

# VICTORIAN UTILITY CONSUMPTION HOUSEHOLD SURVEY 2007

## FINAL REPORT

10 April, 2008

- *Prepared for* –  
Department of Human Services  
50 Lonsdale Street  
Melbourne, Victoria 3000

- *Prepared by* -

**Roy Morgan Research**

401 Collins Street  
Melbourne, Victoria 3000

## INDEX

<b>EXECUTIVE SUMMARY .....</b>	<b>I</b>
SAMPLE CHARACTERISTICS .....	i
ENERGY USAGE, CONSUMPTION AND EXPENDITURE.....	iii
MAJOR HOUSEHOLD APPLIANCES USED.....	vii
WATER USAGE, CONSUMPTION AND EXPENDITURE.....	x
WATER FITTINGS .....	xii
FACTORS AFFECTING ENERGY AND WATER USAGE.....	xiv
CONSERVATION OF ENERGY AND WATER.....	xiv
COUNCIL RATES AND EXPENDITURE.....	xvii
KNOWLEDGE AND TAKE UP OF CONCESSIONS.....	xviii
BILL PAYING .....	xix
HOUSEHOLD EXPENDITURE PRIORITIES.....	xxii
<b>1 INTRODUCTION.....</b>	<b>2</b>
1.1 BACKGROUND .....	2
1.2 RESEARCH OBJECTIVES .....	2
1.3 SCOPE OF THE RESEARCH .....	3
1.3.1 Pilot Testing.....	4
1.3.2 Collection of 2007 Survey Data .....	6

# *Victorian Utility Consumption Survey*

---

1.4 Limitations of Survey and Billing Data.....	10
<b>2 RESEARCH METHODOLOGY.....</b>	<b>12</b>
2.1 SUB-GROUP DEFINITIONS.....	12
2.2 SAMPLE METHODOLOGY.....	13
2.2.1 Original Sampling Methodology.....	13
2.2.2 Amended Sampling Methodology.....	15
2.3 SAMPLE STRATIFICATION.....	17
2.4 SURVEY RESPONDENT.....	18
2.5 DATA IMPUTATION FOR BILLING AND CONSUMPTION ITEMS.....	19
2.6 SAMPLE WEIGHTING.....	22
2.7 VICTORIAN TEMPERATURE AND RAINFALL PATTERNS.....	26
2.8 NOTATIONS.....	30
2.9 RESPONSE RATES.....	31
2.9.1 Number of Calls Made per Interview.....	31
2.9.2 Number of Households Approached per Interview.....	32
2.9.3 Response Rate.....	34

## *Victorian Utility Consumption Survey*

---

2.10	INTERVIEW LENGTH .....	35
2.11	COMPARISONS WITH 2001 AND 1996 DATA.....	37
<b>3</b>	<b>SAMPLE CHARACTERISTICS .....</b>	<b>38</b>
3.1	SAMPLE OVERVIEW .....	38
3.2	SAMPLE GROUPS.....	39
3.2.1	Location of Sample Type.....	39
3.2.2	Sample Age and Gender .....	40
3.3	HOUSEHOLD PROFILE.....	42
3.3.1	Length of Time Living at Current Address .....	42
3.3.2	Household Size .....	43
3.3.3	Incidence of Children under 16 in Household.....	44
3.3.4	Derived Total Household Income.....	46
3.3.5	Main Language Spoken in the Household.....	47
3.3.6	Home Ownership Status .....	48
3.3.7	Incidence of Other Household Members holding Concession Cards .....	49
3.3.8	Registered Motor Vehicles .....	51
3.3.9	Date when Home was Built .....	52
3.3.10	Number of Bedrooms in the Home .....	53
3.3.11	Material from which Home is Built .....	54
3.3.12	Dwelling Type .....	56
3.3.13	Incidence of Ceiling Insulation .....	57

3.4 RESPONDENT PROFILE .....	59
3.4.1 Length of Time Holding a Concession Card .....	59
3.4.2 Employment Status .....	60
3.4.3 Income Sources .....	61
3.4.4 Personal Income .....	62
3.4.5 Derived Personal Income .....	64
<b>4 ENERGY CONSUMPTION AND EXPENDITURE.....</b>	<b>66</b>
4.1 USE OF ELECTRICITY AND GAS .....	66
4.1.1 Incidence of Gas Use .....	66
4.1.2 Energy Sources for Heating, Cooking and Hot Water .....	68
4.1.2.1 Gas for Heating, Cooking and Hot Water .....	68
4.1.2.2 Electricity for Heating, Cooking and Hot Water .....	70
4.2 ELECTRICITY COSTS AND CONSUMPTION.....	73
4.2.1 Electricity Consumption .....	73
4.2.2 Electricity Costs .....	77
4.3 GAS COSTS AND CONSUMPTION .....	84
4.3.1 Gas Consumption .....	84
4.3.2 Gas Charges .....	88

<b>5 ENERGY USAGE</b> .....	<b>93</b>
5.1 MAJOR APPLIANCES USED .....	93
5.1.1 Incidence of Having One or More Major Appliances .....	93
5.2 Hot Water Systems .....	95
5.2.1 Type of Hot Water System .....	95
5.2.2 Solar Water Heater Perceptions.....	99
5.2.3 Electrical Hot Water Systems.....	103
5.3 Heaters .....	104
5.3.1 Incidence and Type of All Heaters .....	104
5.3.2 Incidence and Type of Main Heater .....	106
5.3.3 Use of Main Heater.....	111
5.4 Cooling Systems .....	114
5.4.1 Incidence of Cooling Systems .....	114
5.4.2 Cooling System Types.....	115
5.4.3 Cooling System Usage.....	117
5.4.4 Use of Ceiling or Stand Alone Fans .....	125
5.4.5 Use of Air Conditioning or Air Cooling.....	127

## *Victorian Utility Consumption Survey*

---

5.5 Clothes Dryers .....	136
5.6 Dishwashers .....	139
5.7 Lighting.....	142
<b>6 WATER CONSUMPTION AND EXPENDITURE.....</b>	<b>145</b>
6.1 INCIDENCE OF BILLING FOR WATER CONSUMPTION.....	145
6.1.1 Incidence of Claiming to Have a Water Meter.....	145
6.1.2 Incidence of Claiming to Receive a Water Bill.....	146
6.1.3 Type of Water Bill Claimed to Receive .....	147
6.2 WATER COSTS AND CONSUMPTION .....	149
6.2.1 Water Consumption.....	149
6.2.2 Water Charges .....	153
<b>7 WATER USAGE.....</b>	<b>160</b>
7.1 HOUSEHOLD WATER FITTINGS .....	160
7.1.1 Types of Household Fittings.....	160
7.1.2 Number and Types of Showers and Toilets.....	162
7.1.2.1 Toilets .....	162
7.1.2.2 Showers.....	163
7.1.3 Heating Systems for Spas and Swimming Pools.....	164
7.2 HOUSEHOLD WATER APPLIANCES .....	166
7.2.1 Washing Machines .....	166

7.2.1.1 Frequency of Washing Full and Part Loads.....	168
7.3 GARDENS, WATER TANKS & BORES.....	172
7.3.1 Incidence of Having a Garden.....	172
7.3.2 Impact of Water Restrictions on Garden Watering.....	173
7.3.3 Water Tanks.....	175
7.3.4 Bores.....	180
<b>8 FACTORS AFFECTING ENERGY AND WATER USAGE.....</b>	<b>181</b>
8.1 PERCEIVED DIFFICULTIES ENCOUNTERED IN HEATING DWELLING.....	181
8.2 HEALTH PROBLEMS.....	185
<b>9 CONSERVATION OF ENERGY AND WATER.....</b>	<b>187</b>
9.1 Energy Conservation.....	187
9.1.1 Perceived Causes of High Energy Usage.....	187
9.1.2 Perceived Impacts on High Energy Usage.....	192
9.1.3 Energy Saving Modifications Made.....	196
9.1.4 Energy Saving Modifications with the Biggest Perceived Impact on Energy Bills.....	202
9.1.5 Actions Undertaken to Save Energy.....	204
9.1.6 Biggest Impact of Main Actions Undertaken to Save Energy.....	206
9.1.7 Main Reasons for Making Energy Saving Improvements.....	209
9.1.8 Energy Conservation Information Sources.....	210



## *Victorian Utility Consumption Survey*

---

9.2 Water Conservation .....	214
9.2.1 Perceived Causes of High Water Usage or Wastage .....	214
9.2.2 Activities Having the Biggest Impact on High Water Usage .....	217
9.2.3 Actions Undertaken to Conserve Water .....	220
9.2.4 Biggest Impact on Water Conservation .....	224
9.2.5 Water Conservation Information Sources .....	226
9.2.6 Renewable Energy .....	228
<b>10 COUNCIL RATES AND EXPENDITURE .....</b>	<b>229</b>
10.1 BILLING FOR COUNCIL RATES AND ASSOCIATED CONCESSIONS .....	229
10.1.1 Incidence of Being Billed for Council Rates .....	229
10.1.2 Incidence of Receiving a DHS Concession on Council Rates .....	231
10.2 COUNCIL RATE CHARGES .....	232
<b>11 KNOWLEDGE AND TAKE UP OF CONCESSIONS .....</b>	<b>236</b>
11.1 AWARENESS OF CONCESSION AVAILABILITY ON UTILITIES AND COUNCIL RATES AND ASSOCIATED SOURCES .....	236
11.1.1 Awareness of Concession Availability on Utilities and Council Rates .....	236
11.1.2 Awareness sources on Concessions for Utilities and Council Rates .....	238

## *Victorian Utility Consumption Survey*

---

11.2	REPORTED INCIDENCE OF CLAIMING CONCESSIONS.....	244
11.3	PERCEIVED EFFECT OF CLAIMING CONCESSIONS ON CONSUMPTION.....	247
<b>12</b>	<b>BILL PAYING.....</b>	<b>250</b>
12.1	PROMPTNESS OF BILL PAYMENT .....	250
12.2	HOW BILLS ARE PAID .....	252
12.2.1	Means of Bill Payment.....	252
12.2.1.1	Means of Electricity Payment.....	252
12.2.1.2	Means of Gas Bill Payment .....	254
12.2.1.3	Means of Water Bill Payment.....	256
12.2.1.4	Means of Council Rate Payment.....	258
12.2.2	Bill Payment Medium.....	260
12.2.3	Payment via Instalment.....	265
12.2.3.1	Awareness of Easy Way or Easy Pay Method.....	265
12.2.3.2	Frequency of Paying by Instalments.....	267
12.2.3.3	Instalment Type Used .....	271
12.2.3.4	How Instalment Is Set.....	272
12.2.3.5	Perceived Effect of Paying Instalments on Consumption.....	273
12.3	DIFFICULTIES IN MEETING BILL PAYMENTS .....	275
12.3.1	Incidence and Frequency of Having Difficulties in Meeting Bill Payments .....	275
12.3.1.1	Electricity .....	275
12.3.1.2	Gas .....	276

## *Victorian Utility Consumption Survey*

---

12.3.1.3	Water .....	277
12.3.1.4	Council Rates .....	279
12.3.2	Assistance with Meeting Payments .....	280
12.4	DISCONNECTION AND RECONNECTION .....	282
12.5	EMERGENCY ASSISTANCE .....	284
12.5.1	Awareness of the Utility Relief Grants Scheme (URGS) .....	284
12.5.2	Use of the Utility Relief Grants Scheme (URGS) .....	285
12.5.3	Other Emergency Relief .....	286
<b>13</b>	<b>HOUSEHOLD EXPENDITURE PRIORITIES .....</b>	<b>287</b>
13.1	GREATEST EXPENDITURE ITEMS .....	287
13.1.1	Perceived Expenditure Items Spent Most Money on During One Year .....	287
13.1.2	Mean Perceived Expenditure Ranking on Items during a Year .....	290
13.2	PRIORITY OF BILL PAYING .....	292
13.2.1	First Priority for Bill Paying .....	292
13.2.2	Mean Ranking for Bill Payment .....	295

*Victorian Utility Consumption Survey*

---

## **EXECUTIVE SUMMARY**

The 2007 Victorian Utility Consumption Household Survey was a follow-on from similar surveys conducted in 2001 and 1996. Interviews amongst concession and non-concession households were conducted in Melbourne, Ballarat, Bendigo, Geelong and Shepparton, as well as selected country areas of the State where gas needs are solely supplied by LPG. A total of 2,061 interviews were conducted. Energy, water and council rate billing information was also collected from the relevant sources for each survey respondent. Where applicable, 2007 survey results were compared with the 2001 and 1996 results.

Throughout this report primary analysis has been conducted amongst four main sub-groups – aged concession households, other concession households, non-concession households and LPG households. Definitions of these sub-groups can be found in Section 2.1 of this report. Whilst this report refers to a survey conducted in 2007, associated billing and consumption data was collected for the 2006 calendar year for electricity, gas and water and for the 2006-7 financial year for council rates. However, all survey results refer to the year 2007 for simplicity. Collection of data from different sources and over different time periods does create some limitations on how the data can be analysed. Please refer to sections 1.4 and 2.11 for more detail.

## **SAMPLE CHARACTERISTICS**

Besides the inclusion of LPG areas in the 2007 stratification, the overall sample was largely similar in composition to those of previous years. However, the ratio of aged to other concession households was higher than in 1996 or 2001, particularly amongst Melbourne households. This was primarily because interviewing in Melbourne was significantly more difficult to undertake than in previous years. Refusal rates almost doubled due to reticence of the public to comply with signing consent forms to allow access to one year's worth of billing data. Further difficulties were encountered in locating other concession households in Melbourne, which resulted in a skew towards aged concession households in 2007. However, weighting has been undertaken to correct for any skew and provide survey results that are representative of concession status and population size by region.

---

Not surprisingly, the vast majority of **aged concession households** were aged 65 years and over (86%), with this group having a mean age of 73.4 years. As in 2001, half (51%) had lived at their current address for 20 or more years, with nine in ten (88%) living alone or with one other person. Some 97% of aged concession households did not have dependent children living with them. The average estimated household income amongst this group was \$31,900 per annum, while the estimated personal income from all sources was \$22,100 per annum. Only 3% were in any type of paid employment, while 89% were retirees or pensioners. More than eight in ten aged concession households owned their own homes (81%) and nine in ten had held their concession card for two or more years (92%).

The average age of **other concession household** respondents continued to increase, with 64% aged 40 years or older in 2007, compared with 58% in 2001 and 48% in 1996. As in 2001, males in this sub-group tended to be older than females, with 69% of males aged 40 years or over, compared with 61% of female other concession holders. The majority of other concession households (55%) had lived at their current address for between two and ten years. Living situations amongst this sub-group were most commonly living either with one other person (31%) or in larger households of four or more persons (34%). Less than half of these households had dependent children (48%), with only one in eight having three or more children under 16 years of age (12%). The estimated annual household income of other concession households was \$38,100, while personal income from all sources was \$23,300 per annum. One-quarter (24%) were employed, with one-third (31%) retired or pensioners. Half owned or were in the process of buying their homes (51%), and the majority (72%) had held their concession card for more than two years.

The age profile of **non-concession households** was relatively similar to that of other concession households, with the mean age being 46.6 years (c.f. 45.1 years for other concession households). Another similarity to other concession households was in household situation, with one-third living in households of four or more persons (34%) and a further third (32%) living with one other person. One-third (35%) of non-concession households had children under 16 living with them. Two-thirds of non-concession households had annual household incomes of \$50,000 or more (68%), with the average being \$81,000 per annum. Personal income from all sources was also considerably higher than concession households at \$39,100 per annum (c.f. \$22,700 for concession households) due to the high proportion of non-concession respondents in paid employment (71%). Since 2001, home ownership has remained relatively stable for this group at 42%, with a further 40% in the process of buying their home.

---

As in 2001, one-quarter (25%) of all households surveyed in 2007 had other members in their household holding concession cards. Half of all concession households had at least one other household member with a concession card (49%), as compared with just 8% of non-concession households (i.e. whilst the main bill-payer was not a concession card holder, another household member did hold a concession card).

The 2007 survey saw the inclusion of **LPG regions** in the sample for the first time. These are regions throughout Victoria that have not as yet been connected to mains gas. To be eligible for this survey in these regions households had to use LPG gas for *indoor* heating, cooking or hot water (rather than just for barbecues or patio heaters). Compared with other regions, LPG residents tended to be older. Half (51%) had lived at their current address for more than ten years, similar to Melbourne residents (49%), but longer than residents of the provincial cities (44%). Households in LPG areas tended to be smaller, with more than two-thirds (69%) comprising only one or two persons, and the majority did not have dependent children living at home (79%). Some 88% were homeowners/buyers. Coinciding with the older age profile of LPG residents, just over half (52%) were retirees or pensioners, while only one-third (33%) were in paid employment. Across regions, LPG residents had the lowest average household income (\$46,200), which is unsurprising given the older age profile of these residents and their tendency to live in smaller sized households. Similarly, compared with other regions, residents of LPG areas also had the lowest personal income from all sources (\$23,800 per annum), again consistent with the older age profile and higher proportion of retirees/pensioners amongst these respondents.

#### **ENERGY USAGE, CONSUMPTION AND EXPENDITURE**

The majority of households used mains gas (88%), lower than 2001 levels (94%) due primarily to the inclusion of respondents from solely LPG regions for the first time in 2007 (i.e. including non-mains gas users tends to pull down the average of mains gas users in the state). When LPG gas users are combined with mains gas users, the proportion of total gas users in the state increases to 95%. In all regions other than LPG areas, usage of cylinder gas was consistently low; however, compared with previous years, all areas have seen an increase in cylinder gas usage (this may be because some mains gas users can also be LPG users for different household uses). Similarly, across all other sample groups, the incidence of mains gas usage was down and cylinder gas usage up from previous years.

---

The incidence of Victorian households using **gas** for cooking and hot water (both 80%) increased from previous years (from 71% each in 1996), whilst usage of gas for heating has remained relatively constant at 85%. LPG gas use was proportionately lower for heating (57%), cooking (59%) and hot water (14%), so LPG households tend not to use their LPG gas for multiple uses.

In 2007, usage of **electricity** for cooking remained relatively stable from 2001 (51% c.f. 53%). Electricity use for hot water continued its gradual decline, with the 2007 proportion falling to 20% (1996: 27%), while usage for heating increased from 2001 (from 28% to 34%). Most likely as a result of the increase in using reverse cycle air conditioners as one's main heater. Not surprisingly, LPG areas showed a different pattern of usage, with the majority using electricity for hot water (85%), almost two-thirds for cooking (63%) and more than half (55%) for heating.

All but one household in 2007 **paid electricity bills**, almost identical results to that observed in 2001 and 1996 (100% and 97% respectively). Nine in ten households received their electricity bills quarterly (92%), while 7% received them at least every 2 months. Three quarters of households paid their 2007 electricity bill in full, although less than two thirds of other concession households did so (63%), indicating that this group has more difficulty in paying off their electricity bill than do other groups. Not surprisingly then, 18% of other concession households paid their electricity bill in compulsory instalments, compared with the state average of 12%.

Average annual **electricity consumption** has increased by 7% since 2001, much smaller than the increase observed between 1996 and 2001 (23%). Households now consume 5,533 kWh on average per year, with those living in LPG areas consuming the most (8,246 kWh), possibly due to their greater dependence on electricity as an energy source over gas. Average monthly winter general electricity consumption has increased by 13% since 2001, while monthly summer general consumption increased by just 7%. The gap between summer and winter monthly consumption is now 28 kWh (386 kWh c.f. 414 kWh).

The average annual **electricity bill paid** in 2007 was \$973 (including GST), representing an increase of 38% since 2001 (\$705 including GST). Given that the inflation rate has been low over the past 6 years and electricity consumption has increased by only 7% over this period, an increase in the average bill amount of 38% appears to be disproportionate. A partial reason for the large increase in the electricity bill amount since 2001 is that fewer



---

households are consuming off peak (16% c.f. 17%) and are using less off peak electricity (-2% growth since 2001), while a 10% growth in peak electricity has occurred over the same period. As off peak electricity is cheaper than peak, the fall in off peak consumption at the expense of peak consumption would have some affect on the increasing the growth of the total electricity bill amount over time. Electricity bill price increases can also be partially attributed to the changes in electricity tariffs that occurred in January 2002. At that time, the general domestic tariff increased by an average 1%; off-peak tariff increased by an average of 14%; and the electricity supply charge, increased by an average of 2.5% across retailers.

The average annual electricity bill paid in 2007 by aged concession households was \$697, a growth of 21% since 2001. For other concession households the growth rate was 25%, now paying \$641 for their electricity. Almost 50% growth in the electricity bill amount was observed amongst non-concession households (\$1,128 in 2007), while growth in consumption has increased by only 7% for this group. This appears to indicate that the concessions paid to concession households have had an ameliorating effect on electricity bills since 2001.

In 2007 38% of households were eligible for some type of DHS initiated **concession on their electricity bill** in comparison to just 17% of households in 2001 and 27% in 1996. In 2007, households could receive a concession in five different ways, although the majority did so via the winter energy concession (36%). The average concession amount in 2007 was \$100, compared with \$61 in 2001 – representing growth of 64%. Energy bonuses, pay on time discounts and reimbursements for over-charging on previous bills resulted in half of all households receiving some other retailer provided discount on their electricity bill in 2007 (48%), at an average amount of \$86. These other discounts, along with the DHS concession, have enabled concession households to bear large consumption charge increases (33% growth) over the 6 years since 2001.

Almost nine in ten households were **billed for their gas consumption** in 2007 (88%), slightly down from 2001 and 1996 (94% and 91% respectively). However, this is not surprising, as LPG households were not included in the sample frame in 2001 and 1996. LPG households are unlikely to receive bills from mains gas suppliers for provision of new LPG bottles and so therefore lower the incidence rate across the state of receiving a gas bill. Those households receiving bills average 6.3 bills per year, slightly more often than every two months.

---

Three quarters of gas bill paying households paid off their 2007 gas bill in full (76%), with other concession households having a lower rate of doing so (70%), a similar result to what was observed for electricity bills. Aged concession households had the highest incidence of paying off their gas bills in 2007 (84%). One in eight gas bill paying households paid their 2007 gas bills by compulsory instalment (13%), with the other concession households having a slightly higher rate (18%).

**Gas consumption** since 2001 has increased by 5.3% from 59,415 to 54,851 mega joules (MJ), even though weather conditions in these two years would have suggested the opposite trend to occur. However, there has been a trend in the last six years toward using gas ducting for heating rather than single room gas space heating, as well as movement toward using gas hot water heating rather than electric means, which could explain some of the increase in consumption over the period. Gas consumption actually fell in Shepparton and Ballarat households over the past 6 years (-11.0% and -6.6% respectively), while the greatest increases in gas consumption occurred amongst aged concession households (+16.2%), public rental households (+15.3%) and other concession households (+10.1%). In fact, the proportional difference in average annual gas consumption between concession households and non-concession households is decreasing over time from 26% in 1996, to 18% in 1991 to 9% in 2007. This closing of the consumption 'gap' between concession and non-concession households, may in part be due to the success of providing concessions to these households, allowing them to increase their gas consumption to more suitably match their needs.

Average gas consumption in summer months has fallen from 3,017 MJ in 2001 to 2,702 MJ (-10.4%) in 2007, while average winter month gas consumption has grown by a similar proportion (10.1% - from 6,336 MJ to 6,975 MJ). Other concession households have tended to buck this trend, increasing their average monthly summer consumption as well as their monthly winter consumption (summer – 2,397 MJ up to 2,919 MJ; winter – 5,858 MJ up to 6,540 MJ).

A total of \$700 was the average annual **gas bill amount paid** by households in 2007 up from \$500 in 2001, representing a rise of 40.0% over the past 6 years. Considering that gas consumption has only increased by 5.3% over the same period and the inflation rate has been modest, a rise of 40% in the average annual gas bill amount appears to be disproportionate. Gas bill growth exceeded the state average for both aged concession households and other concession households (48.3% and 55.0% respectively, now \$596 and \$688 in 2007). However, gas consumption for these groups has also

---

exceeded the state average over the period (16.2% and 10.1%) respectively, so it is reasonable to expect a greater increased growth in the total gas bill amount for these groups.

The average annual DHS **gas concession** applicable in 2007 was \$83, compared with \$71 in 2001. However, in 2001 54% of households claimed the concession, while in 2007 just 27% did so. This difference can be partially explained by the fact that in 2001 data provided from Origin Energy indicated that almost all households serviced by them received a concession (88%). When Origin Energy data is excluded from the 2001 results 34% of households received concessions in 2001, a figure more in line with the 2007 figure (the average concession amount, excluding Origin Energy data, in 2001 was \$65). The growth in the concession amount since 2001 has been 17%-28% (depending upon whether 2001 Origin Energy data is included or not), while gas bill growth was 40.0% over the period, implying that the effect of the concession amount in assisting households in need with gas affordability is being eroded over time. However, this conclusion should be tempered to some degree by the knowledge that gas consumption in concession households is growing at a greater rate than in non-concession households.

### **MAJOR HOUSEHOLD APPLIANCES USED**

The television was the most common **household appliance** in Victorian households in 2007, with an average of 2.0 per household. VCR/DVDs were second most common (mean of 1.6), followed by fridges (1.2 per household, just up from 1.1 in previous years). Not surprisingly, other concession households and particularly non-concession households tended to have greater quantities of and a wider range of household appliances; altogether, aged concession households had an average of 9.1 of the listed household appliances per household, compared with 10.9 for other concession households and 12.8 in non-concession households.

Unlike in previous years, incidence of gas and electric **hot water systems** varied considerably between country and metropolitan Melbourne, predominantly due to the inclusion of LPG regions in the 2007 sample. Gas systems were more common in Melbourne (82%) than country Victoria (69%), whilst the reverse was true for electric systems (Melbourne: 13%; country Victoria: 27%). There was no substantive change in usage of gas hot water systems from 2001; however, the use of electric hot water systems continued to decline (from 23% in 2001 to 18% in 2007).

---

Perceptions of **solar water heaters** varied considerably by region, with Ballarat households having the most positive views, whilst Geelong and Melbourne residents had the least favourable perceptions. Although agreement about the effectiveness, energy efficiency and environmental friendliness of solar water heaters was higher in regional Victoria than Melbourne, residents of country Victoria were also more likely than Melbourne residents to perceive solar water heaters to be too expensive to consider buying (67% and 63% respectively).

The prevalence of built-in gas heaters as the household's **main heater** continued to decline to 39% in 2007 (46% in 2001). Use of built-in gas heaters was much more common amongst concession (51%) than non-concession (31%) households, and in regional (53%) compared with metropolitan (33%) Victoria. Reverse cycle air conditioning as a heating source has increased from 1% to 4% over the past six years.

