.8
2003	42.6	1387.7	407.0	110.3	1947.6	79.2
2004	50.9	1425.1	406.2	99.6	1981.8	79.8

Source: Digest of UK Energy Statistics
Family Expenditure Survey / Expenditure and Food Survey

Table 74 Energy use of the housing stock by fuel – owner occupied dwellings

Year	solid fuels (PJ)	gas (PJ)	electric (PJ)	oil (PJ)	all fuels (PJ)	average per household (GJ)
1970	312.9	246.4	149.5	82.8	791.6	93.6
1971	268.5	273.4	157.0	81.8	780.7	90.9
1972	236.5	313.8	168.9	94.0	813.2	93.0
1973	230.6	335.2	177.7	102.8	846.4	94.6
1974	216.8	374.8	180.1	91.1	862.9	94.9
1975	183.6	410.3	173.2	88.1	855.2	88.3
1976	169.8	431.6	165.2	87.8	854.4	84.3
1977	171.9	459.4	166.5	88.5	886.3	84.2
1978	156.8	506.5	166.3	87.1	916.7	86.9
1979	157.8	573.8	173.8	84.8	990.2	92.8
1980	136.8	588.9	166.8	67.9	960.4	87.1
1981	127.1	611.8	163.9	60.8	963.5	89.4
1982	129.8	617.6	164.5	60.5	972.4	89.6
1983	155.0	671.3	179.0	59.6	1065.0	87.5
1984	104.5	670.9	180.5	59.0	1014.9	82.4
1985	160.9	729.4	193.6	65.2	1149.1	89.2
1986	151.4	780.3	201.3	67.4	1200.4	92.1
1987	136.9	812.4	212.3	60.5	1222.0	88.7
1988	124.6	812.9	214.1	61.3	1213.0	85.8
1989	99.4	783.8	220.3	55.9	1159.4	79.4
1990	90.5	816.3	222.5	66.3	1195.7	80.7
1991	105.5	910.3	237.4	70.6	1323.9	88.0
1992	83.0	899.0	240.4	69.6	1292.0	85.0
1993	91.7	925.7	242.6	107.7	1367.6	88.8
1994	69.8	893.1	251.0	105.5	1319.4	84.6
1995	54.3	883.8	252.8	103.7	1294.5	82.4
1996	61.1	1010.5	264.7	125.7	1462.1	92.2
1997	55.4	942.7	256.0	114.6	1368.8	85.5
1998	53.2	974.3	270.4	120.7	1418.6	87.6
1999	44.5	957.2	275.4	105.6	1382.7	84.6
2000	36.5	1020.9	279.5	109.8	1446.7	86.8
2001	52.6	1064.2	296.8	111.9	1525.4	91.7
2002	42.8	1055.2	296.9	112.1	1506.9	89.9
2003	33.1	1082.2	302.0	100.5	1517.9	89.6
2004	39.5	1111.5	301.4	90.7	1543.1	90.2

Source: Digest of UK Energy Statistics
Family Expenditure Survey / Expenditure and Food Survey

Table 75 Energy use of the housing stock by fuel – local authority dwellings

Year	solid fuels (PJ)	gas (PJ)	electric (PJ)	oil (PJ)	all fuels (PJ)	average per household (GJ)
1970	271.2	98.7	90.6	35.0	495.5	79.8
1971	232.7	109.6	95.2	34.6	472.1	74.8
1972	205.0	125.8	102.4	39.8	473.0	73.6
1973	200.0	134.4	107.7	43.5	485.5	75.5
1974	187.9	150.3	109.1	38.6	485.9	78.1
1975	159.1	164.6	105.0	37.2	465.8	72.4
1976	147.2	173.0	100.1	37.2	457.5	69.8
1977	149.0	184.3	100.9	37.5	471.6	70.5
1978	135.9	203.1	100.7	36.8	476.6	71.1
1979	136.8	230.1	105.3	35.9	508.1	75.6
1980	118.5	236.2	101.1	28.7	484.5	75.7
1981	110.2	245.3	99.3	25.8	480.5	70.9
1982	114.3	237.3	95.9	24.5	472.0	69.1
1983	81.5	205.8	85.0	20.9	393.2	65.2
1984	72.1	214.9	86.2	22.2	395.4	64.8
1985	83.6	234.1	85.6	18.6	421.9	71.5
1986	90.1	230.6	90.3	16.6	427.7	71.6
1987	75.0	234.3	87.1	18.8	415.2	72.2
1988	72.0	203.7	84.6	16.5	376.8	66.7
1989	59.1	200.5	79.2	18.7	357.4	66.6
1990	52.4	201.1	79.5	14.7	347.6	65.7
1991	43.2	219.3	78.5	18.1	359.1	69.4
1992	44.1	212.8	78.3	18.5	353.7	69.6
1993	55.0	210.4	76.5	0.0	341.9	69.4
1994	46.1	206.9	69.3	0.3	322.7	66.6
1995	27.2	200.2	68.3	0.0	295.8	60.4
1996	27.9	227.1	71.9	0.3	327.2	68.3
1997	26.2	208.3	71.4	1.2	307.0	63.5
1998	22.9	204.8	71.5	2.6	301.8	62.5
1999	29.7	214.0	65.5	2.0	311.3	67.2
2000	25.9	180.5	59.6	0.7	266.7	60.8
2001	15.4	163.0	55.7	2.6	236.7	58.3
2002	16.6	165.9	54.2	3.7	240.4	58.7
2003	5.8	155.9	48.1	2.5	212.3	59.9
2004	7.0	160.2	48.0	2.2	217.3	60.8

Source: Digest of UK Energy Statistics
Family Expenditure Survey / Expenditure and Food Survey