The incidence of using one's main heater in the colder months increased, with 89% of households using their main heater at least once a day during cooler months (i.e. May to November), up from 80% in 2001. In 2007, one's main heater is used on average 44.5 times per month, indicating that usage is more often than once per day (in fact, 38% use their heater at least twice a day). However, while incidence of use at least once a day has increased, average use of one's main heater per month has not increased much since 1996 (3%). Furthermore, the average length of usage remained relatively constant (7.0 hours per use c.f. 6.9 in 2001 and 7.2 in 1996), so overall hours used per month has not changed considerably over time (up 10% since 2001 and 13% since 1996).

Almost all (92%) households in had some form of **air conditioning or air cooling**, including fans in 2007. More than half of all households had fans (54%), while 70% had air conditioners or evaporative coolers (i.e. many households had both fans and air conditioners/coolers). This represents a marked increase in air conditioners and evaporative coolers from 2001 (from 57%) and 1996 (from 40%). The most common forms of air conditioners or coolers were refrigerative air conditioners were considerably more common (44%) than evaporative coolers (28%).

Overall, ceiling or stand-alone fans, portable evaporative coolers and portable refrigerative air conditioners most commonly cooled a single room only, whilst other cooling systems cooled multiple rooms in the majority of households. Multiple-room cooling was more common amongst non-concession and aged concession households and, as would be expected, in larger households compared with single-person households.

Ceiling or stand-alone fans were the most frequently used cooling system, used an average of 34.6 times per month during the warmer months (i.e. December to April). Fans operate on average to 4.1 hours each time they are used, so over a month they operate for 142 hours. Other concession households tend to use fans for longer per month (194 hours) than do aged concession (121 hours) and other concession households (136 hours).

On average air conditioners/evaporative coolers are used 22.8 times per month during the warmer months, around 11% more often than was the case in 2001. Incidence of using them at least once a day has increased from 26% in 2001 to 37% in 2007. Interestingly, whilst frequency of use has increased since 2001, the average length of time operating air conditioners/evaporative coolers has decreased from 5.6 hours to 4.7 hours. Overall then, the total number of hours air conditioners/evaporative coolers were used per month in the warmer months of 2007 was 107 hours, 7% shorter than was the case in 2001. As was the case with fans, other concession households used air conditioners/evaporative coolers for longer than other sub-groups (131 hours c.f. aged concession households 111 hours and non-concession households 100 hours).

The average monthly use of **clothes driers** has remained static over time in the warmer months (at around 3.1 times per month) and has decreased slightly in use in the colder months (by around 9% to 2.3 times per month). In the warmer months, usage was more frequent amongst concession than non-concession households (3.6 c.f. 2.8), whilst the opposite was the case in the colder months (11.8 c.f. 12.5).

Average monthly usage of **dishwashers** in 2007 was similar across the seasons, with dishwashers used an average of 17.0 times per month in the warmer months and 17.3 times per month in the colder period, although in the warmer months frequency of use has remained relatively static over time, whilst in the colder months it has fallen (by 7% since 2001). Other concession households and non-concession households who owned a dishwasher tended to use it more frequently than did aged concession households.

In 2007, half of households (52%) used fluorescent lighting, predominantly fluorescent tubes (31%), as the **main type of lighting** in the kitchen. In all other rooms, more than half (56%-75%) used incandescent lighting, most commonly in the form of incandescent light globes (41%-70%).

---

## **WATER USAGE, CONSUMPTION AND EXPENDITURE**

The proportion of households with **separate water meters** has remained relatively stable from 2001 at 95% (93% in 2001; 84% in 1996). Overall, 93% of households indicated **receiving water bills** in 2007, as in 2001. The majority of those who received water bills were charged both the service and consumption fees (73%); however, this proportion was down markedly from 2001 (87%), with corresponding increases in proportions charged for water use only (from 7% to 16%) and service fees only (from 4% to 7%).

Water bill payers on average received four water bills per year (3.9), although Ballarat and Shepparton households only received 3 bills per year. Nine in ten households paid the water bill in full in 2007, with lower incidence rates observed amongst Geelong and other concession households (75% and 82% respectively). One in six households paid their water bills by compulsory instalment (16%), with the incidence rate slightly higher amongst other concession households (21%).

Average **annual water consumption** has declined from 276 kilolitres (KL) in 2001 to 216 KL in 2007, a fall of 22%. This fall in consumption is not surprising considering that water restrictions have either been imposed or increased in all areas since 2001, acting as a brake on water consumption, along with promotional campaigns by the state government advocating water saving practices, which Victorians appear to have embraced. Interestingly, average annual water consumption increased by 4% in Geelong since 2001, which is not surprising as the effects of tighter water restrictions would be diminished given that Geelong has been on water restrictions for almost a decade. Proportional decreases in water consumption were similar for aged concession households, other concession households and non-concession households over the past 6 years (22%, 23% and 21% respectively) indicating that water restrictions have had a similar impact on all household types.

Average summer month water consumption (December to April) has decreased dramatically since 2001 (down 35%), while average winter month water consumption (May to November) has fallen only moderately over the same period (down 8%). This most likely reflects a significant reduction in garden watering in summer months as a result of water restrictions.

---

The average **annual amount of a water bill** in 2007 was \$516, representing a growth of 17% from the 2001 average of \$442. Whilst water consumption has fallen by 22% over the period, the amount paid has grown by 17%. If consumption had remained static over the period, an increase in the bill amount of 17% would be plausible, given the modest inflation rate that has existed over the past 6 years. However, because water consumption has fallen over the period, it would appear that the increase in average household water bill has been disproportionate. This is of interest, since the average water bill amount for non-concession households has increased by 26% while consumption has fallen for this segment by 23% over the past six years. This indicates that non-concession households have experienced greater relative increases in water charges since 2001 than have other households, indicating that concession are having some (albeit minimal) impact on controlling the affordability of water rates.

Interestingly, water consumption charges have only increased by 9% since 2001, with water service and drainage service charges only increasing by similarly modest amounts over the period. However, sewerage service charges have increased by 50% since 2001, sewerage disposal charges by 45%. These results appear to indicate that increases in the average annual water bill has not been as much a result of unit water charges being increased inordinately, but unit sewerage charges being increased disproportionately. In addition, the annual parks charge has increased by 64% over the last 6 years, so it would appear water bills are increasing due to suppliers increasing sewerage rates and non-water consumption related rates rather than water consumption rates.

The proportion of households receiving DHS **concessions on their water bills** increased to 43% in 2007 from 35% in 2001. Small increases in incidence of receipt of DHS concessions were observed for both concession and non-concession households (concession – 76% to 80%; non-concession 12% to 19%). The average **annual** concession amount on water bills increased from \$108 in 2001 to \$132 in 2007 (a 22% increase). The average concession amount for aged concession households increased from \$118 in 2001 to \$139 in 2007 (an 18% increase), while for other concession households the increase was from \$104 to \$122 (a 17% increase). As was observed for gas bills, it would appear that the effect of the concessions is being eroded over time, primarily due to large increases in sewerage charges.

## **WATER FITTINGS**

Incidence of households having each of the surveyed **water fittings** declined marginally from 2007 to 2001, with concession households substantially more likely to have none of the listed fittings (15%) compared with non-concession households (6%). Apart from showers, which almost every household had (1.773m of 1.782m households), baths remained the next most common household fitting (82%), despite a gradual decline since 1996 (from 88%). As in 2001 and 1996, the larger the household the more likely it was to have any type of water fitting, as was also the case if the property was owned or in the process of being purchased.

The average number of **toilets** per dwelling remained static at 1.6, as in 2001; however, the mean number of single flush toilets declined (from 0.6 to 0.3) and the average number of dual flush toilets rose (from 1.2 to 1.4) since 2001. These changes were consistent across all sample types and highlight the trend for households to install or upgrade to dual-flush toilets over time.

Whilst the average number of **showers** per household remained constant from 2001 at 1.4, the mean number of water saving showers has increased from 0.3 to 0.6 per household. It is likely that this trend toward water saving showers has been influenced by increased water restrictions and government advice for households to install water saving fixtures and appliances.

The incidence of households having a **spa pool** or **swimming pool** has not changed considerably since 1996, with just 3% of households having a spa pool and 4% having a swimming pool in 2007. Gas heating of spa pools continued to decline from 2001 (from 60% to 56%), whilst for swimming pools there was a marked increase in solar heating (from 35% to 64%).

The proportion of households with front loader **washing machines** continued its sharp upward trend (20%, up from 10% in 2001 and 5% in 1996). Although the majority of households still had top loaders (77%), the prevalence of these machines was on the decline (down from 87% in 2001). Once again, this trend has been primarily driven by the requirement for households to save water due to the imposition of more stringent water restrictions. The incidence of water-saving front loaders was considerably higher amongst non-concession (26%) than concession (10%) households, and also increased with household size (single-person households: 13%; 4+ person households: 25%).



---

Not surprisingly, the incidence of washing at least one **full load** per week was much higher (93%) than washing **part loads** (34%). On average, households washing at least one full load washed 3.5 full loads each week, while the figure for part loads was considerably lower at 2.2. As would be expected, household size was a major determinant of the number of loads washed, with larger households washing more full and part loads than smaller households of one or two persons.

Nine in ten households had **gardens** in 2007 (90%), as in both 2001 and 1996 (91% and 89% respectively). As would be expected, gardens were more common amongst respondents living in separate houses, and amongst homeowners/buyers compared with renters. Incidence of having a garden also tended to increase with household size, from 81% of single-person households to 94% of larger households of four or more persons. Overall, the vast majority of households (84%) had **decreased garden watering** habits to some extent since the inception of the most recent level of water restrictions. Not surprisingly, aged concession households were less likely to have stopped watering their gardens completely (28%) compared with other concession households (43%), as most own their own home and take pride in their established gardens. The response to water restrictions was lowest in Geelong, perhaps due to the fact that water restrictions have been in effect for many years in this region and as a result water-saving behaviour is likely have already been ingrained in these residents.

In 2007, one-fifth of properties had **water tanks** (19%), a substantial increase over 2001 and 1996 proportions (6% and 5% respectively), while just 1% had bores, as in previous years. The marked increase in prevalence of water tanks is likely to be a response to the higher level water restrictions imposed over the past year. As in previous survey years, country Victorian households had a greater incidence of water tanks compared with Melbourne (28% c.f. 14%), with four in ten Bendigo households having one (42%). Overall, Victorian households had an average of 1.5 water tanks on their properties, with a total capacity of 6,454 litres. Average capacity was higher for regional (8,161L) than metropolitan (4,899L) households and for non-concession (8,009L) than concession (4,374L) households. Tank capacity was also higher amongst other concession households (4,823L) compared with aged concession households (4,140L).

---

There have been considerable changes in the uses of tank water since the previous surveys. Use for drinking water only, formerly the primary use of tank water, declined to just 13% (from 46% in 2001), with garden watering now the most common use (77%, up from 38% in 2001). This reliance on tank water for maintaining gardens is not surprising with current water restrictions severely limiting garden watering. As in 2001, country Victorian households were more likely to use water tanks for drinking water only (24%) compared with Melbourne households (4%), whilst the reverse was true for garden watering (Melbourne: 84%; country Victoria: 68%).

### **FACTORS AFFECTING ENERGY AND WATER USAGE**

Similarly to previous years, about one-third of households indicated **difficulties in heating their homes** in the colder months (35% in 2007; 31% in 2001; 37% in 1996), with other concession households the most likely sample group to encounter difficulties (45%). As in previous years, the main perceived difficulties in heating homes were house design (10%) and draughts/poor thermal performance (10%). Difficulties heating homes in the colder months were much more common for private (52%) and public (55%) renters than for homeowners or buyers (30%), a pattern that has remained unchanged since 1996.

Six percent of households had a **health problem** affecting their electricity usage, 5% their gas usage and 3% their water usage. These incidence rates were at similarly low levels in the 1996 and 2001 surveys. Of those households with health problems affecting electricity usage, the most common cause was asthma (26%), while arthritis was the most common health problem affecting gas (31%) and water (24%) usage.

### **CONSERVATION OF ENERGY AND WATER**

Almost half of all households claim that there is nothing in their house that causes **high energy usage** (44%). Aged concession households were far more likely to claim this (64%), as was also the case in 2001 (67%) and 1996 (74%). The most common causes nominated were lights/appliances left on (18%), long showers/frequent baths (10%), very high ceilings (7%) no or poor insulation (7%), and open plan design (7%). Notable differences between surveys included frequent use of large electric appliances (9% in 1996, 12% in 2001, 6% in 2007) and doors left open and heat lost (12% in 1996, 8% in 2001, 6% in 2007).

The biggest perceived impact on a household's energy bills was considered to be lights/appliances left on (19% of those naming a cause of high energy usage). There were considerable declines in the incidence of frequent use of large electric appliances (6% in 2007, c.f. 13% in 2001 and 11% in 1996) and open plan design (6% in 2007, c.f. 12% in 2001 and 5% in 1996). The incidence of nominating lights and appliances left on increased with the size of the household.

More than two-thirds of all respondents indicated that they had incorporated **energy saving features, modifications or improvements** into their current dwelling (67%), with the incidence increasing by size of the household (1 person household 55%; 4+ person household 71%). There were substantial increases in the proportions of respondents naming energy saving features, modifications or improvements from 2001 (55%). Data could not be strictly compared with 1996 results because these questions were asked differently in that survey.

The most common energy saving modification made was the use of special energy efficient light globes (49% of those making modifications), followed by the installation of roof insulation (47%), special window treatments (25%), external blinds/roller shutters (23%) and draught stoppers on doors (21%). The incidence of special energy efficient light globes has increased dramatically, from 17% in 1996 and 15% in 2001 to almost one-half of respondents making modifications. This could be associated with the greater availability and accessibility of these products, in combination with proactive campaigns from the government and energy suppliers encouraging their use. Over one-quarter of these households claimed that roof insulation had the *biggest impact* on reducing energy bills (28%), followed by using special energy efficient light globes (24%).

The **major actions undertaken** by households to conserve energy or avoid energy wastage was turning the lights off when not in use (71%), followed by turning appliances off when not in use (40%), efficient use of heaters (39%), and closing doors to unused rooms (35%). Only five percent of households indicated not undertaking at least one action to save energy in comparison with 12% in 2001 and 16% in 1996, so it would appear that energy saving actions have become more prevalent over time. In 2007, substantially more households reported taking shorter showers (27%) as an action taken to save on energy bills in comparison with 2001 (13%) and 1996 (10%). Other actions which have had considerable increases in proportions from previous surveys include: buying energy efficient light globes, using heaters more efficiently, and closing of windows/blinds/drapes.

---

Two actions were considered to have the *biggest impact* on energy bills - turning the lights off when not in use (18% of those undertaking energy conservation actions) and efficient use of heaters (16%). Households nominating turning the lights off when not in use fell from previous surveys (26% in 2001, 34% in 1996), but the proportions nominating efficient use of heaters increased markedly over the surveys (4% in 2001, 7% in 1996). Other actions which had considerable decreases in incidence from the previous surveys included: closing doors to unused rooms (7% in 2007 c.f. 22% in 2001 and 24% in 1996) and wearing extra clothing (4% in 2007, c.f. 12% in 2001 and 8% in 1996).

More than four in five households were aware of **information sources about energy conservation** in 2007 (81%), a similar figure to that which was seen in 1996 (83%), before a slight fall in 2001 (76%). More than one in ten knew that information sources were available, but they don't know where to find it (11%). Electricity suppliers and gas suppliers were nominated as sources about energy conservation at relatively high proportions (37% and 26% respectively). However, the incidence of naming these two information sources was down considerably from previous surveys, most likely because households moved to using the internet as an information source. Almost one-third nominated the internet or websites as the source of energy conservation information (31%), which was particularly predominant amongst non-concession households (41%) and uncommon in aged concession households (7%). There was also a large increase in the proportion naming media related sources such as TV/radio (17% up from 6%), magazine and newspaper articles (13% up from 5% in 2001), and advertising (TV/radio/press) (11% up from 5% in 2001).

The main **perceived causes of high water usage** was long showers/frequent baths (25%), followed by high washing machine usage (16%). The incidence of high garden water usage as a perceived cause of high water usage has diminished considerably, from 19% in 2001 to just 6% in 2007, most likely the result of water restrictions reducing opportunities to water gardens. One-half of households claimed that nothing in the household caused high water usage (50%), which was higher than the figure from 2001 (35%), but similar to that seen in 1996 (47%). The proportion of respondents in 2007 who reported no causes of high water usage, may in effect be utilising restrained water usage behaviour that has now become ingrained into society. Concession households were less likely than non-concession households to nominate long showers or frequent baths as a perceived cause of high water usage (17% c.f. 29%). The activity having the *biggest impact* on water usage was considered to be the same causes of high water usage - long showers/frequent baths (39% of those naming a cause) and high washing machine usage (25%).

---

Almost all households were taking **actions to prevent water wastage** in 2007 (94%, c.f. 86% in 2001 and 74% in 1996). The three most common actions undertaken were having shorter showers (45%), installing dual flush toilets (37%), and collecting waste water from the washing machine (37%) - all three of these measures have shown considerable increases from previous surveys. One-third of households nominated no/little watering as an action, which was substantially more common in 2007 (33%) than 2001 (7%) and 1996 (9%) – these actions (along with many others) are obviously associated with the implementation of stricter water restriction policies in recent times.

The action which was claimed to have the *biggest impact* on household water bills was having shorter showers (16% of those naming a water conservation action), followed by no/little watering of lawns/gardens (15%), collecting waste water from the washing machine (14%) and the economical use of washing machines (10%). There was a considerably reduced impact of turning off dripping taps (2%) compared with the previous survey (13% in 2001).

Not surprisingly, the **major information source on water conservation** was water suppliers (59%), with the internet/websites now recognised by more than one-quarter of respondents as a useful information source (27%). Eighty-six percent of respondents were able to name a water conservation information source, in comparison with 82% in 2001 and 94% in 1996. Non-concession households were more likely to be able to name a water conservation source (90%) than concession households (80%).

Almost three-quarters of households were aware of **renewable energy** sources such as wind, solar and hydro (72%), with non-concession households being more likely to be aware of these sources than concession households (79% compared with 61%). Just over one-fifth of households reported purchasing renewable energy (e.g. Green Power) as part of their energy supply (21%), which again was more prominent in non-concession households (26%) than concession households (15%).

## **COUNCIL RATES AND EXPENDITURE**

Eight in ten Victorian households **paid Council rate bills** in 2001 and a similar proportion did so in 2007 (77%). A greater proportion of non-concession households paid Council bills than concession households in 2007 than was the case in 2001 (83% c.f. 70%). Aged concession households,

---

being predominantly home owners, had high proportions paying Council bills (2007 - 85%; 2001 – 88%), while not surprisingly only 52% of other concession households paid Council rates in 2007 (58% in 2001), because of the high incidence of renters amongst this concession group.

Almost all households paying council rates paid them in full in 2007 (96%), with no differences observed by concession type.

Three in ten households paying Council bills received a **concession on their council rates** in 2007 (31%) a similar proportion to 2001 (29%). Three quarters of concession card holders paying Council rates received concessions in both 2007 and 2001 (77% and 75% respectively), with nine in ten aged concession households doing so (2007 – 91%; 2001 - 89%). Just over half of other concession households that paid Council bills received a DHS concession (2007 – 51%; 2001 - 53%), which is not surprising because not all would be eligible for such a concession (i.e. only pensioner concession card holders and war widow and TPI Gold card holders are eligible, while Health card holders are ineligible).

The average **annual Council rates bill** charged to Victorian households in 2007 was \$948, up 45.4% from 2001 (\$652). This increase would appear to be over and above the inflation rate experienced over this 6 year period, but not as high as the average increase in house prices over the same period (69%). The average annual **concession amount** received by eligible households in 2001 was \$135. In 2007 this concession amount increased to \$168, an increase of 24%, which was lower than the average rate of increase in council rates bills (45%). This means that households receiving concessions on their council rates bill in 2007 appear to be proportionally worse off than was the case in 2001.

## **KNOWLEDGE AND TAKE UP OF CONCESSIONS**

Awareness levels of being able to claim **concessions** on gas bills (89%), electricity bills (91%) and water bills (88%) have remained relatively constant since 1996. Concession households were more likely than non-concession households to be aware of concessions for electricity bills (95% c.f. 89%); however other utility bills had no variation in awareness between sample types. More than three-quarters of households were aware of concessions for council rates (77%), with awareness levels the highest for aged concession households (84%) and lowest amongst other concession households (58%), who are least likely to pay council rates.

**Awareness sources in relation to concessions** did not vary considerably with bill type or over time. Almost one-half of households claimed that they found out about these concessions because the information came with their bill (45% - 48%) and almost one-fifth obtained the information from Centrelink (17% - 19%). There was a decrease of about 7%-8% for each bill type in proportion nominating friends or family as the awareness source for these concessions (approximately 15%, down from 21% - 23%).

Survey results indicate that being able to claim a concession does not significantly increase a household's energy and water consumption (about 4% across gas, electricity and water bills). In fact, there was a greater effect of concessions reducing consumption across all three utility types (about 12%) which was a reversal of the trend seen in 2001. This may be due to respondents being more responsible and accountable in relation to their consumption or the concessions provided may not be adequately meeting the needs of some concession households in 2007. Overall, the vast majority consider that receiving a concession has no effect on consumption (around 76%).

**Perceived incidence of claiming concessions** for utility bills has not varied considerably since 1996. One third of households claimed concessions on gas bills (34% in 2007; 32% in 2001; 33% in 1996), electricity bills (38%; 35%; 38%) and water bills (34%; 31%; 30%). More than a quarter of households claimed they receive concessions on their council rate bills in 2007 (28%), up from 23% in 2001. However, this information should be taken with caution, as when compared with those actually receiving concessions on their bills, wider discrepancies arise. It would appear that to some degree households do not actually know if they receive concessions or not.

## **BILL PAYING**

Irrespective of the type of bill (i.e. gas, electricity, water or council rate bill) around two-thirds of households reported paying bills by the due date, one in seven pay it as soon as the bill arrives, while approximately 4% pay it once a reminder letter has been sent. Depending on the bill, between 6% and 10% pay by an agreed instalment, and between 4% and 9% pay automatically by direct debit.

Approximately one-third of households pay their utility bills via cash, down from around four in ten in 2001 and six in ten in 1996. The incidence of paying by cheque has also continued to fall with around 7% paying their utility bills in 2007, down from around 12% in 2001 and 30% in 1996.

---

Slightly different to utility bills, on in eight households paid their council rates by cheque (12%). Over one quarter of households pay their utility bills by electronic funds transfer (27% - 28%) and credit/debit cards (21% - 26%) – substantial increases from previous surveys.

Around two-fifths of households pay their utility bills at the Post Office, with almost one-quarter paying via internet and one-fifth over the telephone. Automated direct debit was used by about one-tenth of households. The internet continues to grow as a medium for paying bills, which would be expected to surpass the Post Office as the principal medium of payment in the not too distant future. The proportion of households paying their Council rates at Council offices has declined, from 20% in 2001 to just 7% in 2007.

Payment *medium* usage varied considerably with the payment *means* used. For example, almost all respondents paying utility bills by cash used the Post Office (95%-97%; - 82% of Council rates), whilst 50%-54% of those paying by credit/debit card paid over the telephone with about one-sixth paying by internet (16%-19%). More detailed information on payment medium by payment method can be found in section 12.2.2 of this report.

The proportions of households **aware of the Easy Way or Easy Pay** instalment bill payment method were relatively stable over time for utility bills. However, there was a substantial reduction in households aware of this method to pay council rates (59%, down from 75% in 2001).

**Incidence of bill payment via instalment** in 2007 and 2001 could not be strictly compared with 1996 results due to re-design of the question. In 2007, 18% of households had ever paid their electricity bills by instalment, 15% had paid their gas bill via this method and 12% their water bill, which was very similar to the figures reported in 2001. Twelve percent of households paid their council rates bill by instalment, which was considerably lower than the proportion using this in 2001 (30%). Other concession households were the most likely to use instalments to pay their utility bills (electricity 39%, gas 31% and water 24%). There was little variation in paying council rates by instalment by sample type

For gas, electricity and water bills, there appears to be a continuing trend away from the use of the Flexi Way plan toward one of the Easy Way plans. In 2007, approximately 15% of households paying by instalment used Flexi Way, in comparison to 42%-44% who paid with Easy Way fixed amount including an amount toward an outstanding bill and between 31% and 37% used Easy Way fixed amount estimate.



Four in ten households paying gas and electricity bills by instalment discussed and agreed the instalment amount with the supplier while three in ten households paying their water bills by instalments negotiated with their supplier in setting the instalment amount. The proportions of households deciding the instalment rates themselves has fallen from previous surveys for gas and electricity bills, while there appears to be an increasing trend for negotiation between the household and the supplier/council to determine the appropriate amount to be set.

The majority of households who were paying their utilities bills in instalments reported that their consumption of electricity, gas and water had stayed the same as a result of being able to pay bills in instalments (67%, 65%, and 59% respectively). Where there was a change in their consumption behaviour, it was more likely that households reported their consumption had decreased as a result of paying by instalments (15% - 18%) rather than increased (7% - 8%), which was contrary to what was evidenced in 2001.

Slightly lower proportions of utilities bill paying households reported **difficulties in meeting their utility bill payments** in comparison to previous surveys. This is because the question was revised from asking about *ever* having difficulties to having difficulties *in the last 5 years*. Even with the change to the time period for the question in 2007, this downward trend in having difficulties with bill payment does appear likely. This is an interesting result, given that utility and council rate bills have been increasing over and above the inflation rate over time. The trend to pay bills by electronic funds transfer, credit/debit card and direct debit away from cash and cheque, may be allowing households to more readily clear their bills (which may be creating difficulties in paying off credit cards instead).

Other concession households and public sector rental households were more likely than other sub-groups to report having difficulties in paying their bills, across all bill types. More than half of those households reporting difficulties in meeting their utility bill payments did so *sometimes*, with about one in six households reporting *always* having difficulties.

In 2007, there was an increase in the proportion of households experiencing problems meeting their utility bill payments discussing the problems with their supplier/council and receiving assistance, compared with 2001. The proportions asking for **assistance in meeting payments** varied by bill type

---

(48% for electricity; 44% gas; 36% water; 33% council rates), with between two-thirds and four-fifths receiving help from their supplier/council. This help was either being allowed to pay by instalments (45% - 56%) or receiving an extension to the due date (43% to 64%).

A similar proportion of households were **aware of the Utility Relief Grants Scheme (URGS)** in 2007 (17%) as in previous surveys (16% in 2001, 19% in 1996). Ballarat households (28%), other concession households (27%) and public sector renters (40%) had an increased likelihood of being aware of this Government scheme. There was a considerable increase in the proportion of households ever using URGS in 2007 (18% c.f. 11% in 2001 and 7% in 1996). Public sector rental households (49%) and other concession households (41%) were more likely to accessed URGS than other sub-groups. A small proportion (3%) of households had accessed other emergency relief support for paying utilities bills, including 20% of public sector renters.

### **HOUSEHOLD EXPENDITURE PRIORITIES**

Almost half of all households consider that they **spend the most money each year** on food and groceries (47%), a similar proportion to that observed in 2001 (45%) and 1996 (47%). Rent/mortgage was the next most common response (34%), followed by car expenses (8%). This trend did not alter markedly from previous surveys. When results were analysed by the mean ranking of expenditure items, food and groceries was ranked first (mean score 2.02), followed by rent/mortgage (2.18). Rent/mortgage was ranked five (3.82) by aged concession households which contributed to an overall ranking change from 2001, when rent/mortgage was ranked first (2.00) with food and groceries (2.12) second. In 1996, when rent/mortgage also included council rates food & groceries (1.99) was the top ranked expenditure item, followed by rent/mortgage/rates (3.00).

In terms of **priority of bill paying**, rent/mortgage was more commonly named as the first bill to be paid (42%), with the main reason being that people *need a place to live/roof over head/don't want to be evicted*. One in five named electricity bills as the first bill to be paid (21%), with *needing power/light, needed for cooking/heating and to keep the house warm* being the three major reasons. There was little change over time in the nominating bill priorities, or the rationale behind choosing those bills. The mean ranking of priority in bill paying remained the same as 2001, with payment of rent/mortgage ranking first and electricity bills second.

## **1 INTRODUCTION**

### **1.1 BACKGROUND**

The Department of Human Services commissioned Roy Morgan Research to conduct this survey in 2007 to identify patterns of household utility consumption amongst Victorian households, and to make comparisons with baseline data developed in 2001 and 1996. Furthermore, the Department sought to examine the impact of utility pricing changes and concession availability on consumption patterns and use the information collected as inputs into a micro-modelling exercise for policy development.

There has been a change in the pricing (in some cases the delivery structure) and regulatory structure for utilities over the last 5 years. The industry has now become deregulated, allowing competition amongst suppliers. The Department is keen to identify if these changes have resulted in changes to consumption behaviour. The surveying of customer consumption patterns in 2001 prior to the commencement of retail contestability in the energy markets also provides an important baseline of consumption behaviour for comparison against future studies.

### **1.2 RESEARCH OBJECTIVES**

The objectives of this study were to provide:

- Detailed information on current Victorian household utility consumption and expenditure patterns by household type, tenure, locality, income level and duration of receipt of Commonwealth income support payments;
- Information on the level and take-up of concessions by household type, tenure, allowance type and income levels; and
- Identification of changes in consumer behaviour over time from 1996 to 2001 to 2007.

The information obtained from the survey would then be used:

- 
- To examine the distributional impact of current utility tariff rates and structures;
  - To inform the evaluation of the adequacy, equity and effectiveness of concessions in meeting their objectives;
  - To identify other opportunities for improving the affordability of utility charges for low income households; and
  - To use the results obtained to input into the NATSEM micro-economic modelling system.

### **1.3 SCOPE OF THE RESEARCH**

The Victorian Utility Consumption Household Survey 2007 employed multi-stage stratified random sampling techniques, using a face-to-face survey methodology of 2,061 households, stratified according to location and specific household attributes (i.e. holders and non-holders of selected concession cards).

Information was collected both from the household and from the utility companies supplying that household with water, gas and electricity, plus municipal councils. In order to obtain information from utility suppliers and councils, permission from *account holders* within each household was obtained in writing beforehand. Data obtained from utilities and councils contained consumption and billing information for the property associated with each respondent household for a 12-month period.

The sampling methodology for the 2007 survey remained quite similar to the sampling methodologies employed in 2001 and 1996. Regions in which interviewing was conducted in 2001 and 1996 also remained consistent between the two surveys, namely in the urban regions of the following Victorian cities and towns:

- Melbourne;
- Geelong;
- Ballarat;
- Bendigo; and
- Shepparton.

However, a new sampling stratum was incorporated in 2007, that of LPG households in country areas outside of the other 5 stratum. These areas were defined, based on where mains gas had not been rolled out. Towns covered included –

- Northwest – Mildura, Irymple and Red Cliffs;
- North – Beechworth and Yarrawonga;
- Southeast – Bairnsdale, Lakes Entrance, Paynesville and Raymond Island;
- South – Korumburra and Wonthaggi;
- Southwest – Camperdown and Terang; and
- Midwest – Clunes and Creswick.

The questionnaire was designed as a collaborative process between Roy Morgan Research and the Department, and was amended as a result of a pilot survey. The 2007 survey mostly replicated the survey conducted in 2001, with information not covered in the previous survey also collected. Copies of the questionnaire and billing information sought from utilities and councils are included in the Appendices of this report.

The research methodology is discussed in more detail in the following section.

### **1.3.1 Pilot Testing**

The pilot testing process was conducted 23 April to 30 May 2007. Pilot interviewing of households was conducted from 23 April to 9 May, with collection of information from utilities and councils performed from 16 to 30 May 2007.

In essence, the questionnaire was modelled on the 2001 questionnaire (including layout), as were the interviewing instructions. Fifteen new or amended questions were incorporated into the pilot questionnaire for testing.

A total of 30 pilot interviews were conducted, with 5 interviews conducted in the provincial city of Geelong, 5 in the rural LPG region of Barwon Heads, and the remainder in spatially diverse areas of metropolitan Melbourne. Each set of 5 interviews was conducted as per the survey proper (i.e. 5 interviews per CCD start point).

Interviewers were required to conduct the entire interviewing and selection process (including obtaining consent to obtain billing information from utilities and councils) to identify any problems with the questionnaire or interviewing instructions. Interviewer briefing and de-briefing sessions were also conducted to assess the interviewing and briefing process.

The completed interviews from the pilot were also used to seek billing information from utilities and councils. Datasets were delivered by mail/courier to suppliers involved in the pilot, with password access required to access and return the data. Consent form information was keyed into Excel spreadsheets and delivered to 10 utilities and 4 councils to extract billing data. A total of 30 Electricity records, 27 Gas records, 30 Water records and 22 Council records were delivered on Wednesday May 16, 2007, with completed databases to be returned by Wednesday May 30.

Pilot results indicated that the 2007 questionnaire took longer to administer than in 2001 by approximately *11 minutes* per respondent, making the average interview length approximately 50 minutes. While it was expected that amendments made to the 2001 questionnaire for 2007 would add around 5 minutes to the survey, the actual extension of time was more than double the estimate. The bulk of this extra time was found to be in finding and extracting information from bills to be included on consent forms (required for suppliers to comply with privacy legislation in relation to release of personal information).

On average, a total of 8 attempts were required to obtain 1 interview. Of these 8 attempts approximately *four* resulted in the potential respondent not being home, with approximately *two* attempts resulting from refusal to be interviewed.

---

The pilot found that respondents were generally willing to provide consent to their billing information, although delays were encountered in obtaining accurate account information for inclusion on consent forms. There was little evidence in the pilot of respondents being unwilling to participate in the survey as a result of having to provide written consent to release billing information. However, refusal rates did increase from 1.0 to 1.6 since the 2001 survey, so there was some implicit information that consent may have been an issue for respondents in 2007.

Cooperation of suppliers in providing billing information was high, with 13 of 14 suppliers providing data by the due date. Data was much cleaner than was the case in 2001, with editing and cleaning of billing data considered as reasonable and manageable for the main survey.

### **1.3.2 Collection of 2007 Survey Data**

Interviewer briefings commenced on 2 April 2007, with interviewing commencing thereafter. Interviewing ceased on 21 October 2007, with 2,061 surveys obtained from a requirement of 2,200. The main reason fieldwork took longer than expected was because refusal rates were significantly higher in 2007 than 2001 (27% compared with 17% of all households approached), which meant that interviewers had to visit more households to obtain each interview. The major reasons for the increased refusal rate are as follows –

1. General increased reticence over time for the community to agree to complete surveys. This is a common trend that has been observed across both face-to-face and telephone-based surveys;
2. With deregulation of the energy industry and other similar service industries (e.g. telecommunications), the general public receives many more calls from service providers, either by phone or at the door, asking them to consider switching providers. Because of the frequency of such calls, many households are becoming frustrated and as such, are reticent to co-operate with any person directly or indirectly related to an energy provider. Interviewers clearly observed this as a trend in the refusals they received;
3. Deregulation has led to some unscrupulous dealings by people employed by energy suppliers (and telecommunications companies) attempting to convince households to switch supplier. Anecdotal evidence suggests that representatives of these suppliers claim that they can show households how they can save money by switching. All households have to do is sign a form and this will release their billing information to

---

the competitor company, who then use this information to argue to the households how they can help them save on their bills. Unfortunately some of these representatives are duping households into signing a form to switch supplier rather than to release information. As such, households only find out that they have switched when they receive the first bill from the new supplier. Stories of such practices have spread quickly in the community, with households refusing outright to have any dealings with companies seeking billing information. In fact, in one small country community an interviewer could not obtain any interviews, as the community itself had agreed to boycott any dealings with energy suppliers (Please refer to the report “Coercion and harassment at the door – Consumer experiences with energy direct marketers”, November 2007 by the Consumer Action Law Centre and the Financial and Consumer Rights Council, which provides actual instances of such unscrupulous practices); and

4. The requirement to obtain signed consent to release billing information had a small but significant effect on increasing refusals. One percent of the 27% of refusals were due to refusal to sign consent forms. In addition, privacy legislation, which requires the actual householder (rather than a responsible member of the household) to sign consent forms did have some detrimental effect on response. Whilst the survey respondent may have been responsible for paying the bills, in some instances they were not the account holder. As a consequence, consent forms had to be left by interviewers for the account holder to sign. In a number of instances this resulted in the account holder refusing to sign the relevant consent forms, resulting in a refusal.

In an attempt to improve response rates DHS (a) placed an advertisement in the Wednesday August 1, 2007 Herald Sun, which highlighted the fact that respondents would have to sign consent forms, but that their confidentiality was assured; and (b) from Friday August 3, 2007, offered respondents a \$30 Coles/Myer shopping voucher in appreciation for completing the survey (including signing consent forms). These initiatives resulted in reducing refusal rates by 3%-5% for the remainder of the survey.

However, obtaining interviews remained difficult, particularly in Melbourne and particularly amongst non-aged concession households. By 21 October 1,260 of the required 1,400 interviews in Melbourne had been obtained. Interviewing in all other regions had been completed. DHS in consultation with Roy Morgan Research agreed that interviewing in Melbourne should cease on 21 October, 2007 and survey fieldwork was closed.



The data obtained from respondents was relatively 'clean'. As such, little data imputation was required for survey results.

The collection of reliable billing data from utilities and councils was a critical and integral component of the project. While the majority of councils and utilities provided the required data within the required timeframes, a significant minority of utilities and councils failed to meet the requested deadlines for the data returns.

On 23 March 2007, suppliers were sent an information paper in relation to the requirements of the survey and the responsibilities that suppliers would need to undertake in relation to these requirements. A briefing session for utilities and councils was conducted on 4 April 2007 in order to inform them of the data requirements for the project and to identify any difficulties in suppliers providing such data. Significant input was obtained from the meeting in relation to data items to be provided and method of ensuring security of data transfer. The information paper was subsequently revised and re-issued to suppliers on 20 April 2007.

A secure web-site was designed to allow suppliers to download billing pro formas and upload them when completed. Emails were sent to suppliers prior to the first download of data, explaining the procedures for uploading and downloading, how to complete the pro formas and providing them with a user-id and password to access the web-site. Pro formas were loaded to the web-site three times during the survey process – 12 July 2007, where small amounts of respondent data was sent to suppliers to enable them to set-up their systems; 6 September, for the main batch of data; and 1 November for the final batch of data.

In most instances suppliers responded swiftly to data requests. For the initial batch and the main batch data returns, some suppliers were contacted to clarify the data provided. The main problems encountered with the data were (a) data provided for the wrong year, e.g. 2007 instead of 2006; (b) data provided for the year as a whole, rather than as separate bills for the year; and (c) data fields not completed. All suppliers were co-operative in re-issuing revised data sets, although some delays were experienced in their return.

---

However, it was noted that some significant suppliers were tardy in their delivery of data, which did cause delays in the processing of final billing data for the study. As experienced in the previous 2001 and 1996 surveys, these delays were primarily attributable to the following:

- A low priority placed on the compilation and return of customer data by some utilities and councils. As a result DHS and Roy Morgan Research were required to invest considerable time and resources into pursuing data requests; and
- Changes in personnel responsible for survey data. New staff were often not briefed on the requirements of the survey, requiring DHS and RMR to provide additional information and in some instances, obtain new approvals for the provision of data. In some instances, key personnel were on leave at the time of request, causing delays.

One energy retailer failed to return data for their customers who participated in the survey, despite numerous requests.

Whilst it was anticipated that a small proportion of supplier records could not be matched with the respondent data obtained from consent forms, the amount of non-matches was significant from some suppliers. This resulted in completely blank billing records for a number of respondents, for which billing data had to be imputed. It is considered that if suppliers placed greater importance on provision of the data, more diligent matching processes would have been undertaken, resulting in fewer blank customer records and therefore far less imputation of billing data required.

It is apparent that dialogue needs to occur at senior government and industry levels regarding future access to customer data for the purposes of government analysis and policy-making. These discussions should take place well prior to the next Victorian Utility Consumption Survey, to ensure the difficulties that have been experienced with timely access to customer billing and consumption data are not continually repeated.

This being said, it is considered that the quality and accuracy of the billing information obtained for the 2007 is far superior to that obtained in the 2001 survey (where considerable data discrepancies occurred) and is most likely superior to that obtained for the 1996 survey. As such, we consider that the billing and consumption data detailed in this report for the 2007 provides more precise picture of the actual states of the energy, water and council rates markets in Victoria.

---

#### **1.4 Limitations of Survey and Billing Data**

Please note that “Survey Data” refers to all data collected via the face-to-face household survey, while “Billing Data” refers to consumption and billing information provided by utilities and councils that was linked to each household in the respondent survey. This “Billing Data” covers a 12-month period of consumption and billing information for each household surveyed.

##### *Survey Data*

Survey data is limited by the fact that it is people’s perceptions of what actually is or has occurred in the household. As such, there are likely to be some logical discrepancies in some survey data, based on people’s perceptions. Some examples are provided below:

- Sample Type (i.e. concession status) is determined by what concession card the respondent chooses or does not choose as owning). As such, there are some instances where a respondent indicated they have an Aged Pension Concession card when they are aged under 65 years of age. It is their perception that this is the card they own. As a consequence, certain households may be mis-defined in terms of sample type based on the respondent’s perception;
- Sample Type for each household is determined by whether the respondent (i.e. the person mainly responsible for payment of household bills) holds or does not hold a concession card. As other members of the household can hold concession cards and they can be the account holder for specific household bills, it is possible that a household defined as a non-concession household (i.e. the respondent does not hold a concession card) can received a concession on a certain bill (i.e. as it is in another household member’s name and they hold a concession card). As a consequence, certain households may be mis-defined in terms of sample type based on the fact that another member of the household obtained concessions on specific household bills;
- Respondents do not necessarily have an accurate perception of which concession cards other members of the household hold. As a result, it is possible that a person under 65 years of aged has been allocated by the respondent as having an Aged Concession Pension card;
- While respondents are responsible for paying the majority of household bills, they may not be the account holder of all bills. Therefore their perceptions of whether their household received or does not receive a concession on a specific bill may be inaccurate.

It is therefore wise to interpret survey data as being *perceptions* of one member of the household and not necessarily an accurate assessment of that household.

---

*Billing Data*

- Whilst survey data was collected in 2007, billing data from utilities was obtained for each household for the 2006 calendar year and for councils for the 2006-2007 financial year. As such, there is a time lag between survey data and billing data. This has some consequences –
  - Whilst a household may hold a concession card in 2007, they may not have held it in 2006. Therefore it is possible that billing data does not reflect a DHS concession amount for that household in that year, even though that household is defined as being a concession household. Of course, the opposite can also be true (i.e. a household received a concession amount in 2006, but is defined as a non-concession household in 2007), so on average, results should be quite accurate in terms of overall levels of DHS concessions in Victoria, even though there will be some mis-allocation between respondents; but
  - Utility billing and consumption data is collected from each bill sent to the household over the 2006 calendar year. On average, three or four bills are sent to a household each year (although in some instances it can be 6 or 12). It is possible that a household was eligible for a concession for *part* of the 12-month period surveyed. If a concession amount was received by that household on at least one bill, then it was deemed that that household received concessions in that year. As a consequence, it is likely that the proportion of households obtaining concessions based on billing data will be overstated in each year.
- Data provided from utilities and councils was thoroughly checked to ensure that data was provided for each item collected (in particular, consumption items, charges, retailer discounts and DHS concessions). The agencies were instructed on how to complete these data files. Where data files provided had gaps, suppliers were contacted directly to ascertain whether that data item was in fact blank or not for their agency. In all instances, DHS concession amounts were provided, as were fields for other retailer provided discounts to ensure that the DHS concession amount was accurate (and not combined with some other form of discount to the customer). Agencies were able to provide comments on any items that needed to be explained (i.e. an additional charge or discount not defined in the data file). There were no instances where DHS concession data was mixed with other discounts allocated to customers.

As such, apart from the over-estimation of the proportions receiving concessions from partial receipt throughout the year and some minor corrections due to time lags, billing data is assumed to be accurate for the 2007 survey (see section 2.11 for comparisons with 1996 and 2001 data).

---

## 2 RESEARCH METHODOLOGY

The 2007 research methodology was designed to ensure that the aims and objectives of the study were adequately addressed and to ensure that comparison with 2001 and 1996 results, where possible, could be reliably conducted.

### 2.1 SUB-GROUP DEFINITIONS

Throughout this report detailed analysis of survey results has been conducted by 'sample type'. This comprises two main sub-groups, **concession card holder households** and **non-concession households**. Concession card holder households were further segmented into *aged concession households* and *other concession households*. The definitions for each of these sub-groups are provided below:

**Concession households** - The adult member of the household who is normally responsible for payment of the household bills *must currently hold* one or more of the following – a Pensioner Concession Card (aged or non-aged), a Health Care Card or a Department of Veterans' Affairs (DVA) Gold Card (except those stamped 'Dependent').

Within Concession households the sample is divided into –

*Aged Concession Households* - The adult member of the household who is normally responsible for payment of the household bills *must currently hold* one or more of the following – an Aged Pensioner Concession Card or a DVA Gold card (except those stamped 'Dependent');

*Other Concession Households* - The adult member of the household who is normally responsible for payment of the household bills *must currently hold* one or more of the following – a Non-aged Pensioner Concession Card or a Health Care Card.

**Non-Concession Households** - The adult member of the household who is normally responsible for payment of the household bills *must not currently hold* any of the afore-mentioned Concession cards.

Please note that in some circumstances other members of the household being surveyed may hold concession cards; however, these persons were defined as not being the person responsible for payment of the household bills. In most instances these were Health Care card holders, of which most were children aged under 15 living in the household. Therefore in some instances a Non-concession household may in fact receive concessions on some bills because another member of the household may hold a concession card. This also means that a household defined as an 'other' concession household may also have another household member who holds aged concession cards, or vice versa.

## **2.2 SAMPLE METHODOLOGY**

### **2.2.1 Original Sampling Methodology**

A two-stage stratified random sampling technique was adopted. The first stage consisted of randomly selecting ABS Census Collection Districts (CCDs) within the greater Melbourne metropolitan area and the four provincial cities. As the survey required 50% of the respondents to be "concession card holders", the CCDs were selected with a probability proportional to the number of low-income households in each CCD as identified by the ABS. Low income households for this purpose were defined as households with incomes of less than \$500 per week.

For 2007, a new region was included – LPG areas. The region was defined as being any region in Victoria in which mains gas was not connected. Apart from a few isolated localities in Melbourne and the four provincial cities, these areas were located in country Victoria. Using data obtained from DHS on reimbursement claims for non-mains gas concessions and information from the State Government on the mains gas roll-out, a database was created of eligible LPG localities. These localities were then randomly selected and CCDs selected based on street address information provided by DHS.

The second stage of sampling consisted of selecting households within the selected CCDs. A starting point within each CCD was randomly selected, using a list of all street addresses in Australia. Five interviews were to be obtained from each start point in each CCD selected.

---

Interviewers were each given a starting point from where to commence interviewing. The starting point address was not selected for interview; it was simply used as a starting point. A skip pattern of five was employed to randomly select households for interview; that is, interviewers went to the starting point ensuring that it was immediately on their left. They then counted ten dwellings on from this point and the fifth dwelling on their left became their first address for interview. The next household for interview was the fifth dwelling on from the first household selected for interview. This process continued until a total of five dwellings were randomly selected for interview. For LPG areas a skip pattern of two was used, as it was considered that a skip pattern of five was likely to move an interviewer out of an LPG area very quickly.

Each dwelling selected for interview was approached up to three times for interview. Interviewers were instructed to call back at two more times after the initial approach to obtain an interview. Approaches were made at different times of the day and week to improve the chances of finding a person at home. Where applicable, a suitable time was to be arranged with the person in the household who usually pays the bills to participate in the interview.

If, once a person was contacted in the household and an interview was refused or the bill payer did not meet quotas then an additional household was randomly selected, being the fifth dwelling on from the fifth household initially selected for interview. This process was to be repeated until five successful interviews were obtained from each start point.

A new household was not selected for interview until it was determined that one of the existing households selected for interview refused to be interviewed, were defined as out of scope or over quota, or three or more call-backs had been made to the household without making contact. The procedure employed is detailed below:

1. Select 10 households for interview using the same skip pattern of 5;
2. Call on each to determine their *final* call status (i.e., interview, refusal, quota full, ineligible/unable to complete the survey, visited 3 times and no answer on the third call);
3. If one or more of these ten households' final call status is *not* an interview, select another 5 households and attempt to obtain interviews with these households (i.e. total households approached = 15);
4. No further households can be selected until 3 calls have been made at all 15 households and/or final call status has been made;

- 
5. If 5 interviews have not been made after determining the final call status of these 15 households a further 5 households can be selected to complete the interviews;
  6. No further households can be selected until 3 calls have been made at these 5 households and/or final call status has been made; and
  7. Repeat steps 5 & 6 until 5 interviews have been obtained for that CCD.

This selection methodology was the similar to that used in 2001, however only 5 dwellings were originally selected to be called at (rather than 10) to obtain 5 interviews. This is also a slight deviation from the procedures used in the original survey in 1996, where it appears that no call-backs may have been made on households after the first five.

### **2.2.2 Amended Sampling Methodology**

The sampling methodology diverged as the survey progressed for two main reasons:

1. Refusal rates became so high that the likelihood of obtaining 5 interviews per workload became extremely difficult; and
2. When visited, CCDs defined as being LPG areas actually had mains gas installed.

As a result of the first issue (higher than expected refusal rates), it was agreed in consultation with DHS, to (a) include a \$30 Coles/Myer shopping voucher as an incentive to improve response, and (b) modify the standard call procedures. As of 3 August 2007, sample selection procedures for non-LPG CCDs were amended as follows:

1. Select 10 households for interview using the same skip pattern of 5;
2. Call on each to determine their *final* call status (i.e. interview, refusal, quota full, ineligible/unable to complete the survey, visited 3 times and no answer on the third call);



- 
3. If one or more of these 10 household's final call status is *not* an interview, select another 10 households and attempt to obtain interviews with these households (i.e., total households approached = 20);
  4. No further households can be selected until 3 calls have been made at all 20 households and/or final call status has been made;
  5. If 5 interviews have not been made after determining the final call status of these 20 households a further 10 households can be selected to complete the interviews;
  6. No further households can be selected until 3 calls have been made at these 10 households and/or final call status has been made; and
  7. If 5 interviews have not been made after determining the final call status of these 30 households a further 5 households can be selected to complete the interviews;
  8. No further households can be selected until 3 calls have been made at these 5 households and/or final call status has been made; and
  9. Repeat steps 7 & 8 until 5 interviews have been obtained for that CCD.

Where LPG area CCDs were in fact supplied by mains gas, the following procedure was employed to select new sample:

1. A CCD in the same locality, not contiguous with the originally selected CCD was selected and attempted;
2. If the replacement CCD was also found to be supplied with mains gas, that locality was removed from the LPG sample frame;
3. A CCD was then randomly selected and attempted from localities (a) within the same Council area; or (b) if no localities were available in the same Council area, a CCD was selected from an adjoining Council area;
4. If the replacement CCD was found to be supplied with mains gas, a CCD in the same locality, not contiguous with the replacement CCD was selected and attempted;
5. If the replacement CCD was found to be supplied with mains gas, a locality was selected from region within Victoria that had not already been sampled for the LPG sample frame and a CCD randomly selected and attempted; and
6. Steps 4 and 5 were repeated.

### 2.3 SAMPLE STRATIFICATION

The sample stratification details are outlined below:

- **50% of the respondents of non-LPG areas should be from “concession card holding” households.** The sampling methodology used increased the chances of approaching “concession” households. A quota of 1,000 “concession card households” and 1,000 “non-concession households” was assigned to replicate the 2001 and 1996 surveys and to ensure a suitable sample distribution. In the 2007 survey, 941 interviews were completed in non-LPG “concession” households and 971 in non-LPG “non-concession” households. The non-concession households were quota controlled by household size to ensure representativeness.
- **Of the non-LPG concession households, 50% were to be from Aged Concession households, with the other 50% holders from Other Concession households.** Quotas were applied in an attempt to achieve this sample split. In the final sample 523 interviews were conducted with non-LPG aged concession households and 369 with other concession households. The reason for the bias toward aged concession households was due to the difficulty in obtaining other concession households in Melbourne (351 compared with 220). Splits in provincial cities were close to 50%:50%. The questioning of Melbourne-based interviewers did not shed any light as to why other concession households were so difficult to find.
- **70% of the total non-LPG sample should be from the Melbourne metropolitan area, with the remaining 30% spread equally across the four Victorian provincial cities of Geelong, Ballarat, Bendigo and Shepparton.** The initial random CCD selection stage, as previously described, ensured this geographical distribution of sample. A total of 1,260 interviews were conducted in metropolitan Melbourne and 603 across the provincial cities (68%:32% split).
- **200 LPG area households should be areas outside of Melbourne and the four provincial cities.** CCD selection for LPG areas was conducted separately to non-LPG area to ensure this distribution of sample. A total of 198 interviews were conducted in LPG areas. Interestingly, 53 additional households that use LPG for indoor heating, cooking or hot water were surveyed in non-LPG areas, resulting in 251 LPG households being included in the survey (20 – Melbourne, 7 – Ballarat, 6 – Bendigo, 3 – Geelong and 17 – Shepparton).