Table 76 Energy use of the housing stock by fuel – private rented dwellings

Year	solid fuels (PJ)	gas (PJ)	electric (PJ)	oil (PJ)	all fuels (PJ)	average per household (GJ)
1970	136.8	26.5	31.4	19.7	214.5	64.4
1971	117.4	29.4	32.9	19.5	199.2	60.1
1972	103.5	33.7	35.5	22.4	195.1	59.8
1973	100.8	36.1	37.3	24.6	198.8	61.6
1974	94.8	40.4	37.8	21.7	194.7	56.2
1975	80.2	44.2	36.3	21.1	181.8	63.3
1976	74.2	46.4	34.6	21.0	176.3	69.8
1977	75.1	49.5	34.9	21.1	180.7	80.8
1978	68.6	54.5	34.9	20.8	178.7	74.5
1979	69.0	61.8	36.5	20.3	187.6	77.0
1980	59.8	63.4	35.0	16.2	174.3	67.4
1981	55.6	65.8	34.4	14.5	170.3	64.9
1982	43.8	63.5	30.9	8.9	147.2	55.7
1983	31.2	57.5	27.9	8.8	125.5	54.1
1984	33.9	55.4	28.4	12.6	130.4	55.5
1985	25.5	57.1	30.9	11.8	125.2	56.2
1986	22.4	50.4	24.2	8.3	105.2	62.4
1987	15.4	37.1	19.4	8.1	80.0	62.0
1988	15.3	41.4	16.4	5.9	78.9	63.8
1989	12.6	38.0	16.3	5.2	72.1	57.7
1990	8.1	38.9	18.3	6.1	71.4	55.6
1991	13.1	47.1	18.7	8.7	87.5	61.1
1992	15.7	49.2	20.7	11.5	97.1	62.3
1993	6.4	55.2	22.1	5.4	89.1	55.8
1994	11.9	50.1	21.4	5.9	89.3	56.1
1995	12.1	52.3	22.6	6.9	94.0	56.8
1996	6.2	70.0	23.6	2.8	102.7	59.9
1997	5.2	53.7	22.5	6.9	88.3	51.1
1998	6.3	59.0	25.1	4.2	94.7	54.3
1999	9.5	70.2	28.0	5.2	112.8	57.7
2000	4.8	79.4	29.2	3.7	117.1	59.3
2001	7.3	80.9	29.8	10.4	128.5	62.5
2002	5.1	78.2	30.2	7.4	120.9	58.4
2003	3.0	58.3	23.0	6.6	90.9	57.8
2004	3.6	59.9	23.0	6.0	92.4	58.1

Source: Digest of UK Energy Statistics
Family Expenditure Survey / Expenditure and Food Survey
The figures for the years 1970 to 1985 are for private rented and RSL sectors combined

Table 77 Energy use of the housing stock by fuel - RSL dwellings

Year	solid fuels (PJ)	gas (PJ)	electric (PJ)	oil (PJ)	all fuels (PJ)	average per household (GJ)
1986	2.0	18.2	7.1	6.7	34.0	60.2
1987	2.4	23.5	9.1	6.6	41.6	62.4
1988	3.9	23.6	9.5	7.2	44.2	63.6
1989	1.0	24.0	8.6	6.6	40.2	57.3
1990	1.1	25.4	9.3	7.5	43.4	57.6
1991	3.3	25.8	9.9	9.8	48.8	66.1
1992	1.9	27.6	9.9	9.3	48.7	65.3
1993	4.1	33.6	11.4	0.0	49.1	55.1
1994	2.1	37.0	14.1	0.0	53.2	51.2
1995	1.8	37.6	14.7	0.0	54.1	51.5
1996	5.1	45.4	16.6	0.0	67.2	59.5
1997	1.3	39.2	16.0	0.5	57.1	51.2
1998	0.9	43.1	16.1	0.3	60.4	53.8
1999	1.1	47.7	17.2	0.3	66.3	56.0
2000	1.8	50.8	22.9	0.6	76.1	56.7
2001	2.1	57.8	21.1	0.2	81.2	56.9
2002	0.6	55.5	19.3	0.6	75.9	52.7
2003	0.7	91.2	33.9	0.7	126.5	50.0
2004	0.9	93.7	33.8	0.7	129.0	50.4

Source: Digest of UK Energy Statistics
Family Expenditure Survey / Expenditure and Food Survey

Table 78 Carbon emission due to domestic energy consumption – all tenures

Year	solid fuels MtC	gas MtC	electric MtC	oil MtC	total	per household (tonnes carbon)
1970	18.2	8.9	22.0	2.8	51.9	2.9
1971	15.7	7.8	22.4	2.8	48.7	2.7
1972	13.9	8.2	23.7	3.2	49.0	2.7
1973	13.6	8.2	24.7	3.5	50.0	2.7
1974	12.8	8.7	24.0	3.1	48.6	2.6
1975	10.8	9.3	23.2	3.0	46.3	2.4
1976	10.0	9.6	21.5	3.0	44.1	2.3
1977	10.1	10.2	21.7	3.0	45.0	2.3
1978	9.2	11.2	20.9	2.9	44.3	2.3
1979	9.2	12.7	22.6	2.9	47.4	2.4
1980	8.1	13.1	21.6	2.3	45.0	2.3
1981	7.4	13.6	21.0	2.1	44.1	2.2
1982	7.3	13.5	19.6	1.9	42.3	2.1
1983	6.8	13.7	19.2	1.8	41.6	2.0
1984	5.3	13.8	18.5	1.9	39.5	1.9
1985	6.8	15.0	19.6	1.9	43.3	2.1
1986	6.7	15.9	20.1	2.0	44.7	2.1
1987	5.8	16.3	20.2	1.9	44.3	2.1
1988	5.5	15.9	19.1	1.8	42.3	1.9
1989	4.4	15.4	18.5	1.8	40.0	1.8
1990	3.9	15.9	19.2	1.9	41.0	1.9
1991	4.2	17.7	18.7	2.2	42.8	1.9
1992	3.7	17.5	18.1	2.2	41.5	1.8
1993	3.6	18.0	16.2	2.3	40.1	1.8
1994	3.1	17.5	15.9	2.3	38.7	1.7
1995	2.2	17.3	15.6	2.2	37.2	1.6
1996	2.3	19.9	14.6	2.6	39.3	1.7
1997	2.0	18.3	12.9	2.5	35.6	1.5
1998	1.8	18.7	13.7	2.6	36.9	1.5
1999	1.8	18.8	13.5	2.3	36.4	1.5
2000	1.5	19.4	13.7	2.3	36.9	1.5
2001	1.6	20.0	15.8	2.5	39.9	1.7
2002	1.6	19.9	14.9	2.5	38.9	1.6
2003	1.0	20.4	15.2	2.2	38.9	1.6
2004	1.2	21.0	15.3	2.0	39.5	1.6