## 2.4 SURVEY RESPONDENT

The eligible respondent for this survey was defined as:

*The adult member of the household who is normally responsible for payment of the household bills or the adult member of the household who could provide details about bills paid by the household.*

This was usually the person whose name appears on the bill, but it may have been another member of the household who was responsible for the financial management of the household.

In some circumstances there were households where different utility and rate bills were in different names. We interviewed the person who could properly answer on behalf of the other residents, in respect of all utility and rate bills.

In households where two or more people were equally responsible for payment of bills, then either (or any) of these people were interviewed.

There were also instances where the person whose name appeared on the bill did not pay these bills themselves (e.g. an elderly person's name may appear on the bill, but their son/daughter may pay these bills on the elderly person's behalf). The person who paid the bills may or may not have lived in the same household as the person whose name appeared on the bill. In such circumstances, an appropriate time was arranged so that **both** the person whose name appeared on the bills *and* the person who paid the bills were present at the interview.

The account holder, joint account holder or authorised person on behalf of the householder needed to **sign consent forms** on behalf of the household so that Roy Morgan Research could obtain billing information from each applicable utility and council. In some instances, the respondent was not the account holder for one or more of the household bills. In these instances a consent form was left for the account holder to sign. This caused some

difficulties in some households when the account holder refused to sign the consent form. The interviewer (or their supervisor) would then intercede to persuade the account holder to complete the consent form.

Only information about the household and dwelling approached for interview was gathered. If the respondent had other properties they were to limit their responses only to the dwelling approached and exclude any information about other properties for which they had responsibility.

For a household to be eligible for the survey *current residents must have lived at the address approached since at least the end of June 2006*. If not, the respondent was not eligible for the survey.

In some instances, respondents who had provided consent for collection of billing information could not be identified by utilities or councils. For these respondents, consumption and billing information was imputed.

## **2.5 DATA IMPUTATION FOR BILLING AND CONSUMPTION ITEMS**

Energy and water suppliers and local councils were requested to provide consumption and billing information for all respondents receiving a bill from these organisations. Each respondent had to complete and sign consent forms to allow these organisation to supply their household's information to Roy Morgan Research. Pro formas detailing the data to be provided were sent to each organisation to complete, along with a list of households from which this information was sought.

Reflecting the benefits of the detailed consultation and testing process undertaken, the provision of data by these agencies was, in most instances, entirely complete, with very few data items excluded (if any). However, some agencies could not provide consumption and billing information for the entire 12 month billing period because the respondent household had not been their customer for the entire period. In other instances utilities and councils could not identify the household from the information provided (i.e. the name, address, account details etc. provided by the respondent household could not be matched with the supplier's business records). In these two instances data was imputed.

---

For energy and water suppliers the following process was used to impute data. Please note that in most instances entire records were imputed (i.e. all the data from one or more bills), rather than individual data items (i.e. one billing category from a specific bill):

- The number of bills each supplier normally issues in a 12-month period was calculated;
- For each respondent household, the number of bills was calculated to determine if one or more were missing. Bill issue dates or meter reading dates were used to determine whether the entire 12- month period had been covered and for which period a bill was missing;
- Billing data for the missing bill was initially sought from existing billing data for that respondent. An existing bill record was ‘cloned’ (i.e. copied) if it was determined that the existing data would be a suitable replacement for the missing data. Suitability was determined by time of the year in which the billing related. For example a summer bill would be cloned to fill a bill gap that also related to summer – a winter bill for a winter bill gap etc. Bills from adjacent or most recent time periods were preferred over non-adjacent or non-recent time;
- If there were insufficient numbers of existing bills for that respondent household to clone a bill to fill a gap, bills were imputed –
  - From other information provided by the respondent in the survey it was determined whether the household was a concession or non-concession household. If the household was a concession household, data was imputed from similar concession households. A similar process applied for non-concession households where like households were used for imputation;
  - Based on concession status imputation was based on –
    1. The average for that sized household for that supplier in the region it was located;
    2. If region data was too sparse, the average was taken for that sized household for that supplier across all regions that supplier serviced ;
    3. If household size data was too sparse, the average was taken for that supplier in the region the household was located;
    4. If supplier data was too sparse, the average was taken for that household size for all suppliers servicing that specific region;
    5. A specific order of imputation was undertaken if more than one variable (i.e. household size, concession status, supplier or region) was too sparse to create averages.

- 
- In some circumstances a specific fixed charge or discount was applicable for each supplier. In these instances the average amount was not used, but the fixed amount to be charged/discounted

For council data imputation was undertaken as follows:

- Only one annual bill was required to be imputed for each respondent household;
- The respondent household was categorised as being either a concession or non-concession household;
- Cloning could not occur as no other billing data was collected for each household for council rate billing data;
- Based on concession status imputation was based on –
  1. The average for that CCD for that council;
  2. If CCD data was too sparse, the average for that Council;
  3. If council data was too sparse, the average for all councils in that region;
  4. If region data was too sparse, the average across all councils;
  5. A specific order of imputation was undertaken if more than one variable (i.e. concession status, council or region) was too sparse to create averages
- In some circumstances a specific fixed charge or discount was applicable for each council. In these instances the average amount was not used, but the fixed amount to be charged/discounted (e.g. if a concession was to be applied, an amount of \$168 was used).

Other rules included:

- A cloned bill/record could not be used to clone or impute another bill/record; and
- An imputed bill/record could not be used clone or impute another bill/record.

## 2.6 SAMPLE WEIGHTING

The weights were calculated separately for the main sample and the LPG-only area sample. The weighting design for the main sample was almost identical to the design applied to the 2001 and 1996 data.

Extrapolating from available data, an initial estimate was made of the number of occupied households in those country areas that do not have access to mains gas, i.e. LPG-only areas. Both because there is no demographic information available specifically for these areas, and because the sampling for the LPG-only areas was based only on LPG status, not on concession status, the weights for the LPG-only sample were calculated separately from the main sample, as simple projections to the estimated number of occupied households in these areas. All weighting calculations for the main sample excluded these LPG-only areas.

Weights for the individual households in the main sample were then calculated as follows:

- As CCDs had not been selected with equal probability (to improve the strike rate and to target households likely to yield more relevant information, CCDs had been selected with probability proportional to the number of low-income households they contained), to correct for this a ‘prior weight’ was assigned to each household inversely proportional to the number of households in its CCD that was ‘low-income’.
- Each household was treated as the sum of its inhabitants. All the inhabitants of the household (including all those ineligible for interview) were treated as ‘pseudo-respondents’ and initially assigned the prior weight of the household. Then, using marginal weighting (or raking/rim weighting), the sample of pseudo-respondents was weighted to yield both the appropriate proportions of holders of defined benefit cards, using estimates supplied by DHS (from Centrelink and the Department of Veteran’s Affairs), and the appropriate proportions of males and females by age by area, using 2006 ABS population estimates.
- As the demographic profiles for holders of benefit cards were limited and inconsistent across card type, the weights were arrived at by a process of marginal weighting (‘raking’ or ‘rim-weighting’). The mutually-exclusive and exhaustive age/sex/region categories were treated as one weighting dimension, the card-holder categories/regions as another, independent dimension and the weights evolved by an iterative process such that all target sums of weights were met. The assumption was made that the card-holder categories were mutually exclusive.

- 
- When the pseudo-respondent weights had been calculated the household was assigned a weight equal to the mean of its members' working weights. Within each stratum, these household weights were then adjusted slightly so as to represent the precise number of households in the stratum, based on 2006 ABS data.
  - The non-metropolitan sample was selected from four provincial centres specified by DHS and previously used in the 1996 and 2001 surveys. These centres are taken to be representative of country Victoria. Although the populations of those provincial cities are unequal, equal numbers of respondents were selected in each of the four. Where results are presented for the individual provincial centres, the results shown have been projected from the estimated populations of *each individual provincial centre*. Where these centres are combined, the results are projected to the estimated *total country Victoria population* (excluding LPG-only areas, which are represented by the LPG-only sample).

This total country Victoria estimate can be applied using an alternative weight-set in the data-set provided to NATSEM. In ASTEROID, this total country Victoria estimate is automatically<sup>1</sup> applied using ASTEROID's dynamic internal re-weighting.

The key figures used at various stages in the weighting are detailed on the following pages.

---

<sup>1</sup> However, please note that if using **means** the current release of ASTEROID is not correctly handling means for the 4 provincial cities. This problem will be fixed with the next release of ASTEROID. In the meantime, if means are required, a separate variable will need to be used.



Table 2.6.1: Estimated number of occupied households 2007

<b>Region</b>	<b>Estimated number of occupied households</b>
Melbourne	1,208,058
Geelong	53,371
Ballarat	29,049
Bendigo	28,064
Shepparton	3,521
In LPG-only areas	111,828
In total country Victoria, excluding LPG-only areas	461,780
<b>Total Victorian households</b>	<b>1,781,666</b>

Table 2.6.2: Age within sex within region June 2007

<b>Sex by Age</b>	<b>Ballarat</b>	<b>Bendigo</b>	<b>Geelong</b>	<b>Shepparton-Mooroopna</b>	<b>Melbourne</b>
Males 0-17	10,932	10,188	18,525	5,688	426,010
Males 18-24	4,505	4,105	7,086	1,790	184,768
Males 25-39	7,732	7,090	14,124	4,102	389,167
Males 40-54	7,246	6,856	13,607	3,630	345,838
Males 55-64	3,985	3,962	7,973	1,975	189,727
Males 65+	5,050	5,016	10,271	2,352	200,736
Females 0-17	10,301	9,809	17,361	5,601	398,094
Females 18-24	5,063	4,520	7,391	1,860	182,526
Females 25-39	7,964	7,408	14,191	4,156	395,259
Females 40-54	7,802	7,504	14,439	3,834	356,250
Females 55-64	4,439	4,226	8,504	2,115	198,018
Females 65+	7,290	6,910	13,739	3,116	254,662
<b>TOTAL</b>	<b>82,309</b>	<b>77,594</b>	<b>147,211</b>	<b>40,219</b>	<b>3,521,055</b>

**Table 2.6.3: Concession Status – June 2007:**

<b>Concession Type</b>	<b>Melbourne</b>	<b>Total 4 Provincial cities</b>
Pensioner Concession Card – Aged	370,550	36,854
Pensioner Concession Card - Non-Aged	203,921	22,016
Health Care Card	273,885	26,965
DVA Other	14,826	1,715
DVA TPI	2,722	315
DVA WW	17,366	2,008
<b>Total Concession Cards</b>	<b>883,272</b>	<b>89,873</b>
<b>Total with NO concession card, assuming exclusivity</b>	<b>2,637,783</b>	<b>257,460</b>
<b>Total</b>	<b>3,521,055</b>	<b>347,333</b>

## 2.7 VICTORIAN TEMPERATURE AND RAINFALL PATTERNS

One of the key objectives of this study is to identify patterns of electricity, gas and water consumption across regions of Victoria and across survey periods. However, such consumption patterns are affected to some degree by the prevailing weather conditions in the region at that time. In an attempt to allow the reader to interpret consumption patterns in association with weather patterns, two tables, based on Bureau of Meteorology weather data have been provided as a guide. The first table details average temperature patterns at particular weather stations across Victoria, using an average of the monthly average maximum and monthly average minimum temperatures as its basis (this is because maximum temperatures are likely to influence the level of heating or cooling in a household during the day, whilst minimum temperatures are likely to influence level of heating or cooling in a

household during the night). To assist in determining how ‘typical’ a given summer, winter or year has been, data from 1996, 2001 and 2007 has been compared with the average temperature for that weather station. A key has been provided, with an associated description to give some insight into how hot or cold a given season or year has been. Please note that this key has been designed by the researcher and is not based on any definition of ‘hotness’ or ‘coldness’ from the Bureau of Meteorology.

**Table 2.7.1: Average Temperatures by Region – 1996, 2001 and 2007:**

Temperature (°C)	Melbourne		Ballarat		Bendigo		Geelong		Shepparton	
	Ave. <sup>1</sup>	Comment	Ave. <sup>1</sup>	Comment	Ave. <sup>1</sup>	Comment	Ave. <sup>1</sup>	Comment	Ave. <sup>1</sup>	Comment
<b>Summer<sup>2</sup> -</b> Region Average	18.5		16.1		19.1		17.3		19.4	
2007	19.6	Hot summer	16.7	Warmer than ave. summer	19.4	Average summer	17.5	Average summer	19.6	Average summer
2001	20.6	Extremely hot summer	17.3	Hot summer	19.6	Warmer than ave. summer	18.5	Hot summer	20.2	Warmer than ave. summer
1996	18.3	Average summer	15.0	Cold summer	18.0	Cold summer	16.4	Cooler than ave. summer	18.3	Cold summer
<b>Winter<sup>3</sup> -</b> Region Average	12.5		9.4		10.8		11.8		11.5	
2007	13.5	Hot winter	9.6	Average winter	11.1	Average winter	11.7	Average winter	11.6	Average winter
2001	13.6	Hot winter	10.1	Warmer than ave. winter	10.7	Average winter	12.1	Average winter	11.6	Average winter
1996	12.9	Average winter	8.8	Cooler than ave. winter	10.4	Average winter	11.2	Cooler than ave. winter	11.1	Average winter
<b>Year -</b> Region Average	15.0		12.2		14.2		14.1		14.8	
2007	16.0	Hot year	12.6	Average year	14.6	Average year	14.1	Average year	15.0	Average year
2001	16.5	Very hot year	13.1	Average year	14.4	Average year	14.8	Warmer than ave. year	15.2	Average year
1996	15.2	Average year	11.4	Cooler than ave. year	13.6	Cooler than ave. year	13.4	Cooler than ave. year	14.1	Cooler than average year

1. Monthly ave. of maximum & minimum temperature for the region. 2. Months from December to April. 3. Months from May to November.

**Temperature Key:**

<b>Temperature -</b>	<b>Low<sup>1</sup></b>	<b>High<sup>1</sup></b>
Extremely Hot	2.0	or higher
Very Hot	1.5	1.9
Hot	1.0	1.4
Warmer (than ave.)	0.5	0.9
Average	-0.4	0.4
Cooler (than ave.)	-0.9	-0.5
Cold	-1.4	-1.0
Very Cold	-1.9	-1.5
Extremely Cold	or lower	-2.0

1. Lower or higher than the region average.

The second table details the average amount of rainfall that fell at a given weather station in summer, winter for each given year, as well as the total annual rainfall amount for that year. Rainfall is likely to influence (a) the amount of garden watering required (b) the amount of water that can be stored for later use and to a lesser extent, (c) the amount of use that clothes driers may need to be utilised in the event of extended rain periods. Again, to assist in determining how wet or dry a given summer, winter or year has been, data from 1996, 2001 and 2007 has been compared with the average rainfall for that weather station. A key again is provided, with an associated description to give some insight into how wet or dry a given season or year has been. Please note that this key has been designed by the researcher and is not based on any definition of ‘wetness’ or ‘dryness’ from the Bureau of Meteorology.

**Table 2.7.2: Average Rainfall by Region – 1996, 2001 and 2007:**

Rainfall (mm)	Melbourne		Ballarat		Bendigo		Geelong		Shepparton	
	Ave. <sup>1</sup>	Comment	Ave. <sup>1</sup>	Comment	Ave. <sup>1</sup>	Comment	Ave. <sup>1</sup>	Comment	Ave. <sup>1</sup>	Comment
<b>Summer<sup>2</sup> -</b> <i>Region Average</i>	52.5		45.6		29.9		36.9		33.1	
2007	41.2	Dry summer	24.8	Very dry summer	28.0	Average summer Drier than ave.	17.6	Dry summer	16.3	Dry summer Drier than ave.
2001	35.7	Dry summer	28.1	Dry summer Wetter than ave.	23.4	summer	17.6	Dry summer Wetter than ave.	24.1	summer
1996	65.7	Wet summer	52.9	summer	19.6	Dry summer	46.3	summer	32.0	Average summer
<b>Winter<sup>3</sup> -</b> <i>Region Average</i>	55.4		66.5		47.7		50.5		45.3	
2007	33.2	Very dry winter Wetter than ave.	25.4	Extremely dry winter	26.6	Very dry winter	28.1	Very dry winter	16.9	Very dry winter
2001	64.5	Winter	67.2	Average winter Drier than ave.	60.7	Wet winter	60.8	Wet winter	61.4	Wet winter
1996	67.8	Wet winter	60.4	winter	60.9	Wet winter	62.3	Wet winter	60.1	Wet winter
<b>Year -</b> <i>Region Total<sup>4</sup></i>	650.5		693.7		482.3		535.5		482.0	
2007	438.4	Extremely dry year	301.8	Extremely dry year Drier than ave.	326.0	Dry year Wetter than ave.	285.4	Very dry year	199.6	Very dry year Wetter than ave.
2001	629.6	Dry year	610.8	year	542.0	year	513.4	Average year	550.0	year Wetter than ave.
1996	803.0	Wet year	687.7	Average year	524.2	Average year	667.6	Wet year	581.0	year

1. Monthly ave. rainfall for the region. 2. Months from December to April. 3. Months from May to November. 4. Total annual rainfall ÷ 12 to use same legend below.

**Rainfall Key:**

Temperature -	Low <sup>1</sup>	High <sup>1</sup>
Extremely Wet	30.0	or higher
Very Wet	20.0	29.9
Wet	10.0	19.9
Wetter (than ave.)	5.0	9.9
Average	-4.9	4.9
Drier (than ave.)	-9.9	-5.0
Dry	-19.9	-10.0
Very Dry	-29.9	-20.0
Extremely Dry	or lower	-30.0

1. Lower or higher than the region average.

**2.8 NOTATIONS**

The following notations are use throughout this report:

\* Less than 0.5% response.

n/a not applicable.

n/c not collected for this survey.

- null or zero.

It should be noted that billing and consumption data for each survey has been actually collected for an earlier time period (e.g. for the 2007 survey, energy and water bill data is collected for the 2006 calendar year and council rates data for the 2006-7 financial year). However, for consistency, all billing and consumption data is referred to as being allocated in the survey year (i.e. 2007, 2001 and 1996).

## 2.9 RESPONSE RATES

One of the key measures of the relative efficiency of a survey is the number of approaches for interview that an interviewer makes to obtain a completed interview. This is generally known as the strike rate of a survey. There are two aspects of the strike rate: the number of calls attempted; and the number of actual households contacted to achieve an interview.

### 2.9.1 Number of Calls Made per Interview

The following table highlights the number of calls made to achieve a completed interview by region:

**Table: 2.9.1.1: Number of Attempts Made per Interview by Region**

Location	No. of Interviews 2007	No. of Attempts 2007	No. per completed interview 2007	No. per completed interview 2001	% change in completed attempt rate since 2001
Melbourne	1,260	17,470	13.87	8.80	58%
Ballarat	152	2,320	15.26	8.81	73%
Bendigo	150	1,106	7.37	8.62	-15%
Geelong	152	2,067	13.60	12.24	11%
Shepparton	149	1,251	8.40	5.84	44%
LPG areas	198	1,975	9.97	n/a	n/a
<b>Total Attempts Made</b>	<b>2,061</b>	<b>26,189</b>	<b>12.71</b>	<b>8.83</b>	<b>44%</b>



---

The average strike rate of *1 in 13* is due in part to the rigorous respondent selection procedures put in place, which as mentioned before required:

- Every fifth dwelling being selected for interview; and
- Replacement of an eligible household only in the event of:
  - ♦ A household failing the selection criteria;
  - ♦ A household refusing to participate in the survey;
  - ♦ A household being eligible, but the quota for that type of household is full; and
  - ♦ A household being approached three times with no interview obtained.

In particular, the requirement that a household be approached *three times* before replacement impacts significantly on the strike rate.

As can be seen from the preceding table, strike rates have increased considerably since the 2001 survey (from 8.83 to 12.71), up 44% over this period. In 2001, 17,712 attempts were made to survey 2,006 households, while in 2007, 26,189 attempts were made to survey 2,061 households – an increase of 8,477 attempts. This is primarily due to the large increase in refusals observed in 2007 (see section 1.3.2 for more detail). The biggest increases were observed in Ballarat and Melbourne (73% and 58% respectively), while in Bendigo the average number of call attempts fell by 15%.

### **2.9.2 Number of Households Approached per Interview**

Not all attempts to obtain an interview are made at different households. As outlined previously, call-backs are required. In 2007, 15,323 households were approached to obtain 2,061 interviews, while in 2001, just 10,403 households were approached to obtain 2,006 interviews – an increase of 4,920 since 2001. The average number of households visited in 2007 was 7.43 compared with 5.18 in 2001 – an increase of 43%. Again this rise was primarily due to the significant increase in the number of refusals observed in 2007. The table overleaf outlines the number of actual households approached to achieve the interviews.

**Table 2.9.2: Number of Households Approached per Interview By Region**

Location	No. of Interviews 2007	No. Households Approached 2007	No. per completed interview 2007	No. per completed interview 2001	% change in completed approach rate since 2001
Melbourne	1,260	10,252	8.14	4.98	63%
Ballarat	152	1,353	8.90	5.70	56%
Bendigo	150	671	4.47	5.08	-12%
Geelong	152	1,054	6.93	7.81	-11%
Shepparton	149	726	4.87	4.07	20%
LPG areas	198	1,267	6.40	n/a	n/a
<b>Total Attempts Made</b>	<b>2,061</b>	<b>15,323</b>	<b>7.43</b>	<b>5.18</b>	<b>43%</b>

Again, Melbourne and Ballarat had the greatest rises in approach rates since 2001, with Melbourne having the greatest increase (63%). Interestingly, while the number of attempts per interview rose for Geelong in 2007 (up 11%), the number of households visited per interview fell (down 11%), indicating that more attempts were made in calling back to the same selected households to obtain an interview, rather than selecting new households to approach.

When this overall ratio of households approached is combined with the number of attempts to obtain a successful interview, it can be determined that on average, each household at which an interview was attempted was *approached twice* for interview in 2007 (12.71 attempts ÷ 7.43 households approached = 1.71 attempts per household). This is almost identical to the rate observed in 2001 (i.e. 8.83 attempts ÷ 5.18 households approached = 1.70 attempts per household).

### 2.9.3 Response Rate

The response rate is the number of interviews divided by the number of *in-scope* households. It measures the success rate of obtaining an interview from a household that is eligible for interview. In 2007 the response rate was 32% overall. The response rate was not calculated in 2001.

**Table 2.9.3: Response Rate By Region**

CALL SUMMARY	Total	Melbourne	Ballarat	Bendigo	Geelong	Shepparton	LPG Areas
Interviewed	2,061	1,260	152	150	152	149	198
Refused (I/CN, RC, R, T)	4,340	3,015	381	170	310	202	262
<b>TOTAL HOUSEHOLDS IN-SCOPE</b>	<b>6,401</b>	<b>4,275</b>	<b>533</b>	<b>320</b>	<b>462</b>	<b>351</b>	<b>460</b>
Quota Full (QF)	584	402	44	80	14	36	8
Failed Screener (FS, QL)	1,188	534	129	53	72	69	331
No English	319	269	3	1	31	14	1
Respondent Not Suitable (NS)	399	254	62	5	54	7	17
Respondent Not Available (RNA)	223	182	9	2	23	2	5
Other (CB, Oth)	301	232	22	9	10	11	17
<b>TOTAL HOUSEHOLDS CONTACTED</b>	<b>9,415</b>	<b>6,148</b>	<b>802</b>	<b>470</b>	<b>666</b>	<b>490</b>	<b>839</b>
Household Out (O)	5,393	3,799	487	167	365	207	368
Vacant Residence/Block	223	76	41	21	14	19	52
Locked Gate/Vicious Dog	292	229	23	13	9	10	8
<b>TOTAL HOUSEHOLDS NOT CONTACTED</b>	<b>5,908</b>	<b>4,104</b>	<b>551</b>	<b>201</b>	<b>388</b>	<b>236</b>	<b>428</b>
<b>TOTAL HOUSEHOLDS APPROACHED</b>	<b>15,323</b>	<b>10,252</b>	<b>1353</b>	<b>671</b>	<b>1,054</b>	<b>726</b>	<b>1,267</b>
<b>RESPONSE RATE (Interviews/In-scope HHs)</b>	<b>32%</b>	<b>29%</b>	<b>29%</b>	<b>47%</b>	<b>33%</b>	<b>42%</b>	<b>43%</b>

I/CN – interviewed, but consent not given; RC – refused to give consent when approached R = refusal; T – termination mid-interview; QF – Quota type for that sample segment was already filled when approached; FS – failed screening questions; QL – not an LPG household in an LPG area; NS – Respondent incapable of completing survey e.g. deaf, blind etc.); RNA – bill payer not available for survey period; CB – Call back on last visit; Oth – Other non-contacts; O – Out on last visit.

---

## 2.10 INTERVIEW LENGTH

In 1996 the survey questionnaire took on average 35.7 minutes to administer. Whilst questions relating to washing loads, garden watering and general energy and water consumption habits were excluded from the 2001 survey, questions were added pertaining to council rate billing and in obtaining consent to collect billing information from councils. As a result the average questionnaire length for the 2001 survey was 39.02 minutes.

For 2007, questions we added to the survey on the following:

- Use of LPG for indoor heating, cooking or hot water;
- Motor vehicle registration;
- Year home was built;
- Material from which home was built;
- Number of bedrooms in the home;
- Ceiling insulation;
- Main type of lighting per room;
- Appliances in the household (list extended by 5 items);
- Cooling systems in the home – extended greatly to obtain data by cooling system type (8 types collected);
- Times per week full loads and part loads of washing are washed;
- Capacity of water tanks;
- Agreement/disagreement with statements on solar hot water heaters (6 statements);
- Awareness of buying electricity from renewable energy sources;
- Incidence of electricity being bought from renewable energy sources; and
- Interest in an Energy and Water Usage Check being conducted in the home (including completion of a consent form if interested).

In addition, a question on garden watering types was replaced by a question on the impact on garden watering by water restrictions, and consent forms were restructured to more appropriately meet privacy requirements. It was estimated that with the inclusion of the above questions, the questionnaire would take approximately 45 minutes to administer.

In fact, the average interview length for the 2007 survey was 53.1 minutes, an increase of 14.1 minutes over the 2001 version. Anecdotal evidence from interviewers indicated that the questionnaire did in fact take around 45 minutes to administer, with the balance of the time (8 minutes) taken up by the respondent searching for bills to accurately complete consent forms, explaining to other household members (who were account holders for specific bills) the need to sign consent forms and for interviewers to also explain to other household members their need to sign consent forms.