Source: BRE estimates of emission factors applied to Table 73

Table 79 Carbon emission due to domestic energy consumption – owner occupied dwellings

Year	solid fuels MtC	gas MtC	electric MtC	oil MtC	total	per household (tonnes carbon)
1970	7.9	5.9	12.1	1.7	27.6	3.3
1971	6.8	5.2	12.3	1.7	26.0	3.0
1972	6.1	5.4	13.1	1.9	26.5	3.0
1973	5.9	5.4	13.6	2.1	27.0	3.0
1974	5.5	5.8	13.2	1.8	26.4	2.9
1975	4.7	6.2	12.8	1.8	25.4	2.6
1976	4.3	6.3	11.9	1.8	24.3	2.4
1977	4.4	6.8	11.9	1.8	24.9	2.4
1978	4.0	7.4	11.5	1.8	24.7	2.3
1979	4.0	8.4	12.5	1.7	26.6	2.5
1980	3.5	8.7	11.9	1.4	25.4	2.3
1981	3.2	9.0	11.6	1.2	25.0	2.3
1982	3.3	9.1	11.1	1.2	24.7	2.3
1983	3.9	9.9	11.8	1.2	26.8	2.2
1984	2.6	9.9	11.3	1.2	25.0	2.0
1985	4.0	10.7	12.2	1.3	28.3	2.2
1986	3.8	11.5	12.5	1.4	29.2	2.2
1987	3.5	11.9	13.1	1.2	29.8	2.2
1988	3.2	12.0	12.6	1.2	28.9	2.0
1989	2.5	11.5	12.6	1.1	27.8	1.9
1990	2.3	12.0	13.0	1.3	28.7	1.9
1991	2.7	13.4	12.9	1.4	30.4	2.0
1992	2.1	13.2	12.5	1.4	29.2	1.9
1993	2.1	13.6	11.2	2.2	29.1	1.9
1994	1.6	13.1	11.2	2.1	28.2	1.8
1995	1.2	13.0	11.0	2.1	27.3	1.7
1996	1.4	14.9	10.2	2.5	29.0	1.8
1997	1.2	13.9	9.0	2.3	26.4	1.7
1998	1.2	14.2	9.7	2.5	27.6	1.7
1999	1.0	13.9	9.6	2.1	26.7	1.6
2000	0.8	14.9	9.8	2.2	27.6	1.7
2001	1.1	15.6	11.6	2.2	30.5	1.8
2002	1.0	15.5	11.0	2.2	29.8	1.8
2003	0.8	15.9	11.3	2.0	30.0	1.8
2004	0.9	16.4	11.3	1.8	30.5	1.8

Source: BRE estimates of emission factors applied to Table 74

Table 80 Carbon emission due to domestic energy consumption – local authority dwellings

Year	solid fuels MtC	gas MtC	electric MtC	oil MtC	total	per household (tonnes carbon)
1970	6.8	2.4	7.4	0.7	17.3	2.8
1971	5.9	2.1	7.5	0.7	16.2	2.6
1972	5.2	2.2	7.9	0.8	16.1	2.5
1973	5.1	2.2	8.3	0.9	16.4	2.6
1974	4.8	2.3	8.0	0.8	15.9	2.6
1975	4.1	2.5	7.7	0.8	15.0	2.3
1976	3.8	2.5	7.2	0.8	14.2	2.2
1977	3.8	2.7	7.2	0.8	14.5	2.2
1978	3.5	3.0	7.0	0.7	14.2	2.1
1979	3.5	3.4	7.5	0.7	15.1	2.3
1980	3.0	3.5	7.2	0.6	14.3	2.2
1981	2.8	3.6	7.0	0.5	13.9	2.1
1982	2.9	3.5	6.5	0.5	13.3	2.0
1983	2.1	3.0	5.6	0.4	11.1	1.8
1984	1.8	3.2	5.4	0.4	10.8	1.8
1985	2.1	3.4	5.4	0.4	11.3	1.9
1986	2.3	3.4	5.6	0.3	11.6	1.9
1987	1.9	3.4	5.4	0.4	11.1	1.9
1988	1.8	3.0	5.0	0.3	10.1	1.8
1989	1.5	2.9	4.5	0.4	9.3	1.7
1990	1.3	3.0	4.6	0.3	9.2	1.7
1991	1.1	3.2	4.3	0.4	9.0	1.7
1992	1.1	3.1	4.1	0.4	8.7	1.7
1993	1.3	3.1	3.5	0.0	7.9	1.6
1994	1.1	3.0	3.1	0.0	7.2	1.5
1995	0.6	2.9	3.0	0.0	6.5	1.3
1996	0.6	3.3	2.8	0.0	6.8	1.4
1997	0.6	3.1	2.5	0.0	6.2	1.3
1998	0.5	3.0	2.6	0.1	6.1	1.3
1999	0.6	3.1	2.3	0.0	6.1	1.3
2000	0.6	2.6	2.1	0.0	5.3	1.2
2001	0.3	2.4	2.2	0.1	4.9	1.2
2002	0.4	2.4	2.0	0.1	4.9	1.2
2003	0.1	2.3	1.8	0.0	4.3	1.2
2004	0.2	2.4	1.8	0.0	4.4	1.2

Source: BRE estimates of emission factors applied to Table 75

Table 81 Carbon emission due to domestic energy consumption – private rented dwellings

Year	solid fuels MtC	gas MtC	electric MtC	oil MtC	total	per household (tonnes carbon)
1970	3.5	0.6	2.5	0.4	7.0	2.1
1971	3.0	0.6	2.6	0.4	6.5	2.0
1972	2.6	0.6	2.7	0.5	6.4	2.0
1973	2.6	0.6	2.9	0.5	6.5	2.0
1974	2.4	0.6	2.8	0.4	6.3	1.8
1975	2.1	0.7	2.7	0.4	5.8	2.0
1976	1.9	0.7	2.5	0.4	5.5	2.2
1977	1.9	0.7	2.5	0.4	5.6	2.5
1978	1.7	0.8	2.4	0.4	5.4	2.2
1979	1.8	0.9	2.6	0.4	5.7	2.3
1980	1.5	0.9	2.5	0.3	5.3	2.0
1981	1.4	1.0	2.4	0.3	5.1	1.9
1982	1.1	0.9	2.1	0.2	4.3	1.6
1983	0.8	0.8	1.8	0.2	3.7	1.6
1984	0.9	0.8	1.8	0.3	3.7	1.6
1985	0.6	0.8	2.0	0.2	3.7	1.6
1986	0.6	0.7	1.5	0.2	3.0	1.8
1987	0.4	0.5	1.2	0.2	2.3	1.8
1988	0.4	0.6	1.0	0.1	2.1	1.7
1989	0.3	0.6	0.9	0.1	1.9	1.5
1990	0.2	0.6	1.1	0.1	2.0	1.5
1991	0.3	0.7	1.0	0.2	2.2	1.5
1992	0.4	0.7	1.1	0.2	2.4	1.6
1993	0.1	0.8	1.0	0.1	2.1	1.3
1994	0.3	0.7	1.0	0.1	2.1	1.3
1995	0.3	0.8	1.0	0.1	2.2	1.3
1996	0.1	1.0	0.9	0.1	2.1	1.2
1997	0.1	0.8	0.8	0.1	1.8	1.1
1998	0.1	0.9	0.9	0.1	2.0	1.1
1999	0.2	1.0	1.0	0.1	2.3	1.2
2000	0.1	1.2	1.0	0.1	2.4	1.2
2001	0.2	1.2	1.2	0.2	2.7	1.3
2002	0.1	1.2	1.1	0.1	2.5	1.2
2003	0.1	0.9	0.9	0.1	1.9	1.2
2004	0.1	0.9	0.9	0.1	2.0	1.2

Source: BRE estimates of emission factors applied to Table 76
The figures for the years 1970 to 1985 are for private rented and RSL sectors combined

Table 82 Carbon emission due to domestic energy consumption – RSL dwellings

Year	solid fuels MtC	gas MtC	electric MtC	oil MtC	total	per household (tonnes carbon)
1986	0.1	0.3	0.4	0.1	0.9	1.6
1987	0.1	0.3	0.6	0.1	1.1	1.7
1988	0.1	0.3	0.6	0.1	1.1	1.7
1989	0.0	0.4	0.5	0.1	1.0	1.4
1990	0.0	0.4	0.5	0.2	1.1	1.5
1991	0.1	0.4	0.5	0.2	1.2	1.6
1992	0.0	0.4	0.5	0.2	1.2	1.6
1993	0.1	0.5	0.5	0.0	1.1	1.2
1994	0.1	0.5	0.6	0.0	1.2	1.2
1995	0.0	0.6	0.6	0.0	1.2	1.2
1996	0.1	0.7	0.6	0.0	1.4	1.3
1997	0.0	0.6	0.6	0.0	1.2	1.1
1998	0.0	0.6	0.6	0.0	1.2	1.1
1999	0.0	0.7	0.6	0.0	1.3	1.1
2000	0.0	0.7	0.8	0.0	1.6	1.2
2001	0.0	0.8	0.8	0.0	1.7	1.2
2002	0.0	0.8	0.7	0.0	1.6	1.1
2003	0.0	1.3	1.3	0.0	2.6	1.0
2004	0.0	1.4	1.3	0.0	2.7	1.1

Source: BRE estimates of emission factors applied to Table 77

Appendix 2

95% confidence intervals for the ownership of energy efficiency measures

Introduction

The information presented in this report on the ownership of energy efficiency measures is based on asking the questions of a sample of households (via the GfK Home Audit survey). This means that the resulting figures, although scaled up to represent all households, are subject to sampling errors. These errors can be quantified allowing a confidence interval to be attached to each of the key ownership figures. Such figures are not given in the main body of the report because doing so would complicate the presentation of the information and detract from the main messages. However, this appendix provides the relevant information, presenting confidence intervals for all the main measures, and also discussing related issues.

Calculation of sampling errors

Sampling theory shows that when using a sample to establish a proportion (such as the proportion of homes that have double glazing) the standard error can be written as:

$$\sigma_p = \sqrt{[(p.q) / N]} = \sqrt{[(p(1-p)) / N]}$$

where p represents the proportion of households that have the measure, q (=1-p) represents the proportion of households that do not have the measure, and N represents the sample size appropriate to that particular measure (e.g. for cavity wall insulation it is only those homes within the sample that actually have cavity walls).

The GfK Home Audit survey currently has an overall sample size of 16,000 homes. However, rather than using the above equation directly, GfK apply a “design factor” of 1.4 (i.e. the above equation is multiplied by 1.4 to increase the calculated standard error). Multiplying by 1.4 (i.e. $\approx \sqrt{2}$) is equivalent to assuming that the actual sample size is half of the nominal sample size. This assumption may be made because it is inevitable that there will be some non-respondents - but it is extremely unlikely that the response rate on any particular question will fall below 50%. Assuming a design factor of 1.4 thus ensures that the confidence intervals that will be calculated below are conservative (i.e. very slightly greater than they really ought to be).

The value of σ_p represents the likely standard deviation of the data (assuming a normal distribution). It is a property of the normal distribution that two standard deviations either side of the mean will capture 95% of all cases. Thus, it is usual to base confidence intervals on two standard deviations (i.e. there is 95% confidence that the true value lies within the quoted confidence interval). So we multiply the calculated value of σ_p by two to establish the 95% confidence interval.