**Table 2.10.1: Average Interview Length By Region and Year**

Average Interview Length	2007	2001	1996
Ballarat	60.1	n/c	n/c
Bendigo	52.6	n/c	n/c
Geelong	54.6	n/c	n/c
Shepparton	47.6	n/c	n/c
LPG Areas	55.6	n/c	n/c
<i>Total Country VIC</i>	54.2	46.5	n/c
Melbourne	52.4	36.1	n/c
<b>Total</b>	<b>53.1</b>	<b>39.0</b>	<b>35.7</b>

In 2001, average interview length varied considerably between Melbourne metropolitan and Victorian regional centres, with Melbourne interviews taking 36.1 minutes to administer, whilst regional centres took, on average, 46.5 minutes. In 2007, a similar trend was observed, although the difference in average interview length was not as large as in 2001 (Melbourne - 52.4 compared with Country Victoria - 54.2). In Ballarat, the average interview length was 60 minutes.

For 2007, average interview length was longest amongst aged concession households (56.1 minutes) and shortest amongst non-concession households (51.5 minutes). Households with LPG averaged 53.1 minutes.

**Table 2.8.2: Average Interview By Sample Type**

<b>Average Interview Length</b>	<b>2007</b>
Aged Concession HHs	56.1
Other Concession HHs	51.9
<i>Total Concession HHs</i>	<i>54.4</i>
Non-concession HHs	51.5
HHs with LPG	54.9
<b>Total</b>	<b>53.1</b>

## 2.11 COMPARISONS WITH 2001 AND 1996 DATA

Throughout this report, where possible, results obtained in 2007 were compared with results obtained in 2001 and 1996. It should be noted that due to the format in which the 1996 data was provided, the relative lack of information on how the 1996 sample was selected, modifications to question wording and response categories, plus weighting restrictions, results obtained in 2007 and 2001 may not be strictly comparable with 1996 *in some circumstances*.

It should also be further noted that consumption and billing data in 2001 was edited severely due to the poor format and quality of data provided by suppliers. As such, we consider that comparison between 2007 and 1996 for billing and consumption data is more accurate than comparisons between 2007 and 2001 billing and consumption data.

However, it is still considered that the results provided in this report are more precise than the unweighted results provided in the 1996 report because data has been weighted to more accurately reflect Victoria's population characteristics in 1996, 2001 and 2007.

### 3 SAMPLE CHARACTERISTICS

NB. This section is based on respondent survey data.

#### 3.1 SAMPLE OVERVIEW

As described previously, the sample was stratified according to concessions held, size of household, and location. Table 3.1 compares the 2007 sample with those from the 2001 and 1996 surveys, providing a detailed *unweighted* breakdown of the number of respondents in each location according to type of concession held.

**Table 3.1: Structure of the 2007 sample compared to the 2001 and 1996 samples.**

Location	No. Surveyed											
	Aged Concession HHs			Other Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Ballarat	42	46	47	36	41	31	74	64	72	152	151	150
Bendigo	38	45	41	38	34	34	74	72	76	150	151	151
Geelong	49	34	51	39	38	35	64	80	66	152	152	152
Shepparton	43	35	58	36	45	33	70	68	61	149	148	152
<b>Provincial Cities</b>	<b>172</b>	<b>160</b>	<b>197</b>	<b>149</b>	<b>158</b>	<b>133</b>	<b>282</b>	<b>284</b>	<b>275</b>	<b>603</b>	<b>602</b>	<b>605</b>
Melbourne	351	376	386	220	304	269	689	724	740	1260	1404	1395
LPG areas	85	n/a	n/a	49	n/a	n/a	64	n/a	n/a	198	n/a	n/a
<b>Total</b>	<b>608</b>	<b>536</b>	<b>583</b>	<b>418</b>	<b>462</b>	<b>402</b>	<b>1035</b>	<b>1008</b>	<b>1015</b>	<b>2061</b>	<b>2006</b>	<b>2000</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006), 1996 (n=2,000)

As illustrated in Table 3.1, besides the inclusion of LPG areas in the 2007 stratification, the overall sample was largely similar in composition to the 2001 and 1996 samples. However, the 2007 sample had a higher ratio of aged concessions households to other concession households than previous samples, which represents a reversal of the trend reported for the 1996 sample, but similar to that observed in 2001. The skew is the result of the difficulties encountered in obtaining other concession card holder households in Melbourne (more detail on this is provided in section 2 of this report).

---

## 3.2 SAMPLE GROUPS

Analysis of this section and all other sections in this document have been conducted on *weighted* data for the 1996, 2001 and 2007 surveys.

### 3.2.1 Location of Sample Type

As shown in Table 3.2.1 overleaf, the distribution of households in each sample type category has not varied substantially since 1996. In 2007, around four in ten (41%) households were defined as concession households, with similar proportions of households being aged and non-aged concession households (21% and 19% respectively).

In contrast to previous years, the proportion of concession households did not vary greatly between Melbourne and the provincial cities (38% and 41% respectively). The proportion of non-concession households was similar across years (59% - 2007, 62% - 2001 and 59% - 1996). Just over two-thirds (68%) of households in LPG areas were concession households, with the highest proportion (43%) of these being aged concession households and one-quarter other concession households, possibly reflecting the increasing age profile of people living in rural non-urban centres. It should be noted that interviewing quotas were not set for concession type in LPG areas, in an attempt to provide some indication of the concession/non-concession breakdown in these areas of Victoria.

Compared with the 2001 sample, household compositions of the provincial cities of Ballarat, Bendigo and Shepparton varied markedly by sample type. In Ballarat and Bendigo, proportions of households in each sample category returned to similar distributions as in 1996, while Shepparton had a higher ratio of non-concession to concession households compared with the 2001 and 1996 samples.



Table 3.2.1: Sample Type by Location

Location	%											
	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Ballarat	21%	33%	24%	20%	25%	20%	41%	59%	44%	59%	41%	56%
Bendigo	19%	33%	21%	20%	24%	21%	39%	56%	42%	61%	44%	58%
Geelong	22%	23%	28%	22%	24%	22%	44%	47%	49%	56%	53%	51%
Shepparton	17%	23%	32%	22%	31%	20%	39%	54%	52%	61%	46%	48%
<b>Provincial Cities</b>	<b>20%</b>	<b>28%</b>	<b>26%</b>	<b>21%</b>	<b>26%</b>	<b>21%</b>	<b>41%</b>	<b>54%</b>	<b>47%</b>	<b>59%</b>	<b>46%</b>	<b>59%</b>
Melbourne	20%	17%	22%	18%	15%	17%	38%	32%	39%	62%	68%	61%
LPG areas	43%	n/a	n/a	25%	n/a	n/a	68%	n/a	n/a	32%	n/a	n/a
<b>Total</b>	<b>21%</b>	<b>20%</b>	<b>23%</b>	<b>19%</b>	<b>18%</b>	<b>18%</b>	<b>41%</b>	<b>38%</b>	<b>41%</b>	<b>59%</b>	<b>62%</b>	<b>59%</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

### 3.2.2 Sample Age and Gender

Overall, the 2007 sample comprises proportionately more females (57%) than males (43%). Similar gender distributions are evident across household types, with other concession households, not surprisingly, the most female-dominated group (65%), as single mothers would make up a significant proportion of this category. By region, the sample from country Victoria includes considerably more females (63%) than males (37%), with no substantive difference between LPG regions and the provincial cities in the gender composition of the sample. The gender composition of the Melbourne sample was more evenly split, comprising 46% males and 54% females.

Table 3.2.2 presents the age and gender profiles of the 2007, 2001 and 1996 samples across household types. Please note that the 2007 rules governing allocation of respondents to 'aged' or 'other' concession categories has been slightly modified from 2001 and 1996. As a consequence, it appears that aged concession households have a slightly (but not significantly) younger age profile than was the case in 2001 and 1996. Of all concession holders

in 2007, 55% of males and 43% of females were aged 65 years or over. As expected, the great majority (86%) of aged concession holders were aged 65 years or over, while the other concession sample included higher proportions (90%) aged 25-64. The age profile of non-concession households is relatively similar to that of other concession households.

The mean age amongst aged concession holders was 73.4 years, substantially higher than that for other concession households (45.1 years). The total concession household sample had a mean age of 60.1 years compared with 46.6 years for non-concession households.

Respondents from LPG areas tended to be older than residents of the provincial cities or Melbourne, with this pattern similar across both male and female sub-samples.

**Table 3.2.2.1: Sample Age and Gender by Household Type**

Sex by Age	%											
	Aged Concession HHs <sup>1</sup>			Other Concession HHs			Total Concession HHs			Non-Concession HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Males -												
16-24	-	-	-	6%	9%	5%	3%	4%	2%	3%	5%	4%
25-39	1%	-	-	24%	25%	39%	11%	11%	14%	26%	35%	36%
40-54	1%	1%	2%	36%	32%	32%	15%	14%	13%	35%	32%	34%
55-64	7%	9%	10%	29%	24%	23%	16%	15%	15%	24%	16%	16%
65+	92%	90%	88%	4%	10%	2%	55%	57%	57%	12%	11%	10%
Females -												
16-24	0%	-	-	4%	8%	12%	2%	4%	5%	3%	4%	3%
25-39	0%	1%	*	35%	36%	43%	18%	20%	20%	33%	37%	44%
40-54	2%	2%	-	42%	35%	32%	22%	19%	15%	40%	41%	38%
55-64	16%	14%	19%	14%	15%	12%	15%	15%	16%	16%	12%	8%
65+	82%	83%	80%	5%	4%	1%	43%	42%	43%	7%	5%	6%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

1. Note that classification of concession type is primarily determined by the respondent themselves, so some respondents may mis-classify themselves (e.g. aged concession holders being younger than 55 years).

Table 3.2.2.1: Sample Age and Gender by Household Type (continued)

Sex by Age	%											
	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Total -												
16-24	-	-	-	5%	9%	9%	2%	4%	4%	3%	5%	3%
25-39	1%	*	*	31%	33%	42%	15%	16%	18%	30%	37%	40%
40-54	1%	2%	1%	40%	34%	32%	19%	17%	14%	38%	38%	37%
55-64	12%	12%	15%	19%	18%	15%	15%	15%	15%	20%	14%	12%
65+	86%	86%	84%	5%	6%	1%	48%	48%	48%	9%	7%	8%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

1. Note that classification of concession type is primarily determined by the respondent themselves, so some respondents may mis-classify themselves (e.g. aged concession holders being younger than 55 years).

### 3.3 HOUSEHOLD PROFILE

#### 3.3.1 Length of Time Living at Current Address

At the time of the 2007 survey, almost three-quarters of respondents (71%) had lived at their current address for more than 5 years, 23% for between 2 and 5 years, and 7% for less than 2 years.

Respondents in the provincial cities tended to have lived at their current address for slightly shorter periods of time; 44% of these respondents had lived at their current address for more than 10 years, compared with 51% of respondents in LPG regions and 49% of Melbourne residents.

As illustrated in Table 3.3.1, half (51%) of aged concession households had lived at their current address for over 20 years, compared with only 15% of other concession groups. Nearly half (49%) of non-concession households had lived at their current address for 2 to 10 years.

There were no substantive changes in length of time at current address from the 2001 sample. Data on length of time living at current address was not collected in 1996.

**Table 3.3.1: Length of Time Living at Current Address by Sample Type**

Length of time at current address	Aged Concession HHs		Other Concession HHs		Total Concession HHs		Non-Concession HHs		Total HHs	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
Less than 1 yr	-	*	-	3%	-	2%	-	1%	-	1%
1 yr to less than 2 yrs	2%	3%	9%	15%	5%	9%	8%	12%	7%	11%
2 yrs up to 5 yrs	10%	10%	28%	28%	18%	19%	27%	27%	23%	24%
Over 5 yrs up to 10 yrs	15%	10%	27%	20%	21%	15%	22%	21%	22%	18%
Over 10 yrs up to 20 yrs	20%	23%	19%	20%	20%	21%	23%	22%	22%	22%
Over 20 yrs	51%	53%	15%	15%	34%	35%	20%	17%	26%	24%
No answer	2%	-	1%	-	1%	-	*	-	1%	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006)

### 3.3.2 Household Size

At the time of the 2007 survey, one in five respondents lived by themselves, while over one third (36%) lived with one other person (refer to Table 3.3.2). Not surprisingly, aged concession households were much more likely to live in smaller households, with 88% living either by themselves or with one other person. In contrast, other concession and non-concession respondents were more likely to live in larger households, with 34% of each of these groups living in households of four or more persons.

The prevalence of aged concession holders living alone has been on the decline since 1996, while there has been a slight increase in non-concession holders living by themselves. Compared with 2001, other concession households tended to be larger in size in 2007.

Melbourne and the provincial cities have similar household sizes, with 45% and 41% respectively residing in households of three or more persons. LPG regions tend to have comparatively smaller households, with more than two-thirds (69%) of residents living alone or with one other person, compared with just 55% of Melbourne residents and 60% of respondents in the provincial cities.

**Table 3.3.2: Household Size by Sample Type**

No. persons in HH	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
1 person	36%	41%	48%	19%	19%	14%	28%	31%	33%	15%	12%	10%	20%	19%	20%
2 persons	52%	51%	40%	31%	28%	28%	42%	40%	35%	32%	32%	28%	36%	35%	31%
3 persons	8%	6%	9%	15%	23%	20%	11%	14%	14%	19%	20%	20%	16%	18%	18%
4 or more persons	5%	3%	3%	34%	29%	38%	19%	15%	18%	34%	36%	41%	28%	28%	32%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

### 3.3.3 Incidence of Children under 16 in Household

In 2007, more than two-thirds (69%) of all households did not have children under the age of 16 living in them. Almost all aged concession households (97%) had no children living in them, while just under half (48%) of other concession households included at least one child. Twenty-nine percent of non-concession households had one or two children living in the household.

Households in LPG areas were considerably less likely to have children living in them, with more than three-quarters (79%) of LPG households including no children under 16, compared with just 69% of households in Melbourne and the provincial cities.

The incidence of children under the age of 16 in households has not changed considerably from the 2001 sample. Survey results could not be compared with 1996 data for this question, as the question was not asked in the 1996 survey.

**Table 3.3.3: Incidence of Children under 16 in Household by Sample Type**

No. children living in HH	Aged Concession HHs		Other Concession HHs		Total Concession HHs		Non-Concession HHs		Total HHs	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
No children	97%	99%	52%	52%	76%	77%	65%	61%	69%	67%
1 child	2%	1%	19%	22%	10%	11%	15%	16%	13%	14%
2 children	1%	-	17%	13%	8%	6%	14%	16%	12%	12%
3 children	-	*	10%	9%	5%	4%	4%	7%	4%	6%
4 or more children	-	*	2%	4%	1%	2%	2%	1%	1%	1%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006)

### 3.3.4 Derived Total Household Income

Total household income was a **derived** survey item. Respondents were asked to indicate from a list of ranges the level of any income that they and other household members received. For those receiving income from employment, the midpoint of each of the selected income ranges was used to calculate the household income received from employment. Aged concessions were added in at an estimated \$12,430 per year and other concessions at an estimated \$10,943 per year (based on Centrelink and DVA data from June 2007). Self-funded income was also added into the calculation at an estimated \$14,671 per year (from 2001 ABS estimates on other sources of income and recalculated to account for income growth to June 2007). Only other income sources were excluded from calculations of household income as no estimate of income value could be provided. It should be noted that the calculation of derived household income in 2001 did not include self-funded income, as so strict comparisons in relation to income growth cannot be made between years.

Not surprisingly, average household income was much higher for non-concession (\$81,000 per annum) than concession households (\$34,900 per annum). Over two-thirds (68%) of non-concession households in 2007 earned \$50,000 or more per annum, while only 20% of concession households earned this amount. Almost one-third (30%) of concession households brought in less than \$20,000 annually, compared with just 6% of non-concession households. As would be expected, household income tended to be higher for other concession households (average of \$38,100 per annum) compared with aged concession households (\$31,900 per annum).

Across regions, Melbourne households had the highest average annual household income (\$65,000), whilst LPG regions had the lowest (\$46,200). This is not surprising given the older age profile of respondents in LPG areas and their tendency to live in smaller households compared with residents of Melbourne or the provincial cities.

Results could not be compared with 2001 or 1996 data for this question.

**Table 3.3.4: Derived Total Annual Household Income by Sample Type and Region, 2007**

Derived Household Income	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	Provincial Cities	LPG Regions	Total Country Vic	Melbourne	Total HHs
Less than \$10,000	-	-	-	1%	1%	-	1%	*	*
\$10,000-\$19,999	31%	30%	30%	5%	15%	24%	17%	15%	15%
\$20,000-\$29,999	38%	22%	31%	7%	18%	24%	19%	15%	16%
\$30,000-\$39,999	7%	13%	10%	4%	9%	11%	9%	5%	7%
\$40,000-\$49,999	5%	10%	7%	11%	11%	7%	10%	9%	10%
\$50,000 or more	17%	24%	20%	68%	43%	32%	41%	52%	49%
Can't say	2%	1%	2%	4%	4%	2%	3%	3%	3%
<b>Mean (\$'000)</b>	<b>31.9</b>	<b>38.1</b>	<b>34.9</b>	<b>81.0</b>	<b>58.2</b>	<b>46.2</b>	<b>55.8</b>	<b>65.0</b>	<b>62.0</b>

Base: Total respondents, 2007 (n=2,061)

### 3.3.5 Main Language Spoken in the Household

English was the main language spoken in the great majority of households (91%). This proportion is highest amongst aged concession (91%) and non-concession households (92%), while 85% of other concession households had English as their main language. Four percent of aged concession households' main language was Italian, while for other concession households, 'Other' languages (less commonly spoken in Australia) accounted for the bulk of non-English languages spoken (9%).

Almost all households in the provincial cities (99%) and all LPG households (100%) speak English as their main language, while the proportion is considerably lower amongst Melbourne households (87%).

Results were very similar to those obtained in 2001 and 1996.



Table 3.3.5: Main Language Spoken in the Household of Sample

Main Language of HH	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
English	91%	89%	89%	85%	83%	80%	88%	86%	85%	92%	89%	89%	91%	88%	87%
Italian	4%	3%	5%	*	1%	2%	2%	2%	3%	1%	1%	1%	1%	1%	2%
Greek	1%	1%	2%	*	3%	2%	1%	2%	2%	*	1%	1%	*	1%	2%
Vietnamese	*	*	*	2%	3%	3%	1%	2%	1%	1%	*	2%	1%	1%	2%
Arabic	*	*	-	2%	2%	2%	1%	1%	1%	*	*	*	1%	1%	1%
Spanish	1%	*	*	*	1%	1%	*	*	1%	*	1%	1%	*	*	1%
Turkish	-	*	*	*	1%	2%	*	1%	1%	-	*	1%	*	*	1%
Cantonese	*	*	*	*	*	1%	*	*	1%	1%	1%	*	1%	1%	*
Mandarin	-	-	*	*	*	1%	*	*	*	1%	1%	1%	*	*	1%
Other	2%	6	4	9%	6%	7%	5%	6	5%	4%	6%	5%	4%	6	5%
Can't say	*	-	-	-	*	-	*	*	-	-	-	-	*	*	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

### 3.3.6 Home Ownership Status

Just over three-quarters (77%) of respondents were currently buying or already owned their own home at the time of the 2007 survey, whilst almost one-quarter (22%) were renting public or private accommodation. The majority (81%) of aged concession households and 42% of non-concession households already owned their own home, while 40% of non-concession households were paying off their home. Renting is far more prevalent amongst other concession households (46%) compared with aged concession (14%) and non-concession households (17%).

There was a decline in the proportions of other concession households who own their homes (from 33% to 29%), with an off-setting increase in public renting (from 13% to 17%), with these proportions now approximately midway between the 2001 and 1996 figures.

LPG region residents were considerably more likely to be homeowners/buyers (88%) when compared with residents of Melbourne (78%) or the provincial cities (73%).

**Table 3.3.6: Sample Home Ownership Status**

Home Ownership Status	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Owned/fully paid off	81%	84%	76%	29%	33%	26%	57%	59%	54%	42%	41%	39%	48%	48%	45%
Buying/paying off	4%	4%	4%	22%	23%	17%	13%	13%	10%	40%	42%	42%	29%	31%	28%
Rent - Private	9%	5%	5%	29%	29%	35%	19%	17%	18%	16%	15%	16%	17%	16%	17%
Rent - Public	5%	7%	14%	17%	13%	22%	11%	10%	17%	1%	1%	3%	5%	4%	9%
Other	1%	*	*	1%	1%	1%	1%	1%	1%	1%	*	1%	1%	*	1%
Can't say	-	*	-	-	*	-	-	*	-	-	1%	-	-	1%	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

### 3.3.7 Incidence of Other Household Members holding Concession Cards

One in ten households had at least one other member holding either an aged pension concession card (12%) or a health care card (10%) with smaller proportions having at least one other member holding a non-aged pension card (4%) or DVA Gold card (1%).

Not surprisingly, a large proportion (45%) of aged concession households had another member also holding an aged pensioner card, whilst more than one-quarter (28%) of other concession households had another household member holding a Health Care card. Less than one-in-ten (8%) of non-concession households included members with a concession card of some type, with the majority of these holding a Health Care Card (5%).

Results were largely consistent with those found in 2001 with only slight increases in proportions of other household members having an aged pensioner card amongst aged and other concession households. Results could not be compared with 1996 data, as the question was not asked in that year.

**Table 3.3.7: Incidence of Other Household Members Holding Concession Cards**

Other HH members with Concession Cards <sup>1</sup>	Aged Concession HHs		Other Concession HHs		Total Concession HHs		Non-Concession HHs		Total HHs	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
Aged Pensioner Card	45%	41%	8%	5%	27%	24%	2%	2%	12%	10%
Non-aged Concession Card	4%	5%	16%	16%	9%	11%	1%	2%	4%	5%
Health Care Card	6%	4%	28%	33%	16%	18%	5%	7%	10%	11%
DVA Gold Card	3%	2%	1%	2%	2%	2%	*	1%	1%	1%
<b>Total</b>	<b>52%</b>	<b>50%</b>	<b>47%</b>	<b>48%</b>	<b>49%</b>	<b>50%</b>	<b>8%</b>	<b>10%</b>	<b>25%</b>	<b>26%</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006)

1. A member of the household could hold more than one concession card.

Please note that whilst other members of the household may hold concessions cards, these persons were not defined as being the person responsible for payment of the household bills. Therefore in some instances a Non-concession household may in fact receive concessions on some bills because another member of the household may hold a concession card. This also means that a household defined as an ‘other’ concession household may also have another household member who holds aged pensioner concession cards, or vice versa.

**3.3.8 Registered Motor Vehicles**

Not surprisingly, Melbourne residents and non-concession households had the most persons in the household with motor vehicles registered in their name (1,695,000 and 1,656,000 respectively), as well as the highest average number of persons registered per household (1.40 and 1.57 respectively). Of the concession status sub-groups, non-concession households also had the highest proportion of respondents with a motor vehicle registered in their name (77%). By region, however, respondents from LPG regions were most likely to have motor vehicles registered in their name (78%).

**Table 3.3.8: Registered Motor Vehicles by Region and Sample Type, 2007**

	Persons with motor vehicle registered in name ('000)							Total households per subgroup	Average persons registered per HH	% of respondents with motor vehicle registered in name
	Respondent	Person 2	Person 3	Person 4	Person 5	Person 6	Total			
<b>By Region -</b>										
Melbourne	880	610	142	51	11	1	1695	1208	1.40	73%
Ballarat	20	15	2	1	0	0	38	29	1.31	69%
Bendigo	21	14	3	0	0	0	38	28	1.36	75%
Geelong	37	25	5	1	0	0	68	53	1.28	70%
Shepparton	10	6	2	0	0	0	18	14	1.29	71%
LPG Areas	87	53	7	3	0	0	150	112	1.34	78%
Country VIC	416	282	48	11	3	2	762	574	1.33	72%
<b>By Concession Status -</b>										
Aged Concession HHs	246	127	24	7	2	0	406	382	1.06	64%
Other Concession HHs	234	129	19	9	2	1	394	342	1.15	68%
Total Concession HHs	480	256	42	16	4	1	799	724	1.10	66%
Non-Concession HHs	815	635	148	46	10	2	1656	1057	1.57	77%
<b>Total</b>	<b>1295</b>	<b>891</b>	<b>190</b>	<b>62</b>	<b>14</b>	<b>2</b>	<b>2454</b>	<b>1782</b>	<b>1.38</b>	<b>73%</b>

Base: Total respondents, 2007 (n=2,061)

### 3.3.9 Date when Home was Built

Overall, the large majority of homes were built before 1991 (80%). The date when home was built was generally consistent across sub-groups. Public renters were less likely to indicate that their home was built before 1991 (71%); however, the larger proportion of 'can't say' amongst these respondents (17%) is likely to account for some of the difference.

**Table 3.3.9: Date when Home was Built by Sample Type, Region and Home Ownership Status, 2007**

<b>Date Home Built</b>	<b>After 2004</b>	<b>1991 to 2004</b>	<b>Before 1991</b>	<b>Can't say</b>
<b>By Concession Status -</b>				
Aged Concession HHs	*	14%	83%	3%
Other Concession HHs	1%	12%	77%	10%
Total Concession HHs	*	13%	80%	6%
Non-Concession HHs	2%	16%	80%	3%
<b>By Region -</b>				
Ballarat	-	10%	82%	8%
Bendigo	6%	13%	79%	3%
Geelong	2%	18%	79%	1%
Shepparton	2%	18%	78%	2%
LPG Areas	1%	11%	85%	4%
<b>Country VIC</b>	<b>2%</b>	<b>14%</b>	<b>81%</b>	<b>3%</b>
Melbourne	1%	15%	80%	5%
<b>By Ownership Status -</b>				
Own/paying off	2%	16%	81%	2%
Rent -Private	1%	11%	78%	10%
Rent- Public	-	12%	71%	17%
<b>Total HHs</b>	<b>1%</b>	<b>15%</b>	<b>80%</b>	<b>4%</b>

Base: Total respondents, 2007 (n=2,061)

### 3.3.10 Number of Bedrooms in the Home

Across all sub-groups, homes most commonly had three bedrooms (52%). As might be expected, the number of bedrooms was higher amongst home owners/buyers, with 87% having three or more bedrooms, compared with 52% of private and 51% of public rental homes. Public renters were also the most likely group to live in one-bedroom homes (17%). Incidence of having four or more bedrooms was higher amongst non-concession (26%) than concession (15%) households, and also increased with date built (from 25% of homes built before 1991 to 38% of those built after 2004).