The tables below illustrate the calculation for a series of key measures, giving figures for all tenures together and for the individual tenures. There is a worked example following the tables so that the reader may confirm the figures and perhaps undertake similar calculations for another year (the figures given relate to 2004). In this regard, it is worth noting that the

sample size up to the mid 1990s was about 20,000 (the exact date at which it reduced is not known). It was then set at 18,000 before being reduced to 16,000 in 2002. The reasons for GfK Marketing Services' decisions to reduce sample size may be at least partly related to the fact that, as ownership levels rise, standard errors will fall - and so it becomes possible to achieve similar standard errors to those obtained previously with a reduced sample size.

Calculation of 95% confidence intervals for ownership of measures using 2004 data

All tenures

	With	All	P	Sample	Std dev	2 std dev	2 std dev as a % of potential	Confidence interval Maximum	Minimum
Loft insulation ownership	18315	19383	94.5%	12493	55.4	110.8	0.6%	95.1%	93.9%
Cavity wall insulation ownership	6655	18073	36.8%	11648	113.1	226.2	1.3%	38.1%	35.6%
Double glazing ownership	20578	24825	82.9%	16000	103.5	206.9	0.8%	83.7%	82.1%
Draught proofing ownership	21458	24825	86.4%	16000	94.1	188.2	0.8%	87.2%	85.7%
Households with full insulation	3895	24825	15.7%	16000	99.9	199.9	0.8%	16.5%	14.9%
Households with no insulation	1953	24825	7.9%	16000	74.0	147.9	0.6%	8.5%	7.3%
Tank insulation ownership	17833	18860	94.6%	12155	54.3	108.7	0.6%	95.1%	94.0%
Central heating ownership	22729	24825	91.6%	16000	76.4	152.8	0.6%	92.2%	90.9%

Owner Occupied homes

	With	All	P	Sample	Std dev	2 std dev	2 std dev as a % of potential	Confidence interval Maximum	Minimum
Loft insulation ownership	14197	14874	95.4%	9586	44.3	88.7	0.6%	96.0%	94.9%
Cavity wall insulation ownership	4679	12312	38.0%	7935	93.9	187.8	1.5%	39.5%	36.5%
Double glazing ownership	15212	17103	88.9%	11023	71.5	143.0	0.8%	89.8%	88.1%
Draught proofing ownership	15656	17103	91.5%	11023	63.5	126.9	0.7%	92.3%	90.8%
Households with full insulation	2948	17103	17.2%	11023	86.1	172.3	1.0%	18.2%	16.2%
Households with no insulation	767	17103	4.5%	11023	47.2	94.4	0.6%	5.0%	3.9%
Tank insulation ownership	12395	12954	95.7%	8349	40.3	80.7	0.6%	96.3%	95.1%
Central heating ownership	15911	17103	93.0%	11023	58.1	116.1	0.7%	93.7%	92.4%

Local Authority homes

	With	All	P	Sample	Std dev	2 std dev	2 std dev as a % of potential	Confidence interval Maximum	Minimum
Loft insulation ownership	1930	2060	93.7%	1328	19.2	38.5	1.9%	95.6%	91.8%
Cavity wall insulation ownership	797	2909	27.4%	1875	41.9	83.9	2.9%	30.3%	24.5%
Double glazing ownership	2409	3575	67.4%	2304	48.9	97.8	2.7%	70.1%	64.6%
Draught proofing ownership	2598	3575	72.7%	2304	46.5	92.9	2.6%	75.3%	70.1%
Households with full insulation	351	3575	9.8%	2304	31.0	62.1	1.7%	11.6%	8.1%
Households with no insulation	538	3575	15.0%	2304	37.3	74.6	2.1%	17.1%	13.0%
Tank insulation ownership	2667	2897	92.1%	1867	25.4	50.8	1.8%	93.8%	90.3%
Central heating ownership	3162	3575	88.4%	2304	33.3	66.7	1.9%	90.3%	86.6%

RSL homes

	With	All	P	Sample	Std dev	2 std dev	2 std dev as a % of potential	Confidence interval Maximum	Minimum
Loft insulation ownership	1523	1619	94.1%	1043	16.6	33.1	2.0%	96.1%	92.0%
Cavity wall insulation ownership	1030	2084	49.4%	1343	39.8	79.6	3.8%	53.2%	45.6%
Double glazing ownership	2061	2557	80.6%	1648	34.9	69.7	2.7%	83.3%	77.9%
Draught proofing ownership	2128	2557	83.2%	1648	33.0	65.9	2.6%	85.8%	80.6%
Households with full insulation	506	2557	19.8%	1648	35.1	70.3	2.7%	22.5%	17.0%
Households with no insulation	282	2557	11.0%	1648	27.6	55.2	2.2%	13.2%	8.9%
Tank insulation ownership	1814	1919	94.5%	1237	17.4	34.7	1.8%	96.3%	92.7%
Central heating ownership	2462	2557	96.3%	1648	16.7	33.4	1.3%	97.6%	95.0%

Private Rented homes

	With	All	P	Sample	Std dev	2 std dev	2 std dev as a % of potential	Confidence interval Maximum	Minimum
Loft insulation ownership	655	829	79.0%	534	20.4	40.9	4.9%	83.9%	74.1%
Cavity wall insulation ownership	148	769	19.2%	496	19.1	38.1	5.0%	24.2%	14.3%
Double glazing ownership	895	1590	56.3%	1025	34.5	69.0	4.3%	60.6%	52.0%
Draught proofing ownership	1075	1590	67.6%	1025	32.5	65.1	4.1%	71.7%	63.5%
Households with full insulation	93	1590	5.8%	1025	16.3	32.6	2.1%	7.9%	3.8%
Households with no insulation	452	1590	28.4%	1025	31.4	62.7	3.9%	32.4%	24.5%
Tank insulation ownership	959	1091	87.9%	703	18.8	37.6	3.4%	91.3%	84.5%
Central heating ownership	1193	1590	75.0%	1025	30.1	60.2	3.8%	78.8%	71.2%

Example: cavity wall insulation ownership in all tenures

The sample size in this case is the number of households with cavity walls. This may be estimated from figures in Table 28, and the overall sample size of 16,000, as follows

N = (18,073/24,825) x 16,000 = 11,648

The proportion of households reporting that they have cavity wall insulation is:

p = 6655/18,073 = 0.3682 (expressed as 36.8% in the table)

So the standard deviation expressed as a proportion is:

$\sigma_p = 1.4\sqrt{}[(0.368(1-0.368))/11,648] = 0.006256$

This must be multiplied by the relevant potential (18,073 thousand) if the result is required expressed in numbers of households within the entire population:

σ_n = 18,073x0.006256 = 113.1 (as shown in the table)

This is then doubled to 226.2 to get the 95% confidence interval. Thus, we are 95% confident that if we had asked all households the question, rather than a sample, we would have obtained an ownership level between 6429 thousand (i.e. 6655-226) and 6881 thousand (i.e. 6655+226).

Expressed as a percentage, 226.2 is 1.3% of 18,073, which can also be obtained directly by multiplying σ_p by two (i.e. 0.006256 x 2 = 0.012512, or 1.3% when expressed as a percentage and rounded). So we can say that we are 95% confident that that if we had asked all households the question, rather than a sample, we would have obtained an ownership level between 35.5% (i.e. 36.8% - 1.3%) and 38.1% (i.e. 36.8% + 1.3%).

The tables show the results of similar calculations to the above for all the key measures. Note that “households with full insulation” and “households with no insulation” are derived from the results of other questions rather than being the results of direct questions. Nonetheless, it is possible to apply the same approach to estimate 95% confidence intervals for these.

Note also that the confidence intervals increase in width as the sample sizes reduce. Thus, for private rented homes, for which the sample size is small (e.g. the above tables indicate that there are probably only about 500 private rented households in the sample that have cavity walls), the 95% confidence interval can be as large as ± 5%.

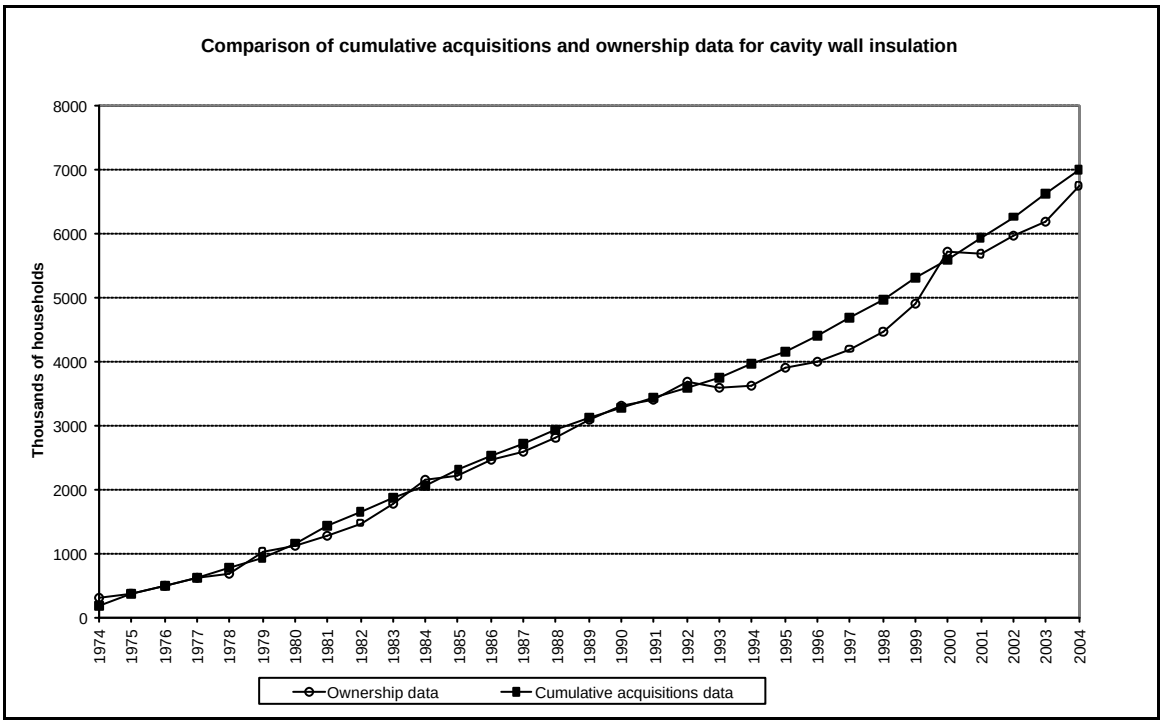
Other considerations for cavity wall insulation

It has to be noted that the calculations described above allow one to calculate what range the overall ownership level would have been within if the questions had been asked of all households rather than just a sample. But there are questions, particularly for cavity wall insulation, where a significant number of respondents say “don’t know”. Thus, there is an

additional uncertainty present that could mean that the ownership level for this measure might actually be higher than the confidence intervals suggest.

One way of checking this is to compare the ownership data with parallel data on acquisitions of cavity wall insulation. This is the one measure for which cumulative acquisitions (taking account of acquisitions in new-build dwellings) ought to equate to the ownership level. The same is not true for, say, loft insulation because this is a measure that people can acquire but not change the overall ownership (i.e. many acquisitions are topping up of existing insulation). There are still some complications for cavity wall insulation. The available data on acquisitions does not go far enough back in time to reach a point where nobody was acquiring it – so cumulative acquisitions have to be set equal to ownership in a particular year (1976 being chosen because this is the first year that complete data was available from the survey).