**Table 3.3.10: Number of Bedrooms in the Home by Sample Type, Region, Home Ownership Status and Date Built, 2007**

<b>No. of Bedrooms</b>	<b>One</b>	<b>Two</b>	<b>Three</b>	<b>Four or more</b>
<b>By Concession Status -</b>				
Aged Concession HHs	4%	26%	56%	14%
Other Concession HHs	7%	18%	60%	15%
Total Concession HHs	6%	22%	58%	15%
Non-Concession HHs	2%	16%	55%	26%
<b>By Region -</b>				
Ballarat	2%	16%	55%	26%
Bendigo	3%	17%	60%	19%
Geelong	3%	20%	51%	26%
Shepparton	3%	16%	62%	18%
LPG Areas	4%	14%	60%	22%
<b>Country VIC</b>	<b>3%</b>	<b>17%</b>	<b>56%</b>	<b>24%</b>
Melbourne	3%	19%	50%	27%
<b>By Ownership Status -</b>				
Own/paying off	1%	13%	55%	32%
Rent -Private	9%	39%	44%	8%
Rent- Public	17%	32%	45%	6%

Base: Total respondents, 2007 (n=2,061)

**Table 3.3.10: Number of Bedrooms in the Home by Sample Type, Region, Home Ownership Status and Date Built, 2007 (continued)**

<b>No. of Bedrooms</b>	<b>One</b>	<b>Two</b>	<b>Three</b>	<b>Four or more</b>
<b>By Date Built -</b>				
After 2004	-	21%	42%	38%
1991 to 2004	3%	14%	52%	31%
Before 1991	3%	19%	52%	25%
<b>Total HHs</b>	<b>3%</b>	<b>19%</b>	<b>52%</b>	<b>26%</b>

Base: Total respondents, 2007 (n=2,061)

### 3.3.11 Material from which Home is Built

Overall, brick veneer was the most common material from which homes were built (64%) across all groups with the exception of LPG residents (only 28%). Homes in LPG regions were most likely to be built of weatherboard/timber (42%).

The material from which homes were built varied by the date built. For example, brick veneer was more common for homes built after 1991 (1991 to 2004: 85%; after 2004: 78%) than those built before 1991 (59%). Weatherboard/timber was most common in homes built before 1991 (24%), followed by those built after 2004 (11%), with incidence lowest for homes built between these periods (7%). Double brick/cavity brick was most common amongst homes built before 1991 (11%) and incidence of homes being built from concrete/besser blocks was highest for those built after 2004 (8%).

Table 3.3.11: Material of Home by Sample Type, Region, Home Ownership Status and Date Built, 2007

	Brick veneer	Double brick/ Cavity brick	Weatherboard/ Timber	Fibro-cement	Concrete/ Besser block	Steel/ Aluminium	Other Material	Can't say
<b>By Concession Status -</b>								
Aged Concession HHs	68%	6%	18%	3%	2%	1%	2%	1%
Other Concession HHs	63%	8%	19%	2%	4%	*	2%	1%
Total Concession HHs	66%	7%	18%	2%	3%	1%	2%	1%
Non-Concession HHs	62%	11%	23%	1%	2%	*	1%	*
<b>By Region -</b>								
Ballarat	67%	5%	27%	1%	-	*	1%	-
Bendigo	65%	7%	24%	2%	2%	-	2%	-
Geelong	61%	9%	26%	1%	1%	-	*	1%
Shepparton	76%	4%	12%	7%	-	1%	1%	-
LPG Areas	28%	4%	42%	8%	3%	4%	12%	1%
<b>Country VIC</b>	<b>58%</b>	<b>6%</b>	<b>28%</b>	<b>3%</b>	<b>1%</b>	<b>1%</b>	<b>3%</b>	<b>1%</b>
Melbourne	66%	11%	18%	1%	3%	*	1%	*
<b>By Ownership Status -</b>								
Own/paying off	63%	8%	23%	2%	2%	*	2%	*
Rent -Private	65%	12%	19%	2%	2%	*	*	*
Rent- Public	66%	11%	7%	1%	14%	-	-	2%
<b>By Date Built -</b>								
After 2004	78%	-	11%	-	8%	-	3%	-
1991 to 2004	85%	4%	7%	-	1%	1%	2%	-
Before 1991	59%	11%	24%	2%	2%	*	2%	*
<b>Total HHs</b>	<b>64%</b>	<b>9%</b>	<b>21%</b>	<b>2%</b>	<b>2%</b>	<b>*</b>	<b>2%</b>	<b>*</b>

Base: Total respondents, 2007 (n=2,061)



### 3.3.12 Dwelling Type

The vast majority of respondents lived in separate houses (85%). Not surprisingly, separate houses were more common amongst country Victoria (92%) than Melbourne (82%) residents, whilst semi-detached homes were more common in Melbourne (12%) than country Victoria (6%).

Private and public renters were considerably less likely to live in separate houses (59% and 54% respectively) than were homeowners/buyers (93%). About one-quarter of renters lived in semi-detached dwellings (private: 27%; public: 23%), while just over one in ten lived in low-rise flats/units (private: 13%; public: 11%). A further 12% of public renters lived in high-rise flats/units. Homes built before 1991 were less likely to be semi-detached (8%) compared with those built between 1991 and 2004 (17%) or after 2004 (16%).

**Table 3.3.12: Dwelling Type by Sample Type, Region, Home Ownership Status and Date Built, 2007**

	Separate house	Dwelling/ non-dwelling combined	Semi-detached	Low rise flats/units	High rise flats/units
<b>By Concession Status -</b>					
Aged Concession HHs	84%	-	13%	2%	*
Other Concession HHs	80%	*	10%	7%	3%
Total Concession HHs	82%	*	12%	4%	2%
Non-Concession HHs	87%	*	9%	3%	*
<b>By Region -</b>					
Ballarat	91%	1%	7%	1%	-
Bendigo	92%	-	5%	3%	-
Geelong	92%	-	8%	-	-
Shepparton	89%	-	7%	5%	-
LPG Areas	96%	1%	3%	1%	-
<b>Country VIC</b>	<b>92%</b>	*	<b>6%</b>	<b>1%</b>	-
Melbourne	82%	*	12%	5%	1%

Base: Total respondents, 2007 (n=2,061)

**Table 3.3.12: Dwelling Type by Sample Type, Region, Home Ownership Status and Date Built, 2007 (continued)**

	Separate house	Dwelling/ non-dwelling combined	Semi-detached	Low rise flats/units	High rise flats/units
<b>By Ownership Status -</b>					
Own/paying off	93%	*	5%	1%	-
Rent -Private	59%	*	27%	13%	*
Rent- Public	54%	-	23%	11%	12%
<b>By Date Built -</b>					
After 2004	84%	-	16%	-	-
1991 to 2004	81%	*	17%	2%	-
Before 1991	87%	-	8%	4%	1%
<b>Total HHs</b>	<b>85%</b>	<b>*</b>	<b>10%</b>	<b>4%</b>	<b>1%</b>

Base: Total respondents, 2007 (n=2,061)

### 3.3.13 Incidence of Ceiling Insulation

Three-quarters of households (77%) had some insulation, with 69% being completely insulated and 7% partly insulated. Ceiling insulation was more common amongst non-concession and aged concession households (both 81%) than other concession households (57%). Homeowners/buyers were also substantially more likely to have some insulation (89%) than were either private (33%) or public (43%) renters. Homes built before 1991 were less likely to have any insulation (76%) compared with those built between 1991 and 2004 (88%) or after 2004 (91%).

**Table 3.3.13: Incidence of Ceiling Insulation by Sample Type, Region, Home Ownership Status and Date Built, 2007**

	Completely Insulated	Partly Insulated	Total with some insulation	Not insulated	Can't say
<b>By Concession Status -</b>					
Aged Concession HHs	74%	7%	81%	10%	9%
Other Concession HHs	51%	6%	57%	20%	24%
Total Concession HHs	63%	7%	69%	15%	16%
Non-Concession HHs	74%	8%	81%	9%	10%
<b>By Region -</b>					
Ballarat	70%	13%	83%	7%	10%
Bendigo	66%	10%	76%	9%	15%
Geelong	70%	6%	76%	15%	9%
Shepparton	77%	6%	84%	5%	12%
LPG Areas	71%	7%	78%	15%	7%
<b>Country VIC</b>	<b>70%</b>	<b>8%</b>	<b>78%</b>	<b>11%</b>	<b>10%</b>
Melbourne	69%	7%	76%	11%	13%
<b>By Ownership Status -</b>					
Own/paying off	81%	8%	89%	6%	5%
Rent -Private	27%	6%	33%	28%	39%
Rent- Public	39%	4%	43%	25%	32%
<b>By Date Built -</b>					
After 2004	91%	-	91%	4%	4%
1991 to 2004	84%	3%	88%	5%	7%
Before 1991	68%	8%	76%	12%	12%
<b>Total HHs</b>	<b>69%</b>	<b>7%</b>	<b>77%</b>	<b>11%</b>	<b>12%</b>

Base: Total respondents, 2007 (n=2,061)

### 3.4 RESPONDENT PROFILE

#### 3.4.1 Length of Time Holding a Concession Card

The majority (82%) of respondents who held a concession card had held it for more than 2 years or more at the time of the 2007 survey, and nearly all (92%) of aged concession holders had held their card for this long. Other concession card holders tended to hold their concession cards for a shorter term, with less than three-quarters (72%) having owned their card for 2 years or more and 10% for 6 months or less. This is not surprising as many other concession card holders would have Health Care cards due to currently being unemployed.

Amongst other concession households, the length of time holding concession card has been on the rise since 1996, indicating that holding this form of concession is becoming a long term proposition for many.

**Table 3.4.1: Length of Time Holding a Concession card by Sample Type**

Length of time holding concession card	Aged Concession HHs			Other Concession HHs			Total Concession HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Less than 4 months	2%	1%	2%	5%	6%	8%	3%	3%	4%
4-6 months	*	2%	1%	5%	4%	6%	2%	3%	3%
7-12 months	2%	1%	2%	6%	6%	15%	4%	4%	8%
Over 1 year to less than 2 years	2%	3%	5%	10%	12%	11%	6%	7%	7%
2 years or more	92%	91%	90%	72%	68%	60%	82%	80%	77%
Can't Say	2%	2%	*	3%	4%	*	3%	3%	*

Base: Total respondents holding a concession card, 2007 (n=1,026); 2001 (n=998); 1996 (n=985)

**3.4.2 Employment Status**

At the time of the 2007 survey, 47% of all respondents were employed with 53% not employed. Pensioners/retirees (31%) and those undertaking home duties (15%) comprised the majority of those not employed, while only 3% were looking for work and 2% were studying. Of those in paid employment, just over half (54%) worked full-time, 30% worked part-time and 16% were self-employed.

As expected, the large majority (89%) of aged concession households were retired compared with under one-third of other concession households. A considerable proportion of other concession households were also engaged in home duties (27%) or employed (24%)

As in 2001, the proportions undertaking home duties have continued to fall across all sample types, whilst the opposite trend is evident for pensioners/retirees indicating an ageing population.

Respondents in LPG regions were less likely to be in paid employment (33%) than residents of Melbourne (49%) or the provincial cities (47%). Coinciding with the older age profile of LPG residents, over half (52%) of these respondents were retired or pensioners at the time of the 2007 survey. This proportion was considerably lower for residents of the provincial cities and Melbourne (both 30%).

**Table 3.4.2: Employment Status by Sample Type**

Employment Status	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Full Time Employment	*	-	*	6%	4%	7%	3%	2%	3%	42%	36%	45%	26%	23%	28%
Part Time Employment	2%	2%	1%	13%	14%	12%	7%	8%	6%	19%	21%	16%	14%	16%	12%
Self Employed	*	-	*	5%	2%	3%	3%	1%	2%	11%	8%	7%	7%	5%	5%
<b>Total Employed</b>	<b>3%</b>	<b>2%</b>	<b>2%</b>	<b>24%</b>	<b>21%</b>	<b>23%</b>	<b>13%</b>	<b>11%</b>	<b>11%</b>	<b>71%</b>	<b>65%</b>	<b>67%</b>	<b>47%</b>	<b>44%</b>	<b>44%</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

**Table 3.4.2: Employment Status by Sample Type (continued)**

Employment Status	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Home Duties	5%	11%	13%	27%	32%	38%	15%	21%	24%	14%	21%	21%	15%	21%	22%
Studying	*	-	*	5%	7%	6%	3%	3%	3%	1%	3%	3%	2%	3%	3%
Looking for Work	1%	*	*	11%	10%	14%	5%	5%	7%	2%	1%	1%	3%	2%	3%
Retired/Pensioner	89%	87%	82%	31%	28%	16%	62%	59%	53%	10%	8%	7%	31%	28%	26%
<b>Total Not Employed</b>	<b>97%</b>	<b>98%</b>	<b>96%</b>	<b>76%</b>	<b>77%</b>	<b>74%</b>	<b>87%</b>	<b>88%</b>	<b>87%</b>	<b>29%</b>	<b>34%</b>	<b>32%</b>	<b>53%</b>	<b>55%</b>	<b>44%</b>
Other	-	*	*	-	2%	3%	-	1%	2%	-	1%	1%	-	1%	1%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

### 3.4.3 Income Sources

Most respondents' incomes were derived from pension and other government benefits (38%) and income from employment (48%). Not surprisingly, the majority of concession households' incomes were derived from pensions and other government benefits (85%) while non-concession households' incomes were mainly derived from employment (73%).

Since 2001 there has been a decrease in non-concession households with no income (from 14% in 2001 to 6% in 2007) and an increase in income from employment (from 68% to 73%) indicating an increased employment rate amongst this group.

Consistent with the higher proportion of retirees/pensioners in LPG regions, these respondents were less likely to receive income from employment (32%) and more likely to derive income from pensions and other government benefits (62%) compared with residents of Melbourne and the provincial cities.

**Table 3.4.3: Income Sources of Main Respondent by Sample Type**

Income Sources	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Wages/ Salary/ Income from Employment	3%	1%	2%	22%	21%	22%	12%	11%	11%	73%	68%	70%	48%	46%	46%
Pensions/ Other Govt Benefits	92%	93%	96%	78%	79%	78%	85%	86%	88%	6%	3%	5%	38%	35%	39%
Self Funded	21%	19%	16%	7%	8%	3%	14%	14%	10%	15%	15%	12%	15%	15%	11%
Other Sources	1%	-	1%	1%	1%	2%	1%	*	1%	3%	1%	3%	2%	1%	2%
None	-	-	1%	3%	2%	4%	2%	1%	3%	6%	14%	14%	4%	9%	10%
Can't Say	3%	1%	-	3%	2%	-	3%	1%	-	3%	3%	-	3%	2%	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

### 3.4.4 Personal Income

As illustrated in Table 3.4.4, the average income level for all households has continued to rise since 2001, primarily driven by increases in income amongst other concession holders and particularly non-concession respondents.

As expected, the average personal income amongst non-concession households was considerably higher than that of concession households – a mean of \$52,000 per annum compared with \$24,000, respectively. At the time of the 2007 survey, nearly one-third (31%) of non-concession card holders earned \$50,000 or more per annum compared with only 3% of concession card holders.

Melbourne residents in paid employment had the highest average personal income from wages or salaries (\$50,000 per annum), followed by LPG residents (\$41,300), with respondents from the provincial cities having the lowest personal income (\$38,700 per annum).

**Table 3.4.4: Personal Income of Main Respondent (from employment)**

Income	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Less than \$10,000	11%	9%	65%	9%	23%	52%	9%	22%	59%	4%	7%	13%	5%	9%	32%
\$10,000-\$19,999	28%	58%	25%	35%	36%	29%	34%	38%	27%	8%	15%	17%	10%	17%	21%
\$20,000-\$29,999	14%	14%	4%	23%	24%	7%	22%	24%	5%	14%	17%	20%	15%	18%	14%
\$30,000-\$39,999	9%	19%	*	14%	5%	2%	14%	6%	1%	11%	17%	13%	12%	16%	8%
\$40,000-\$49,999	-	-	-	8%	4%	1%	7%	3%	*	14%	13%	8%	13%	12%	5%
\$50,000 or more	6%	-	*	3%	2%	-	3%	2%	*	31%	21%	8%	29%	20%	5%
Can't say	32%	-	5%	8%	5%	5%	11%	5%	5%	17%	9%	7%	16%	9%	6%
<b>Mean (\$'000)</b>	<b>22.8</b>	<b>19.6<sup>1</sup></b>	<b>11.0<sup>1</sup></b>	<b>24.1</b>	<b>19.1<sup>1</sup></b>	<b>12.5<sup>1</sup></b>	<b>24.0</b>	<b>19.1<sup>1</sup></b>	<b>11.8<sup>1</sup></b>	<b>52.0</b>	<b>35.0<sup>1</sup></b>	<b>27.3<sup>1</sup></b>	<b>46.4</b>	<b>33.4<sup>1</sup></b>	<b>20.3<sup>1</sup></b>

Base: Total respondents who have income from employment, 2007 (n=831); 2001 (n=767); 1996 (n=1,195)

1. Estimated using mid-point of income ranges for 2001 and 1996.



### 3.4.5 Derived Personal Income

Total personal income was a **derived** survey item. Respondents were asked to indicate from a list of ranges the level of any income that they and other household members received. For those receiving income from employment, the midpoint of each of the selected income ranges was used to calculate the household income received from employment. Aged concessions were added in at an estimated \$12,430 per year and other concessions at an estimated \$10,943 per year (based on Centrelink and DVA data from June 2007). Self-funded income was also added into the calculation at an estimated \$14,671 per year (from 2001 ABS estimates on other sources of income and recalculated to account for income growth to June 2007). Only other income sources were excluded from calculations of personal income as no estimate of income value could be provided. It should be noted that the calculation of derived personal income in 2001 did not include self-funded income, as so strict comparisons in relation to income growth cannot be made between years.

Three-quarters of concession household respondents had total personal incomes between \$10,000 and \$19,999 per annum, with the proportion slightly higher for aged concession respondents (78%) than for other concession respondents (75%). Almost half (46%) of non-concession respondents earn \$40,000 or more annually. As would be expected, these respondents have considerably higher average personal incomes than concession respondents – means of \$39,100 and \$22,700 per annum respectively. Melbourne residents had the highest average personal income per annum (mean of \$31,000), followed by respondents from the provincial cities (\$26,700); residents of LPG areas earned the least, on average, per annum (\$23,800), consistent with the older age profile and higher proportion of retirees/pensioners amongst these respondents.

**Table 3.4.5: Derived Personal Income of Main Respondent**

<b>Derived Personal income</b>	<b>Aged Concession HHs</b>	<b>Other Concession HHs</b>	<b>Total Concession HHs</b>	<b>Non-Concession HHs</b>	<b>Provincial Cities</b>	<b>LPG Regions</b>	<b>Total Country Vic</b>	<b>Melbourne</b>	<b>Total HHs</b>
No income	3%	7%	5%	16%	10%	5%	9%	12%	11%
Less than \$10,000	-	2%	1%	3%	3%	2%	3%	2%	2%
\$10,000-\$19,999	78%	71%	75%	16%	43%	61%	46%	37%	40%
\$20,000-\$29,999	17%	9%	13%	10%	13%	8%	12%	11%	11%
\$30,000-\$39,999	0%	4%	2%	9%	8%	7%	8%	5%	6%
\$40,000-\$49,999	1%	4%	2%	22%	11%	11%	11%	15%	14%
\$50,000 or more	1%	2%	1%	24%	12%	7%	11%	17%	15%
Can't say	-	*	*	-	*	-	*	*	*
<b>Mean (\$'000)</b>	<b>22.1</b>	<b>23.3</b>	<b>22.7</b>	<b>39.1</b>	<b>26.7</b>	<b>23.8</b>	<b>26.1</b>	<b>31.0</b>	<b>32.4</b>

Base: Total respondents, 2007 (n=2,061)

---

## **4 ENERGY CONSUMPTION AND EXPENDITURE**

NB. This section is based on respondent survey data.

### **4.1 USE OF ELECTRICITY AND GAS**

#### **4.1.1 Incidence of Gas Use**

Incidence of mains gas usage in households around Victoria remains high, at 88% in 2007. This result is slightly lower than observed in 2001 (94%), but the difference is primarily due to the inclusion of respondents from solely LPG gas regions in 2007. As such, the 2007 figure is more likely to show the actual proportion of mains gas users than was the case in previous years. Mains gas usage has remained stable since 2001 in Melbourne and the provincial cities of Ballarat and Geelong, whilst Shepparton has seen a continued increase (up to 94%) and usage in Bendigo has fallen from 94% in 2001 to 89% in 2007. As in previous years, Ballarat remains the region with the highest incidence of mains gas usage, with almost all (99%) households using mains gas in 2007.

Usage of cylinder gas is consistently low in all regions other than LPG areas. Compared with previous years, however, there has been an increase in cylinder gas usage in all areas, with the largest increases from 2001 experienced in the provincial centres of Shepparton (up from 2% to 11%), Bendigo (up from 2% to 7%) and Ballarat (up from 0% to 6%). This is likely to be due to households having both mains and LPG gas for different uses (e.g. LPG for heating and hot water and mains gas for cooking).

**Table 4.1.1.1: Use of Gas in Household by Region**

Gas Use	Use Mains Gas			Use Cylinder Gas			Total Use Gas			Don't Use Gas		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Melbourne	94%	94%	90%	2%	*	*	94%	94%	90%	6%	6%	10%
Ballarat	99%	98%	95%	6%	-	1%	99%	98%	96%	1%	2%	4%
Bendigo	89%	94%	91%	7%	2%	-	95%	91%	96%	5%	4%	9%
Geelong	94%	95%	94%	2%	-	1%	94%	95%	95%	6%	6%	5%
Shepparton	94%	91%	89%	11%	2%	2%	95%	92%	91%	5%	8%	9%
LPG Areas	2%	n/a	n/a	100%	n/a	n/a	100%	n/a	n/a	-	n/a	n/a
<b>VIC Country</b>	<b>76%</b>	<b>94%</b>	<b>92%</b>	<b>24%</b>	<b>1%</b>	<b>2%</b>	<b>97%</b>	<b>95%</b>	<b>93%</b>	<b>3%</b>	<b>5%</b>	<b>7%</b>
<b>TOTAL VIC</b>	<b>88%</b>	<b>94%</b>	<b>91%</b>	<b>9%</b>	<b>*</b>	<b>*</b>	<b>95%</b>	<b>95%</b>	<b>91%</b>	<b>5%</b>	<b>5%</b>	<b>9%</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

As in previous years, mains gas usage is more prevalent amongst non-concession households, with 91% of these households using mains gas, compared with 84% of concession households. Overall and across all sample groups, the incidence of mains gas usage is down and cylinder gas usage up from 2001, which is unsurprising given the inclusion of LPG areas in the sample for the first time in 2007. The proportion of aged concession households using gas (either mains or cylinder) has continued to increase to 96%, while amongst other sample types the total proportions using gas has remained relatively stable from 2001.

**Table 4.1.1.2: Use of Gas in Household by Sample Type**

Gas Use	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Use Mains Gas	83%	91%	84%	84%	92%	88%	84%	92%	85%	91%	96%	94%	88%	94%	91%
Use Cylinder Gas	15%	1%	1%	10%	1%	1%	13%	1%	1%	6%	*	*	9%	*	*
<b>Total Use Gas</b>	<b>96%</b>	<b>92%</b>	<b>85%</b>	<b>92%</b>	<b>93%</b>	<b>89%</b>	<b>94%</b>	<b>93%</b>	<b>86%</b>	<b>96%</b>	<b>96%</b>	<b>95%</b>	<b>95%</b>	<b>95%</b>	<b>91%</b>
Don't Use Gas	4%	8%	16%	8%	7%	11%	6%	8%	14%	4%	4%	5%	5%	5%	9%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Similar to previous years, incidence of mains gas usage tends to increase with household size, from 83% of single-person households to 92% of households with four or more persons. Individuals living alone were more likely than other household sizes to use cylinder gas (11%).

**Table 4.1.1.3: Use of Gas in Household by Household Size**

Gas Use	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Use Mains Gas	83%	90%	80%	88%	93%	91%	88%	95%	93%	92%	98%	96%	88%	94%	91%
Use Cylinder Gas	11%	1%	-	9%	*	1%	8%	*	1%	8%	*	*	9%	*	*
<b>Total Use Gas</b>	<b>91%</b>	<b>91%</b>	<b>80%</b>	<b>95%</b>	<b>93%</b>	<b>92%</b>	<b>95%</b>	<b>96%</b>	<b>94%</b>	<b>98%</b>	<b>98%</b>	<b>96%</b>	<b>95%</b>	<b>95%</b>	<b>91%</b>
Don't Use Gas	9%	9%	20%	5%	7%	8%	5%	4%	6%	2%	2%	4%	5%	5%	9%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

## 4.1.2 Energy Sources for Heating, Cooking and Hot Water

### 4.1.2.1 Gas for Heating, Cooking and Hot Water

As in previous years, heating remains the most commonly reported use of gas (85%) in Victoria followed closely by use of gas for cooking (80%) and hot water (80%).

The use of gas for heating has declined slightly from 2001 levels in all four provincial cities, while usage for cooking has risen in most areas, with Shepparton experiencing the sharpest increase (from 56% to 72%). The proportion of households using gas for hot water has continued to increase in all regions except Bendigo with the largest increase shown in Ballarat (from 80% to 89%).

More than half of households in LPG areas regularly use gas for heating (57%) or cooking (59%), while only a minority use gas for hot water (14%). These results are far lower than for other regions of the state, indicating that households in LPG areas are not included to use LPG for multiple uses.

**Table 4.1.2.1.1: Regular Uses of Gas in Household by Region**

Uses of Gas	Gas for Heating			Gas for Cooking			Gas for Hot Water		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Melbourne	87%	87%	84%	83%	80%	72%	84%	78%	71%
Ballarat	91%	95%	93%	76%	64%	72%	89%	80%	72%
Bendigo	90%	93%	85%	81%	83%	74%	79%	79%	75%
Geelong	83%	89%	92%	80%	69%	70%	87%	81%	81%
Shepparton	84%	87%	85%	72%	56%	55%	76%	72%	63%
LPG Areas	57%	n/a	n/a	59%	n/a	n/a	14%	n/a	n/a
<b>VIC Country</b>	<b>81%</b>	<b>91%</b>	<b>89%</b>	<b>75%</b>	<b>67%</b>	<b>68%</b>	<b>71%</b>	<b>78%</b>	<b>72%</b>
<b>TOTAL VIC</b>	<b>85%</b>	<b>88%</b>	<b>86%</b>	<b>80%</b>	<b>76%</b>	<b>71%</b>	<b>80%</b>	<b>78%</b>	<b>71%</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Concession households showed a decline in the usage of gas for heating (83% from 88% in 2001); this was particularly the case for other concession households (down from 87% in 2001 to 79% in 2007). By contrast, gas usage for cooking and hot water amongst non-concession households both increased from previous years.

**Table 4.1.2.1.2: Regular Uses of Gas in Household by Sample Type**

Uses of Gas	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Gas for Heating	87%	88%	80%	79%	87%	81%	83%	88%	80%	86%	89%	89%	85%	88%	86%
Gas for Cooking	71%	71%	61%	79%	80%	74%	75%	75%	66%	84%	77%	74%	80%	76%	71%
Gas for Hot Water	76%	71%	58%	78%	81%	71%	77%	76%	64%	82%	79%	77%	80%	78%	71%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

There have been decreases since 2001 in the proportions of households using gas for heating, particularly amongst larger households (four or more persons) and individuals living alone. Use of gas for cooking has continued to increase for two- and three-person households, and two-person households also evidenced an increase in gas usage for hot water.

**Table 4.1.2.1.3: Regular Uses of Gas in Household by Household Size**

Uses of Gas	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Gas for Heating	79%	83%	73%	85%	86%	86%	86%	89%	87%	88%	94%	92%	85%	88%	86%
Gas for Cooking	71%	73%	63%	79%	71%	67%	84%	75%	72%	86%	85%	79%	80%	76%	71%
Gas for Hot Water	71%	70%	59%	80%	76%	67%	80%	79%	76%	85%	84%	81%	80%	78%	71%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

#### 4.1.2.2 Electricity for Heating, Cooking and Hot Water

Over half (51%) of households in 2007 reported using electricity for cooking. Incidence of electricity use for hot water has gradually declined since 1996 (27%), with the 2007 proportion dropping to 20%. Electricity usage for heating has increased from 28% in 2001 to one-third (34%) in 2007. Not

surprisingly, LPG areas show a different pattern of electricity usage than the other regions of Victoria: the majority of households in LPG areas use electricity for hot water (85%), almost two-thirds for cooking (63%) and more than half (55%) for heating. The proportion using electricity for heating in LPG areas was much higher than for other regions of Victoria (most likely because of a lower dependence on gas). As 16% of households in LPG areas use reverse cycle air conditioning for heating, along a trend in regional centres to use reverse cycle air conditioning for heating, it is not surprising that the overall proportion of households using electricity for heating has increased since 2001 (see section 5.3 for more detail).

In country Victoria, incidence of using electricity for heating has continued to rise, with the proportion rising from 19% in 1996 and 2001 to more than one-third (37%) in 2007. Use of electricity for hot water has continued to decline in Melbourne and the four provincial centres. Compared with 2001, use of electricity for cooking has risen substantially in Bendigo and fallen by a similar margin in Shepparton, with these changes offsetting the respective decrease and increase experienced from 1996 to 2001 in these areas.

**Table 4.1.2.2.1: Regular Uses of Electricity in Household by Region**

Uses of Electricity	Electricity for Heating			Electricity for Cooking			Electricity for Hot Water		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Melbourne	32%	31%	32%	51%	54%	51%	16%	22%	28%
Ballarat	25%	20%	14%	50%	49%	39%	11%	21%	25%
Bendigo	32%	21%	24%	47%	37%	51%	18%	20%	25%
Geelong	36%	23%	19%	51%	56%	38%	13%	19%	18%
Shepparton	34%	25%	18%	50%	60%	46%	25%	29%	34%
LPG Areas	55%	n/a	n/a	63%	n/a	n/a	85%	n/a	n/a
<b>VIC Country</b>	<b>37%</b>	<b>22%</b>	<b>19%</b>	<b>52%</b>	<b>51%</b>	<b>44%</b>	<b>29%</b>	<b>23%</b>	<b>26%</b>
<b>TOTAL VIC</b>	<b>34%</b>	<b>28%</b>	<b>28%</b>	<b>51%</b>	<b>53%</b>	<b>49%</b>	<b>20%</b>	<b>23%</b>	<b>27%</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

The proportion of non-concession households using electricity for cooking has decreased from 58% in 2001 to 53% in 2007. Non-concession households have evidenced a gradual increase in electricity use for heating and a gradual decrease in usage for hot water from 1996 to 2007. Amongst



concession households, use of electricity for heating and cooking have both increased since 2001 in aged concession households, marking a return to 1996 levels. There has also been a considerable increase in electricity usage for heating amongst other concession households from previous years (from 26% in 2001 to 39% in 2007).

**Table 4.1.2.2.2: Regular Uses of Electricity in Household by Sample Type**

Uses of Electricity	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Electricity for Heating	35%	27%	34%	39%	26%	25%	37%	27%	30%	32%	29%	26%	34%	28%	28%
Electricity for Cooking	53%	49%	52%	44%	40%	40%	49%	45%	47%	53%	58%	50%	51%	53%	49%
Electricity for Hot Water	24%	29%	38%	23%	20%	25%	24%	25%	32%	18%	21%	23%	20%	23%	27%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

All households experienced an increase in the use of electricity for heating between the 2001 and 2007 surveys. Amongst households of four or more persons, use of electricity for cooking increased from 2001, whilst single-person households experienced a decrease. There was also a decline in electricity usage for cooking in three-person households, from 53% in 2001 to 46% in 2007. Over time, usage of electricity for hot water decreased for two-person households, from 31% in 1996 to 19% in 2007.

**Table 4.1.2.2.3: Regular Uses of Electricity in Household by Household Size**

Uses of Electricity	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Electricity for Heating	35%	30%	33%	36%	29%	31%	32%	27%	26%	30%	28%	22%	34%	28%	28%
Electricity for Cooking	48%	53%	51%	52%	54%	52%	46%	53%	46%	56%	53%	46%	51%	53%	49%
Electricity for Hot Water	28%	29%	36%	19%	25%	31%	21%	20%	25%	15%	16%	19%	20%	23%	27%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

## 4.2 ELECTRICITY COSTS AND CONSUMPTION

NB. This section is based on billing data supplied by energy suppliers and linked to respondent survey data.

### 4.2.1 Electricity Consumption

Only one respondent did not receive electricity bills in 2007. This was similar to 2001 (all received electricity bills) and 1996 (97% received electricity bills). On average, 2007 electricity bill payers received 4.6 bills per year (92% - 4 bills per year; 1% 5 bills per year; 7% 6 or more bills per year).

Three quarters paid their 2007 electricity bill in full, although the incidence of full payment was much lower in Shepparton (58%), amongst other concession households (63%) and private and public rental households (66% and 68% respectively). One in eight households paid their 2007 electricity bills in compulsory instalments (12%), with the highest levels of incidence not surprisingly amongst other concession households (18%) and public rental households (27%). Just eight respondents were recorded as being on energy retailer hardship programmes for their electricity bills (which represents 7,000 households across Victoria - three of these respondents came from public rental households).

Table 4.2.1.1a: Incidence of 2007 Electricity Bill being Paid in Full

<b>Electricity Bill Paid in Full (of those paying electricity bills)</b>			
<b>By Region -</b>	<b>%</b>	<b>By Household Size -</b>	<b>%</b>
Melbourne	76%	1 person	76%
Ballarat	70%	2 persons	80%
Bendigo	71%	3 persons	70%
Geelong	78%	4 or more persons	70%
Shepparton	58%		
LPG Areas	71%	<b>By Housing Status -</b>	
Country VIC	72%	Owned/paid off	79%
		Buying/paying off	75%
<b>By Sample Type -</b>		Renting - Private	66%
Aged Concession HHS	81%	Renting - Public	68%
Other Concession HHS	63%		
Total Concession HHS	72%	<b>Total Households</b>	<b>75%</b>
Non-Concession HHS	77%		

Table 4.1.1.1b: Incidence of 2007 Electricity Bill Paid by Compulsory Instalment

<b>Electricity Bill Paid in Instalments (of those paying electricity bills)</b>			
<b>By Region -</b>	<b>%</b>	<b>By Household Size -</b>	<b>%</b>
Melbourne	11%	1 person	14%
Ballarat	15%	2 persons	9%
Bendigo	15%	3 persons	12%
Geelong	14%	4 or more persons	14%
Shepparton	17%		
LPG Areas	11%	<b>By Housing Status -</b>	
Country VIC	14%	Owned/paid off	9%
		Buying/paying off	12%
<b>By Sample Type -</b>		Renting - Private	15%
Aged Concession HHS	11%	Renting - Public	27%
Other Concession HHS	18%		
Total Concession HHS	14%	<b>Total Households</b>	<b>12%</b>
Non-Concession HHS	10%		

Annual average *total* and *general* consumption for 2007, 2001 and 1996 is shown in **Table 4.2.1.2** overleaf. Average annual *total* electricity consumption has increased by just 7% over the six years between 2007 and 2001, smaller than the increase observed between 2001 and 1996 (15%). On average, households in 2007 consumed 5,533 kilowatt hours (kWh) up from 5,190 kWh in 2001. Interestingly, negative growth in *total* electricity consumption occurred amongst Ballarat, Geelong and Shepparton households since 2001 (-7.5%, -6.9% and -3.4% respectively). The highest levels of growth were observed amongst 4 or more person households (15.8%), those buying or paying off their home (11.8%) public rental households (10.8%) and other concession households (9.0%). Households in LPG areas used the most kilowatt hours on average in 2007 (8,246 kWh), almost 50% higher than the state average (49%). This may possibly be due to their greater dependence on electricity as an energy source due to lack of mains gas.

In terms of average *general* (or peak) electricity consumption, growth since 2001 was 10%, markedly smaller than the increase observed between 2001 and 1996 (23%). Negative growth in *general* electricity consumption only occurred in Geelong since 2001 (-3.2%). Average monthly *general* consumption during the seven months of winter 2007 was 414 kWh, compared with 386 kWh per month in the five months of summer 2007<sup>1</sup>. Although 2001 average monthly *general* consumption did not differ significantly between summer and winter months (just 4 kWh higher in winter), there was a notable increase in winter monthly consumption to summer monthly consumption in 2007, even though both winters were average ones.

The proportion of households consuming electricity *off peak* fell from 24% in 1996 to 17% in 2001 and levelled at 16% in 2007 (see **Table 4.2.1.3**). However, proportions are still declining in the use of *off peak* electricity in Melbourne, Ballarat and Geelong and amongst households with three or more persons. Of interest is that 75% of households in LPG areas consumed electricity off peak, which may provide some insight into why overall electricity consumption is far higher in these regions of Victoria.

Overall, average *off peak* consumption fell slightly from 4,072 kWh in 2001 to 3,979 kWh in 2007 (a 2% fall), but remained higher than 1996 levels (3,689 kWh). *Off peak* consumption varied considerably between winter and summer amongst Victorian households. Average monthly *off peak* consumption during the seven months of winter 2007 was 354 kWh, compared with 272 kWh per month for the five months of summer 2007, a difference of 82 kWh per month, similar to the summer-winter discrepancy in 2001 (72 kWh).

1. So that survey results from respondents could be compared with billing and consumption data obtained for each respondent household provided by energy suppliers, 'summer' was classified as being December to April or "the warmer months", while 'winter' was classified as being May to November or "the warmer months as defined in respondent survey questionnaire.

Table 4.2.1.2: Average Annual Electricity Consumption 2007, 2001 and 1996 (Kilowatt Hours)

Sub-group	General Consumption (kWh)							Total Consumption (kWh)			% Growth since 2001	% Growth since 1996
	2007			2001			1996	2007 <sup>23</sup>	2001 <sup>2</sup>	1996 <sup>2</sup>		
	Summer n=2,060	Winter n=2,060	Total n=2,060	Summer n=2,004	Winter n=2,003	Total n=2,005	n=1,943	n=2,060	n=2,005	n=1,943		
<b>By Region -</b>												
Melbourne	2,001	2,988	5,079	1,784	2,669	4,451	3,725	5,515	5,083	4,597	8.5%	20.0%
Ballarat	1,677	2,578	4,268	1,617	2,633	4,249	3,215	4,846	5,240	4,174	-7.5%	16.1%
Bendigo	1,912	2,586	4,498	1,647	2,597	4,244	3,237	5,157	5,119	4,104	0.7%	25.7%
Geelong	1,503	2,555	4,059	1,774	2,439	4,192	3,099	4,493	4,826	3,725	-6.9%	20.6%
Shepparton	2,360	3,067	5,656	2,347	2,784	5,131	3,929	6,349	6,574	5,457	-3.4%	16.3%
LPG Areas	2,029	3,056	5,214	n/a	n/a	n/a	n/a	8,246	n/a	n/a	n/a	n/a
Country VIC	1,788	2,707	4,543	1,857	2,617	4,468	3,369	5,573	5,464	4,364	2.0%	27.7%
<b>By Sample Type -</b>												
Aged Concession HHs	1,573	2,374	3,968	1,449	2,101	3,550	2,761	4,656	4,390	3,708	6.1%	25.6%
Other Concession HHs	1,886	2,751	4,674	1,721	2,425	4,143	3,262	5,162	4,735	4,014	9.0%	28.6%
Total Concession HHs	1,721	2,552	4,301	1,580	2,258	3,836	2,978	4,895	4,557	3,840	7.4%	27.5%
Non-Concession HHs	2,077	3,135	5,322	1,942	2,898	4,835	4,062	5,971	5,578	5,000	7.0%	19.4%
<b>By Household Size -</b>												
1 person	1,159	1,781	2,940	1,226	1,715	2,941	2,196	3,487	3,395	2,946	2.7%	18.4%
2 persons	1,770	2,727	4,517	1,677	2,454	4,129	3,160	5,163	4,937	4,116	4.6%	25.4%
3 persons	2,135	3,076	5,235	2,104	2,807	4,911	4,088	5,795	5,727	5,137	1.2%	12.8%
4 or more persons	2,597	3,838	6,671	2,158	3,438	5,584	4,699	7,368	6,361	5,576	15.8%	32.1%
<b>By Housing Status -</b>												
Owned/paid off	1,908	2,858	4,791	1,801	2,573	4,371	3,671	5,456	5,230	4,798	4.3%	13.7%
Buying/paying off	2,183	3,245	5,633	1,949	3,041	4,987	4,278	6,350	5,678	4,952	11.8%	28.2%
Renting - Private	1,753	2,692	4,468	1,631	2,367	3,994	3,017	4,982	4,574	3,960	8.9%	25.8%
Renting - Public	1,406	2,149	3,571	1,330	1,845	3,175	2,258	3,704	3,344	2,678	10.8%	38.3%
<b>Total Households</b>	<b>1,932<sup>1</sup></b>	<b>2,898<sup>1</sup></b>	<b>4,907</b>	<b>1,804<sup>1</sup></b>	<b>2,501<sup>1</sup></b>	<b>4,456</b>	<b>3,623</b>	<b>5,533</b>	<b>5,190</b>	<b>4,529</b>	<b>6.6%</b>	<b>22.2%</b>

1. Average summer month general consumption (i.e. December-April) is 386 kWh (361kWh – 2001). Average winter month general consumption (i.e. May-November) is 414 kWh (367 kWh – 2001).
2. Total consumption includes general, shoulder and off-peak consumption.
3. Shoulder consumption was recorded for just 1 respondent in 2007 (1,119 kWh) for 1 electricity supplier. Shoulder consumption in this instance refers to the period 7am-2pm and 8pm-10pm on working weekdays and 7am-10pm on weekends and public holidays.

Table 4.2.1.3: Average Annual Off-Peak Electricity Consumption 2007, 2001 and 1996 (Kilowatt Hours)

Sub-group	% Consuming Off Peak			Off Peak Consumption (kWh)						
	2007	2001	1996	2007			2001			1996
	n=2,061	n=2,005	n=1,943	Summer n=397	Winter n=403	Total n=410	Summer n=360	Winter n=349	Total n=360	n=1,943
<b>By Region -</b>										
Melbourne	11%	17%	23%	1,273	2,371	3,911	1,370	2,354	3,700	3,643
Ballarat	11%	21%	24%	2,137	3,424	5,341	1,522	2,930	4,452	3,941
Bendigo	18%	18%	23%	1,307	2,613	3,701	1,265	3,162	4,427	3,592
Geelong	11%	16%	18%	758	2,839	3,808	1,637	2,268	3,849	3,340
Shepparton	18%	19%	37%	1,370	2,257	3,806	2,504	3,861	6,235	4,054
LPG Areas	75%	n/c	n/c	1,573	2,424	4,009	n/a	n/a	n/a	n/a
Country VIC	26%	19%	26%	1,443	2,582	4,033	1,782	3,127	4,862	3,794
<b>By Sample Type -</b>										
Aged Concession HHs	20%	21%	30%	1,243	2,169	3,369	1,272	2,408	3,669	3,066
Other Concession HHs	14%	15%	20%	1,423	2,191	3,482	1,651	2,156	3,765	3,672
Total Concession HHs	17%	18%	26%	1,309	2,177	3,412	1,420	2,311	3,706	3,271
Non-Concession HHs	15%	16%	23%	1,405	2,722	4,431	1,559	2,802	4,326	4,012
<b>By Household Size -</b>										
1 person	20%	18%	26%	979	1,796	2,726	923	1,585	2,473	2,745
2 persons	18%	18%	28%	1,357	2,345	3,646	1,496	2,702	4,179	3,359
3 persons	13%	18%	23%	1,498	2,886	4,407	1,793	2,645	4,370	4,388
4 or more persons	12%	15%	19%	1,759	3,308	5,833	1,739	3,185	4,923	4,504
<b>By Housing Status -</b>										
Owned/paid off	19%	21%	29%	1,279	2,270	3,492	1,471	2,446	3,900	3,847
Buying/paying off	14%	14%	18%	1,565	3,230	5,538	1,648	3,053	4,684	3,752
Renting - Private	15%	15%	29%	1,364	2,127	3,421	1,369	2,489	3,740	3,235
Renting - Public	4%	6%	11%	1,280	2,238	3,288	935	2,036	2,971	3,548
<b>Total Households</b>	<b>16%</b>	<b>17%</b>	<b>24%</b>	<b>1,362<sup>1</sup></b>	<b>2,481<sup>1</sup></b>	<b>3,979</b>	<b>1,502<sup>1</sup></b>	<b>2,601<sup>1</sup></b>	<b>4,072</b>	<b>3,689</b>

1. Average summer month off peak consumption (i.e. December-April) is 272 kWh (300 kWh – 2001). Average winter month off peak consumption (i.e. May-November) is 354 kWh (372 kWh – 2001).

#### 4.2.2 Electricity Costs

The average annual electricity bill<sup>1</sup> paid by households in 2007 was \$973, including GST. In 2001, the average annual bill paid was \$705 (including GST), so the 2007 bill amount represents an increase of 38% over the past six years (compared with a 43% increase from 1996 to 2001 when GST is excluded, as it was not imposed until 2000). Considering that electricity consumption increased by just 7% over the period, this percentage increase in the bill amount paid would seem to be inordinately large considering the low inflation rate over the past six years (see table 4.2.2.3). A partial reason for the large increase in the electricity bill amount since 2001 is that fewer households are consuming off peak (16% c.f. 17%) and are using less off peak electricity (-2% growth since 2001), while a 10% growth in peak electricity has occurred over the same period. As off peak electricity is cheaper than peak, the fall in off peak consumption at the expense of peak consumption would have some affect on the increasing the growth of the total electricity bill amount over time. Price increases can also be partially attributed to the changes in electricity tariffs that occurred in January 2002. At that time, the general domestic tariff increased by an average 1%; off-peak tariff increased by an average of 14%; and the electricity supply charge, increased by an average of 2.5% across retailers.

The average electricity charge applicable (i.e. the amount that could be charged if concessions and discounts were not applied) was \$946 (excluding GST) in 2007. The charge applicable in 2001 was \$709 (excluding GST), representing an increase of 33% over this six year period, still a large increase considering low inflation rates.

In 2007 electricity charges were segmented into four categories – the consumption charge; the supply charge; the renewable energy charge; and any other charges<sup>2</sup>. The monthly summer electricity consumption charge was \$64 and \$62 per month in winter – almost identical. Whilst summer and winter consumption amounts have been provided for 2001, they include GST, plus other unknown charges (such as supply charges), which were not separated out in 2001. As such, 2007 and 2001 summer and winter consumption charges are not strictly comparable. However, it is interesting that the monthly charges in summer and winter were also similar in 2001 (\$63 and \$66 respectively), indicating that consumption charges per month do not differ greatly over the year, and haven't over the past six years (see table 4.2.2.1).

1. Refers to the actual bill paid by households, including any concessions or discounts applied.

2. No specific detail was provided by suppliers on what these charges were, except for re-imbursements or adjustments for over/under-charging on previous bills.

---

Virtually all households billed for electricity were charged a supply charge (99%), which averaged \$155 for the year. This charge was obviously a set amount per household, no matter the locality, size or concession status, as average charges did not diverge significantly from the mean of \$155 for the year (or \$38 to \$52 per bill). As the supply charge was not separately identified in previous surveys, comparisons over time could not be undertaken.

Just 1% of households were charged the renewable energy charge (i.e. for Green Power), which averaged \$81 across Victoria. Sample sizes were too small to analyse results by sub-group, but have been included in the table for reference. Similarly, 3% of households were charged other electricity charges. Interestingly, the average charge across the state was -\$70, indicating that suppliers were in effect giving eligible households a \$70 discount off their bill. The main contributor to this negative value was the -\$164 allocated to 3% of Melbourne households, most of which were reimbursements for overcharging on previous bills (e.g. the meter reading was estimated because of no access to the property because the household was on holidays – when consumption would be nil or extremely low).

For 2007, the DHS funded concession amount was divided into five categories – the winter energy concession; the off peak concession; the multiple sclerosis concession; the life support concession; and the service to property concession. In 2001, billing data provided by electricity suppliers, indicated that all households received the winter energy concession, while in 2007 just 36% of households did so (indicating that the 2001 data was flawed for this item). Incidence of receiving the winter energy concession was highest amongst aged concession households (82%), other concession households (70%) and those living in public rental housing (73%). Interestingly, more than half of all households located in LPG areas received the winter energy concession (53%). The average winter energy concession amount received was \$79 compared with \$59 (excluding GST) in 2001, representing a 34% rise since 2001. Households in LPG areas tended to receive a higher concession amount (\$97) than in other regions of Victoria (see **table 4.2.2.2**).

Almost one in ten households received the off peak concession in 2007 (9%), approximately half of all those households that consume electricity off peak (16%). The average off peak concession amount was \$32.

---

The multiple sclerosis, life support and service to property concessions were received by only 1% or fewer households and averaged \$47, \$77 and \$22 per annum respectively. Please note that actual value of the life support concession provided by DHS in 2007 was \$240, so data provided by energy suppliers does not accurately reflect the 'real world' amount.

Overall some type of DHS funded concession was received in 2007 by two in five households (38%), although incidence was far higher amongst concession households (77%), LPG region households (60%) and public rental households (74%). In 2001 just 17% received a DHS concession (excluding the winter energy concession) and in 1996 it was 27%. This discrepancy is mostly due to the fact that the winter energy concession was defined as a separate concession in previous surveys, thereby resulting in lower incidence rates for the DHS concession in those years.

The average DHS concession amount<sup>1</sup> received by households in 2007 was \$100, up from \$61 in 2001 (1996 data is not strictly comparable with 2001 and 2007 results). As expected, the proportions receiving DHS concessions decreases with household size, but the average concession amount obtained in 2007 increases with household size (i.e. concession holders tend to live in households with fewer people, but smaller households tend to consume less electricity. As some electricity concessions are linked to consumption, larger sized households are likely to receive larger concessions).

Almost half of all households received the network tariff rebate (48%), with households in country areas far more likely to receive this discount than Melbourne households (87% compared with 29%), as this rebate is only made available in country and outer metropolitan regions. Concession households were also more likely to receive this discount than were non-concession households (62% compared with 38%). The average discount amount was \$26, which remained relatively consistent in size across all sub-groups, with the exception of Victorian Country households that averaged almost double the discount that was paid to Melbourne households (\$32 c.f. \$17).

1. The aggregation of the winter energy concession, off peak concession, multiple sclerosis concession, life support concession and the service to property concession.



---

While less than 1% of households received an URGS grant and 1% received the renewable energy discount (i.e. Green Power) in 2007, almost half received some other form of supplier funded discount (48%). The average amount of this other discount was \$48. Whilst the majority of this other discount can be explained as being a reimbursement of over-charging on previous bills, some suppliers did offer specific discounts, such as an energy bonus<sup>1</sup> or a pay on time discount.

Overall then, eight in ten households received some sort of discount or concession<sup>2</sup> off their electricity bill in 2007 (79%), with country areas (96%), concession households (93%) and those in public rental properties (93%) having the highest incidence levels. The average amount received was \$86, similar to the amount received in 2001 (\$75). On average, LPG region households received the largest total discount or concession (\$126) followed by concession households (\$107).

With the average annual 2007 electricity bill amount<sup>3</sup> being \$973 (including GST) segments paying lower amounts were one person households (\$574), public rental households (\$615) and aged concession households (\$697). Other concession households on average paid \$803 for their annual 2007 electricity bill, while non-concession households averaged \$1,128 per year. Those households buying or paying off their homes had the highest average electricity bill (\$1,328).

Concession households experienced 23% growth in their electricity bill over the last 5 years, while growth was 47% for non-concession households.

1. A reward for paying with a credit card linked to a loyalty scheme.
2. The aggregation of any DHS concessions, network tariff rebates, URGS grants and any other supplier funded discounts.
3. Refers to the actual bill paid by households, including any concessions or discounts applied.