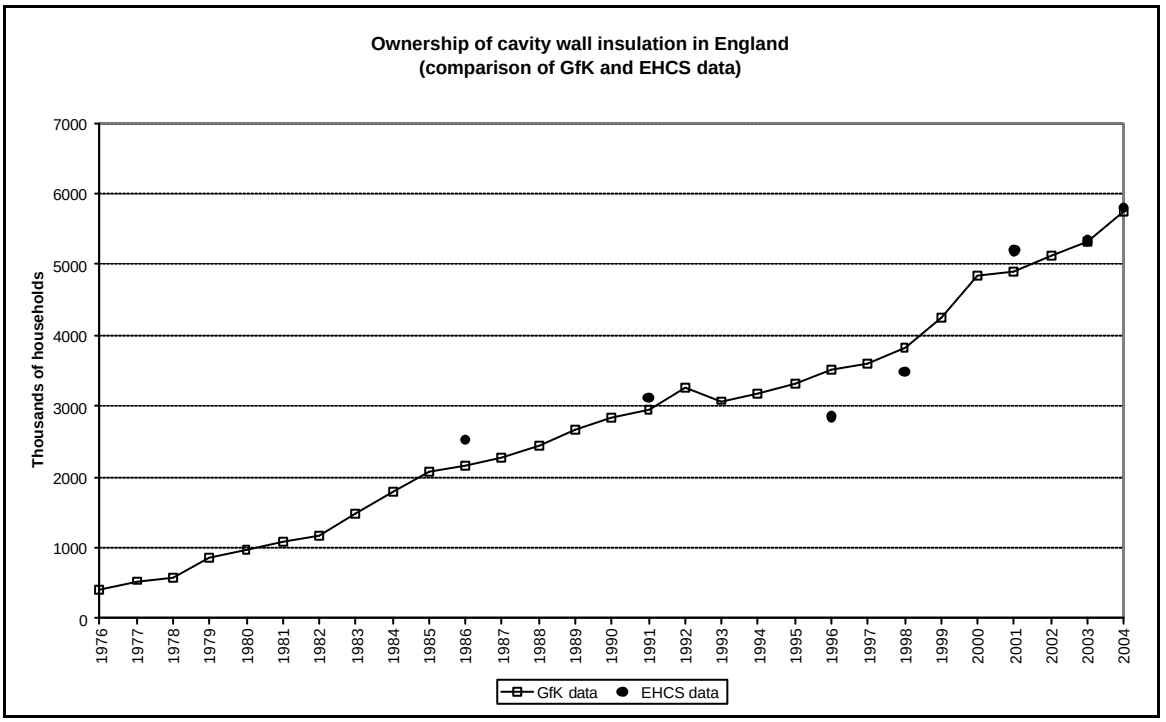
With these caveats in mind, the figure below shows the result of comparing ownership with cumulative acquisitions (assuming that "ownership" refers only to those households that respond positively that they do have cavity wall insulation). Note that the ownership figures used here are those directly from the survey rather than those that are presented elsewhere in this report (which are slightly scaled in order that quoted household totals match figures from official statistics). The reason for doing this is to ensure that the comparison is directly based on raw GfK data in both cases.



This shows that there is a good correspondence between cumulative acquisitions and ownership, although there is a suggestion that there may currently be a slight under-reporting of ownership of around 1.4%, which is just beyond the upper 95% confidence limit for this measure. Thus, the assumption that none of the "don't know" households actually have cavity wall insulation may be very slightly incorrect currently – but, viewed over the entire history of the measure, it appears to have been a very good assumption, particularly up to 1992. Note that at least some of the discrepancy shown in the above figure between 1993

and 1999 was due to a problem with the ownership reporting for new homes, which has now been corrected.

Another comparison is possible that also lends weight to the conclusion that the assumption is appropriate (and, hence, that the ownership levels quoted in this report for cavity wall insulation are reliable, within the confidence intervals discussed above). The English House Condition Survey (EHCS) independently collects information on the presence of cavity wall insulation. Trained building surveyors collect this information so it should be reliable. Up to 2001 the EHCS was carried out every five years with a sample size of about 20,000 homes – actually approximately 17,000 homes in 2001 - (i.e. very similar to the GfK survey), with a smaller follow-up survey having been undertaken in 1998 as well. From 2002 the EHCS became a rolling survey, with sample size each year of about 8000 (i.e. about half that of the GfK survey, although note the earlier comments about the "design factor"). The figure below shows GfK ownership data (filtered down to England) compared with the EHCS data.



It is clear from this that there is quite good agreement between the cavity wall insulation ownership levels reported by the EHCS and by the GfK survey. The largest discrepancy occurs in 1996 when the EHCS figure looks anomalously low (it is lower than the EHCS figure from 1991), but otherwise the agreement is good, particularly in 2003 and 2004 where there is an excellent correspondence between the EHCS and GfK data. Note that the 2004 EHCS figure at this stage is just a preliminary estimate, but it is unlikely to differ significantly from the final value.

This further indicates that the cavity wall insulation ownership figures from the GfK survey are reliable (bearing in mind the confidence intervals discussed above) and that the possible effect of "don't know" responses on the figures is likely to be small.

Appendix 3

An analysis of the historical changes to housing stock carbon emissions

This appendix presents some key results from an analysis that examined in detail the effects of the various factors responsible for changes to the carbon emissions of the housing stock. Readers that are interested in more details will find these in the paper presenting the full analysis [1].

The analysis showed that the reduction in carbon emissions between 1970 and 2001 was explained by (a) increases due to household growth and rising levels of service, outweighed by (b) reductions related to improved thermal insulation, improved heating efficiency, changes in electricity generation, the changing fuel mix and variations in external temperatures.

The balance between the factors noted above also changed through the decades, as described below and as illustrated in figure A on the following page.

In the seventies the most important factor reducing carbon emissions was the structural changes in domestic energy use (as the use of natural gas increased rapidly whilst the use of solid fuel and town gas fell). Insulation improvements were important in this decade with heating system efficiency improvements also helping to secure carbon emission reductions against rapidly increasing levels of service and increasing numbers of households.

In the eighties heating system efficiency improvements, followed closely by insulation improvements (although at a lower level than in the seventies), were the most important factors. Structural changes continued but less rapidly than in the seventies as changes to the Electricity Supply Industry (ESI) became more important. These succeeded in offsetting increases due to household growth and increased levels of service (although these were slowing relative to the seventies). Note that external temperature accounts for a relatively large change in emissions in this decade but this is simply due to the fact that the end year of 1990 happened to be the warmest year on record.

In the nineties changes to the Electricity Supply Industry became the most important factor affecting carbon emissions from the domestic sector (as electricity generation by gas-fired plant rapidly substituted for coal-fired plant). Heating system efficiency improvements continued at a similar level to the previous decade but insulation improvements slowed somewhat. This was undoubtedly due to the fact that the insulation measure that had been so important in earlier decades (loft insulation) was beginning to saturate and this was not fully superseded by the next important insulation measure (cavity wall insulation) until much later in the decade. Overall, a similar reduction to emissions was achieved in the nineties as in the eighties, helped again by the continuing slowing of increases due to household growth and increased levels of service.

[1] A detailed analysis of the historical role of energy efficiency in reducing carbon emissions from the UK housing stock. L D Shorrock. Proceedings of ECEEE Summer Study. June 2003. Available to download at http://www.bre.co.uk/housing/page.jsp?id=396

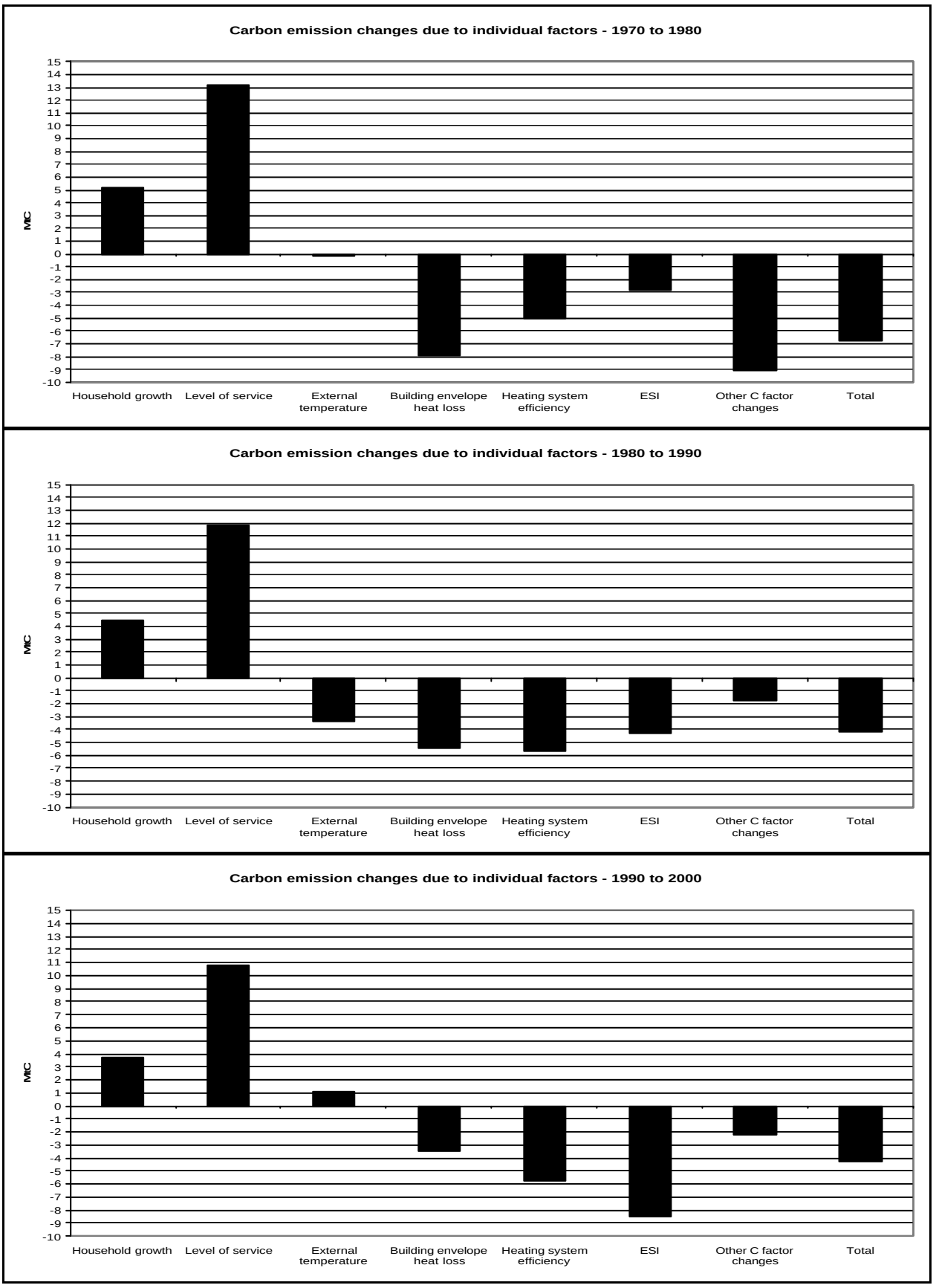


Figure A. The relative importance of individual factors in reducing carbon emissions in the 70s, 80s and 90s.

The results indicate that without the energy efficiency improvements that have been introduced since 1970 carbon emissions from the housing stock would have increased. Equally, however, the changes in electricity generation were also essential in securing an overall reduction in carbon emissions from this sector. It is the combination of the factors that led to the significant net reduction. This emphasises the importance of the continuing efforts to improve the energy efficiency of households in the United Kingdom. Indeed, consideration of the results for the different decades, as illustrated above, also reinforces this conclusion.

In the nineties a large part of the improvement was accounted for by changes to the Electricity Supply Industry, which do not look likely to continue to the same extent in the early part of the 21st century. The importance of the individual factors has thus changed with time in such a way that implies that future carbon emission reductions will inevitably be more difficult to achieve and will have to rely more on energy efficiency improvements than was the case in the nineties. Thus, the analysis concluded that unless efforts to accelerate energy efficiency improvements were significantly stepped up from the rates seen in the nineties carbon emissions could start to rise again. The rise in emissions that has actually been observed since 2000 seems to bear out this conclusion