**Table 4.2.2.1: Electricity Consumption Charges 2007, 2001 and 1996**

Sub-groups	Summary of Electricity Charges															
	Electricity Consumption Charge (\$)							Supply Charge		Renewable Energy Charge		Other Charges		Total Other Charges		Total ALL Charges
	2007			2001 <sup>1</sup>			1996	2007 <sup>3</sup>		2007		2007		2007		
	Summer n=2,060	Winter n=2,060	Total n=2,060	Summer n=2,006	Winter n=2,006	Total n=2,006		% n=2,060	\$ n=2,029	% n=2,060	\$ n=25	% n=2,060	\$ n=56	% n=2,060	\$ n=2,030	
<b>By Region -</b>																
Melbourne	350	456	802	292	434	727	621	99%	153	2%	85	3%	-164	99%	149	977
Ballarat	237	360	597	349	553	902	559	100%	160	2%	49	6%	69	100%	165	808
Bendigo	269	380	648	310	521	831	541	100%	170	2%	47	3%	41	100%	172	866
Geelong	219	358	577	330	453	783	528	99%	154	-	-	*	20	100%	154	757
Shepparton	350	461	811	489	635	1124	678	96%	159	-	-	1%	28	99%	159	1,008
LPG Areas	301	452	753	n/a	n/a	n/a	n/a	96%	161	2%	124	3%	623	96%	179	1132
Country VIC	259	390	649	373	543	915	579	99%	160	1%	68	2%	177	96%	165	881
<b>By Sample Type -</b>																
Aged Concession HHs	210	321	531	269	398	666	507	99%	153	*	128	2%	53	99%	154	733
Other Concession HHs	256	377	633	301	427	728	555	98%	156	1%	45	4%	149	99%	162	828
Total Concession HHs	232	347	579	284	412	696	528	99%	154	1%	60	3%	115	99%	158	778
Non-Concession HHs	381	495	872	334	497	831	666	99%	155	2%	86	3%	-217	99%	152	1062
<b>By Household Size -</b>																
1 person	152	236	387	229	326	555	431	98%	154	1%	42	4%	65	99%	157	580
2 persons	243	371	614	299	441	739	551	99%	154	1%	85	2%	136	98%	158	816
3 persons	288	418	707	364	499	863	670	100%	153	1%	50	3%	71	99%	155	904
4 or more persons	563	675	1229	363	565	928	744	98%	159	2%	101	3%	-536	100%	146	1411
<b>By Housing Status -</b>																
Owned/paid off	262	389	651	319	463	782	630	99%	153	*	98	1%	67	99%	155	851
Buying/paying off	492	583	1066	335	516	851	681	99%	157	2%	97	2%	-562	99%	146	1250
Renting - Private	234	363	597	282	408	690	526	99%	156	2%	63	6%	132	99%	167	799
Renting - Public	190	293	483	234	331	566	417	98%	151	2%	23	5%	60	99%	155	645
<b>Total Households</b>	<b>320<sup>2</sup></b>	<b>435<sup>2</sup></b>	<b>753</b>	<b>315<sup>2</sup></b>	<b>465<sup>2</sup></b>	<b>780</b>	<b>610</b>	<b>99%</b>	<b>155</b>	<b>1%</b>	<b>81</b>	<b>3%</b>	<b>-70</b>	<b>99%</b>	<b>154</b>	<b>946</b>

- GST applies to 2001 and 2007 charges, but not 1996 charges.
- Five months of summer (i.e. December-April) average monthly Electricity Charge Applicable is \$64 (2001 - \$63 incl. GST). For the seven months of winter (i.e. May-November) average monthly Electricity Charge Applicable is \$62 (2001 - \$66 incl. GST).
- The supply charge was not separated out from consumption charges in 2001 and 1996, so details for these years could not be provided.

**Table 4.2.2.2: DHS Funded Electricity Consumption Concessions 2007, 2001 and 1996**

Sub-groups	DHS Funded Electricity Concessions																	
	Winter Energy Concession				Off Peak Concession		Multiple Sclerosis Concession		Life Support Concession		Service to Property Concession		Total DHS Funded Concessions					
	2007		2001		2007		2007		2007		2007		2007		2001		1996	
	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$
n=2,060	n=885	n=2,006	n=2,006	n=2,060	n=239	n=2,060	n=5	n=2,060	n=7	n=2,060	n=38	n=2,060	n=929	n=463	n=452	n=589	n=589	
<b>By Region -</b>																		
Melbourne	36%	77	100%	61	5%	37	*	50	*	82	1%	25	36%	92	21%	59	30%	276
Ballarat	35%	73	100%	76	6%	25	-	-	1%	163	1%	20	39%	107	6%	48	25%	39
Bendigo	32%	69	100%	72	8%	21	-	-	2%	35	1%	2	36%	103	8%	89	16%	94
Geelong	33%	81	100%	71	8%	25	1%	42	*	59	1%	20	39%	106	8%	54	28%	82
Shepparton	26%	83	100%	78	12%	27	-	-	-	-	2%	10	32%	106	11%	70	8%	66
LPG Areas	53%	97	n/a	n/a	46%	31	1%	39	-	-	2%	10	60%	142	n/a	n/a	n/a	n/a
Country VIC	36%	83	100%	75	15%	28	*	41	1%	74	1%	13	42%	116	8%	67	19%	82
<b>By Sample Type -</b>																		
Aged Concession HHs	82%	71	100%	67	19%	28	1%	57	1%	76	3%	24	82%	95	39%	61	45%	169
Other Concession HHs	70%	79	100%	65	10%	29	1%	40	*	111	2%	22	71%	101	35%	64	40%	210
Total Concession HHs	76%	75	100%	66	15%	28	1%	48	1%	85	3%	23	77%	98	37%	63	43%	185
Non-Concession HHs	9%	101	100%	64	4%	40	*	39	*	22	*	11	12%	113	5%	52	16%	335
<b>By Household Size -</b>																		
1 person	50%	56	100%	64	13%	24	*	38	1%	51	3%	28	52%	74	26%	49	33%	128
2 persons	42%	75	100%	65	10%	26	-	-	*	100	1%	14	44%	97	20%	63	28%	226
3 persons	27%	88	100%	64	6%	37	1%	52	-	-	1%	21	29%	111	13%	57	24%	278
4 or more persons	23%	115	100%	64	4%	64	-	-	-	-	*	16	25%	141	10%	80	24%	326
<b>By Housing Status -</b>																		
Owned/paid off	42%	75	100%	65	12%	25	-	-	1%	79	1%	21	45%	97	23%	61	30%	265
Buying/paying off	17%	110	100%	64	5%	65	*	39	-	-	*	25	19%	136	7%	63	19%	321
Renting - Private	39%	74	100%	63	6%	29	1%	57	-	-	1%	9	40%	92	16%	60	22%	150
Renting - Public	73%	65	100%	64	4%	21	1%	42	1%	59	5%	32	74%	84	29%	57	50%	138
<b>Total Households</b>	<b>36%</b>	<b>79</b>	<b>100%</b>	<b>65</b>	<b>9%</b>	<b>32</b>	<b>*</b>	<b>47</b>	<b>*</b>	<b>77</b>	<b>1%</b>	<b>22</b>	<b>38%</b>	<b>100</b>	<b>17%</b>	<b>61</b>	<b>27%</b>	<b>240</b>

- Some households received multiples of the Winter Bonus value in 2001 (i.e. \$120 or \$180 for bonuses not paid in 2001 or 2000). Hence the average value of the Winter Bonus in 2001 is greater than \$60.
- Whilst the person who pays the bills for the household may not hold a concession card, another person in the household may do so.

**Table 4.2.2.3: Other Electricity Discounts and Total Electricity Bill 2007, 2001 and 1996**

Sub-groups	Other Discounts or Rebates								Total ALL Discounts and Concessions				Total Electricity Bill Amount (incl. GST) (\$)		
	Network Tariff Rebate 2007		Renewable Energy Discount 2007		URGS Grant 2007		Other Discounts or Rebates 2007		2007		2001		2007	2001	1996
	% n=2,060	\$ n=1,050	% n=2,060	\$ n=15	% n=2,060	\$ n=3	% n=2,060	\$ n=972	% n=2,060	\$ n=1,674	% n=2,006	\$ n=2,006	n=2,060	n=2,006	n=1,767
<b>By Region -</b>															
Melbourne	29%	17	1%	25	*	466	49%	51	71%	86	100%	73	1,018	654	437
Ballarat	83%	32	-	-	-	-	58%	38	99%	78	100%	79	804	824	461
Bendigo	84%	31	-	-	*	168	49%	41	96%	74	100%	80	874	752	458
Geelong	93%	31	-	-	-	-	45%	33	97%	76	100%	76	752	707	433
Shepparton	78%	29	-	-	-	-	33%	64	88%	78	100%	85	1,034	1039	554
LPG Areas	85%	34	-	-	-	-	40%	58	94%	126	n/a	n/a	1,116	n/a	n/a
Country VIC	87%	32	-	-	*	168	46%	42	96%	86	100%	80	879	835	476
<b>By Sample Type -</b>															
Aged Concession HHs	61%	24	1%	28	-	-	48%	39	95%	105	100%	91	697	576	363
Other Concession HHs	63%	26	1%	23	*	280	55%	39	90%	109	100%	87	803	641	401
Total Concession HHs	62%	25	1%	25	*	280	51%	39	93%	107	100%	89	747	607	378
Non-Concession HHs	38%	26	*	16	*	551	46%	55	70%	67	100%	66	1,128	765	500
<b>By Household Size -</b>															
1 person	49%	18	-	-	*	168	44%	37	80%	73	100%	77	574	478	314
2 persons	49%	27	2%	25	*	551	48%	38	81%	83	100%	78	823	661	404
3 persons	45%	26	-	-	*	323	47%	48	72%	86	100%	71	926	792	501
4 or more persons	46%	29	-	-	-	-	51%	68	79%	99	100%	72	1,490	857	551
<b>By Housing Status -</b>															
Owned/paid off	51%	25	1%	26	-	-	45%	47	81%	85	100%	79	860	702	454
Buying/paying off	44%	27	-	-	-	-	49%	61	74%	87	100%	69	1,328	783	510
Renting - Private	41%	27	1%	27	1%	429	51%	36	76%	84	100%	72	808	619	409
Renting - Public	62%	20	2%	21	-	-	56%	36	93%	91	100%	79	615	486	293
<b>Total Households</b>	<b>48%</b>	<b>26</b>	<b>1%</b>	<b>25</b>	<b>*</b>	<b>429</b>	<b>48%</b>	<b>48</b>	<b>79%</b>	<b>86</b>	<b>100%</b>	<b>75</b>	<b>973</b>	<b>705</b>	<b>449</b>

- GST applies to 2001 and 2007 charges, but not 1996 charges..
- Whilst the person who pays the bills for the household may not hold a concession card, another person in the household may do so.

### **4.3 GAS COSTS AND CONSUMPTION**

NB. This section is based on billing data supplied by energy suppliers and linked to respondent survey data.

#### **4.3.1 Gas Consumption**

The proportion of households paying gas bills has remained relatively constant over time (88% in 2007, 94% in 2001 and 91% in 1996 (see **Table 4.3.2.1**). While a slight fall in the incidence of paying gas bills was observed over the last six years, this fall is likely to be due to the inclusion of households from LPG areas into the sample frame. These LPG households purchase gas in cylinders directly from local outlets/suppliers and so would not necessarily receive a bill for the supply of a new LPG bottle. When LPG households as well as mains gas households are included as gas supplied households, 95% of all households in Victoria have gas, a proportion similar to the 2001 figure.

Gas consumers on average received 6.3 bills per year. For most bills an actual meter reading was obtained (4.3 bills per year).

Three quarters of gas using households paid their annual gas bill in full by the end of 2007 (76%), with the incidence rate lower for other concession households (70%), private rental (70%), 3 person (66%) and in particular, Shepparton households (60%). Aged concession households had the highest incidence of paying off their 2007 gas bill in full (84%). Of interest is that while a small 2% of LPG households pay gas bills, only 25% of them paid their 2007 gas bill in full, perhaps because they can always survive on the LPG that they also have on hand.

One in eight households had arranged to pay their gas bill by agreed/compulsory instalments (13%), with the highest incidence of instalment payment found amongst public rental households (29%), followed by Ballarat households (23%). Other concession households had a slightly higher proportion paying by instalment when compared with the state average (18%), while aged concession households had a lower rate than the state average (11%).

A total of 11 respondents were recorded as being on energy retailer hardship programmes for gas bills, representing 9,000 households across Victoria. Seven of these came from public rental households (representing 7,000 households across Victoria). Details can be found on table **4.3.1.1b** overleaf.

Table 4.3.1.1a: **Incidence of 2007 Gas Bill being Paid in Full**

Gas Bill Paid in Full (of those paying gas bills)			
<b>By Region -</b>		<b>By Household Size -</b>	
Melbourne	76%	1 person	81%
Ballarat	81%	2 persons	75%
Bendigo	78%	3 persons	66%
Geelong	76%	4 or more persons	79%
Shepparton	60%	<b>By Housing Status -</b>	
LPG Areas	25%		
Country VIC	76%		
<b>By Sample Type -</b>		Owned/paid off	
Aged Concession HHs	84%	Buying/paying off	78%
Other Concession HHs	70%	Renting - Private	70%
Total Concession HHs	77%	Renting - Public	73%
Non-Concession HHs	75%	<b>Total Households</b>	
		<b>76%</b>	

Table 4.3.1.1a: **Incidence of 2007 Gas Bill Paid by Compulsory Instalments**

Gas Bill Paid in Compulsory Instalments (of those paying gas bills)			
<b>By Region -</b>		<b>By Household Size -</b>	
Melbourne	10%	1 person	13%
Ballarat	23%	2 persons	10%
Bendigo	19%	3 persons	13%
Geelong	19%	4 or more persons	15%
Shepparton	9%	<b>By Housing Status -</b>	
LPG Areas	-		
Country VIC	19%		
<b>By Sample Type -</b>		Owned/paid off	
Aged Concession HHs	11%	Buying/paying off	15%
Other Concession HHs	18%	Renting - Private	17%
Total Concession HHs	14%	Renting - Public	29%
Non-Concession HHs	12%	<b>Total Households</b>	
		<b>13%</b>	

Table 4.3.1.2 following shows the average annual gas consumption by sample type and year. In 2007, each household on average consumed 62,529 MJ compared with 59,415 MJ in 2001 and 54,851 MJ in 1996. This represents an average increase in consumption per household of 5.3% from 2001 to 2007 or 14.0% from 1996.

Gas consumption actually fell over the period 2001-2007 for Shepparton (-11.0%) and Ballarat households (-6.6%), an interesting result, considering that winters have been about average in 2001 and 2007 for these two regions, so gas consumption for heating should not have changed considerably over time) The greatest percentage increases in average annual gas consumption from 2001 to 2007 were observed in aged concession households (+16.2%), public rental households (+15.3%) and other concession households (+10.1%). Over the past 10 years the largest increases in gas consumption have occurred amongst private rental households (+43.4%), public rental households (+33.3%), aged concession households (31.5%) and other concession households (30.1%). In relative terms, the proportion of concession households' gas consumption to non-concession households' gas consumption has increased from 74% in 1996 to 82% in 2001 to 91% in 2007, showing that the consumption gap is decreasing over time. However,

there has also been a trend in the last six years toward using gas ducting for heating rather than single room gas space heaters, as well as movement toward gas hot water heating from electric means, which could explain some of the increase in consumption over the period

On a regional basis just 2% of LPG households are also connected to mains gas, indicating that they use LPG for some home functions (e.g., heating) and mains gas for other home functions (e.g., cooking and hot water). Not surprisingly, their annual mains gas consumption is a low 25,162 MJ compared with the state average of 62,539 MJ. In fact, the discrepancy is far greater in winter (16,674 MJ c.f. 48,825 MJ) than in summer (8,448 MJ c.f. 13,508 MJ), indicating that main gas is less likely to be used for heating in LPG households than in other households.

When 2007 data was analysed by winter and summer consumption<sup>1</sup>, on average winter month gas consumption was 3.6 times greater than summer month gas consumption (in 2001 the disparity was 2.9). This trend did not vary substantially by sub-group. However, it should be noted that for this survey the winter period is defined as being seven months long, whilst the summer period is only five months. Therefore the disparity between colder and warmer months is in reality closer to 2.6 rather than 3.6. In 2001, this difference was 2.1, so it would appear that the gap between summer and winter month gas consumption is increasing.

Furthermore, average monthly gas consumption in summer months has fallen over the past six years from 3,017 MJ in 2001 to 2,702 MJ while average monthly gas consumption in winter months has risen from 6,336 MJ to 6,975 MJ. Summer and winter temperatures were similar in 2001 and 2007, so changes in gas consumption cannot readily be explained by temperature variance. These results appear to indicate that households are now using less gas for cooking and hot water in summer, but are now using more gas for heating in winter. As there has also been a trend in the last six years toward using gas ducting for heating rather than single room gas space heaters, this increased gas usage in winter due to heating appears understandable (as ducted heating generally uses more gas than space heating). The only sub-groups that appear to buck this trend are other concession households, which have increased their monthly summer gas consumption (from 2,827 MJ up to 2,971MJ) and public rental households (from 2,397 MJ up to 2,919 MJ), while Shepparton households have reduced their average monthly winter gas consumption (from 5,439 MJ down to 5,148 MJ). More details can be found in **table 4.3.1.2** overleaf.

1. So that survey results from respondents could be compared with billing and consumption data obtained for each respondent household provided by energy suppliers, 'summer' was classified as being December to April or "the warmer months", while 'winter' was classified as being May to November or "the warmer months as defined in respondent survey questionnaire.

Table 4.3.1.2: Average Annual Gas Consumption 2001 and 1996 (Megajoules)

Sub-group	Average Annual Gas Consumption (Megajoules)						% Growth Since 2001	% Growth Since 1996	
	2007			2001					1996 n=1,768
	Summer n=1,725	Winter n=1,733	Total n=1,733	Summer n=1,851	Winter n=1,854	Total n=1,854			
<b>By Region -</b>									
Melbourne	13,909	51,004	65,187	15,356	45,399	60,737	56,329	7.3%	15.7%
Ballarat	14,093	51,150	65,265	18,474	51,418	69,892	70,662	-6.6%	-7.6%
Bendigo	12,298	45,448	57,856	12,409	40,966	53,376	46,123	8.4%	25.4%
Geelong	12,371	39,655	52,030	12,950	35,699	48,649	46,603	6.9%	11.6%
Shepparton	9,745	36,035	45,755	13,375	38,074	51,386	41,932	-11.0%	9.1%
LPG Areas	8,448	16,674	25,162	n/a	n/a	n/a	n/a	n/a	n/a
Country VIC	12,473	43,186	55,685	14,389	41,680	56,052	51,274	-0.7%	8.6%
<b>By Sample Type -</b>									
Aged Concession HHs	11,704	45,281	57,457	12,185	37,296	49,441	43,697	16.2%	31.5%
Other Concession HHs	14,854	45,782	60,723	14,134	41,009	55,144	46,681	10.1%	30.1%
Total Concession HHs	13,198	45,518	59,004	13,130	39,093	52,200	45,034	13.0%	31.0%
Non-Concession HHs	13,702	50,893	64,750	16,232	47,443	63,661	61,005	1.7%	6.1%
<b>By Household Size -</b>									
1 person	8,671	32,383	41,211	10,255	31,580	41,800	36,892	-1.4%	11.7%
2 persons	12,270	46,233	58,622	14,328	40,805	55,133	47,651	6.3%	23.0%
3 persons	15,864	51,115	66,987	15,742	48,672	64,366	58,854	4.1%	13.8%
4 or more persons	16,908	61,544	78,923	18,555	53,764	72,319	68,655	9.1%	15.0%
<b>By Housing Status -</b>									
Owned/paid off	13,198	49,998	63,459	14,568	43,376	57,935	56,440	9.5%	12.4%
Buying/paying off	13,965	52,644	66,853	17,115	50,159	67,274	63,230	-0.6%	5.7%
Renting - Private	13,451	41,599	55,097	13,545	38,187	51,682	38,421	6.6%	43.4%
Renting - Public	14,596	37,853	52,426	11,985	33,576	45,462	39,334	15.3%	33.3%
<b>Total Households</b>	<b>13,508</b>	<b>48,825</b>	<b>62,539</b>	<b>15,083</b>	<b>44,350</b>	<b>59,415</b>	<b>54,851</b>	<b>5.3%</b>	<b>14.0%</b>

1. Average monthly winter gas consumption (May-November) in 2007 was 6,975 MJ (2001 - 6,336 MJ).
2. Average monthly summer gas consumption (December-April) in 2007 was 2,702 MJ (2001 -3,017 MJ).



### 4.3.2 Gas Charges

Households that received gas bills in 2007 spent an average of \$700 per year<sup>1</sup> on gas consumption compared with \$500 in 2001 and \$415 in 1996 (see **Table 4.3.2.2**). This represents an increase in outlays of 40.0% since 2001, whilst gas consumption has increased by just 5.3% over the same period. When compared with 1996 results, gas bills have increased by 68.7% while gas consumption has increased by 14.0%. This strongly suggests that gas bills have increased at a rate greater than the inflation rate over both the past 5 years and the past 10 years.

When results were analysed by region, the average annual gas bill paid was similar for Melbourne and country Victorian households (\$702 and \$695 respectively). The most significant increases in the gas bill amounts paid were observed in Bendigo and Geelong (up 57% and 54% since 2001 respectively).

When gas bills were analysed by sample type, concession households paid on average \$97 less for their gas bills than did non-concession households (\$737 compared with \$640), or 87% of a non-concession gas bill. When compared with 2001 and 1996 results the proportional difference between the two segments has increased (2001 - 78%; 1996 – 76%). We also know that the proportional difference in gas consumption is closing over time (2007 – 91%; 2001 - 82%; 1996 - 74%), so it is reasonable to expect that the proportional bill size for concession households will move closer toward the non-concession amount. As it turns out, the rate of growth in both gas consumption and bill amount between concession and non-concession households is almost identical over the last six years (taking into account growth, inflation etc.), so in essence, the increase in consumption is being matched by the increase in bill amount between these two segments.

When results are analysed by housing status, public rental households have experienced the largest proportional increase in their annual gas bill among these sub-groups. In 2001 this group paid on average \$378 per year for their gas consumption, whilst in 2007 they paid \$580. This represents an increase of 53% on the 2001 figure. However, it should also be noted that this group increased its gas consumption by 15% over the same period – higher than any other sub-group.

1. Refers to the actual bill paid by households, including any concessions or discounts applied.

---

Analysis of gas consumption charges is not strictly comparable between 2007 and 2001, as it is assumed that supply charges and other charges would have been included together in the 2001 consumption charge amount, whilst in 2007 these have been separated. However, by summing consumption, supply and other charges together for 2007 we have made some comparisons. Overall charges in 2007 were \$675 compared with \$559 in 2001 and \$500 in 1996, representing increases of 25% and 35% respectively. The greatest increase in charges was observed amongst the same sub-groups as identified for the total bill amount, namely Bendigo, Geelong, non-aged concession and private rental households, showing a firm link between consumption charges and the total bill amount. As expected the average monthly summer bill amount has fallen since 2001 (from \$28 to \$25), whilst the average monthly winter bill has increased over the same period (from \$57 to \$62), consistent with the winter and summer consumption trend over this period.

In 2007, virtually all gas bill payers were levied a supply charge (1,731 of 1,735 respondents). The *annual* supply charge amount obtained from billing data was \$115. The gas supply is a fixed charge applied to all gas bills. The amount varies between retailers, but is generally \$27-\$36 per bill. Just 3% of gas bill payers had other charges imposed upon them in 2007, with the highest proportions levied another charge being amongst Bendigo households and private rental households (7%). No supplier indicated what these other charges represented. The average amount imposed for these other charges was \$35, but amounts varied widely across sub-groups due to small sample sizes.

In 1996, 36% of gas using households received the DHS concession on their gas bill, while in 2001, 54% of households did so. In 2007 the proportion had fallen to 27%, half of the 2001 figure. However, it should be noted that the information provided on concessions by gas suppliers was incomplete and in some instances was imputed in 2001, which may have inflated the 2001 proportion. Furthermore, virtually all households serviced by Origin Energy in 2001 were reported as obtaining a concession on their gas bill (88%) – obviously an incorrect finding, based on flawed data. Therefore, it is considered that the proportion receiving concessions on their gas bill in 2001 has been overstated. One example of this is the town of Shepparton, which is exclusively serviced by Origin Energy. In 1996 44% of Shepparton households received a concession on their gas bill, whilst in 2001 billing data indicates that 78% did so, while in 2007 only 33% received the DHS concession. It is therefore likely the proportions recorded in 1996 and 2007 are closer to reality than the 2001 proportion.

---

Interestingly, when Origin Energy billing data is excluded from survey results for 2001, 34% of households obtained concessions on their gas bill, a result much more in line with the 2007 and 1996 proportions (27% and 36% respectively). The proportions of concession sub-groups receiving the DHS concession in 2007 were more in line with 1996 figures, for example aged concession households (2007 - 65%; 1996 - 63%) and other concession households (2007 - 50%; 1996 - 58%). However, the proportion of non-concession household receiving a DHS concession fell dramatically from 21% in 1996 to 8% in 2007. The 2007 figure would appear to be accurate as 8% of non-concession households in 2007 have another household member who holds a concession card.

In 1996 the average annual DHS concession value was \$83, whilst in 2001 this amount was just \$71. When Origin Energy data is excluded, the average concession amount in 2001 was even lower at \$65 per annum. For 2007 the average DHS concession amount was \$86; again, more in line with the 1996 amount than the 2001 amount. This result means that the average concession amount on a gas bill as a proportion of the gas charges has fallen over time (i.e. 1996 -  $\$83 \div \$500 = 16.6\%$ ; 2001  $\$71 \div \$538 = 13.2\%$ ; 2007 -  $\$86 \div 675 = 12.7\%$ ), implying that the effect of the DHS concession amount on assisting households in need with gas affordability is being eroded over time. However, this conclusion should be tempered to some degree by the knowledge that gas consumption in concession households is growing at a greater rate than in non-concession households.

In 2007 just 1% of gas households received the URGS grant on their gas bill, with the average amount received \$84. However, one quarter of gas users received other forms of retailer provided discounts (26%), primarily in the form of a discount for paying the bill by the due date. The average amount for the year for this discount was \$54, although aged concession households on average received an \$84 discount, while households that rented publicly received \$87. This other discount amount was lower on average amongst Geelong, Shepparton and Bendigo households (\$30, \$37 and \$47 respectively) and interestingly, amongst other concession households (\$49).

Detailed results can be found in the tables following.

**Table 4.3.2.1: Gas Bill Charges 2007, 2001 and 1996**

Sub-groups	% Paying Mains Gas Bills			Gas Consumption Charge (\$)							Supply Charge 2007		Other Charges 2007	
	2007 n=2,061	2001 n=2,006	1996 n=2,000	2007			2001 <sup>2</sup>			1996 <sup>2</sup> n=1,767	% n=1,735	\$ n=1,731	% n=1,735	\$ n=54
				Summer n=1,726	Winter n=1,733	Total n=1,734	Summer n=1,853	Winter n=1,853	Total n=1,854					
<b>By Region -</b>														
Melbourne	94%	94%	90%	124	442	566	143	407	549	512	100%	114	3%	24
Ballarat	99%	98%	96%	138	497	632	163	456	619	637	99%	117	5%	137
Bendigo	89%	94%	91%	118	436	554	119	371	491	430	100%	122	7%	38
Geelong	94%	94%	95%	125	395	520	123	328	451	417	99%	115	4%	12
Shepparton	94%	91%	91%	92	331	422	131	349	477	396	100%	119	1%	7
LPG Areas	2%	n/a	n/a	81	160	241	n/a	n/a	n/a	n/a	100%	106	-	-
Country VIC	76%	94%	93%	123	420	543	135	377	511	469	99%	117	5%	53
<b>By Sample Type -</b>														
Aged Concession HHs	83%	91%	84%	103	398	500	119	340	459	401	100%	116	2%	17
Other Concession HHs	84%	92%	89%	156	416	572	133	369	502	433	99%	115	4%	18
Total Concession HHs	84%	91%	86%	128	407	534	126	354	480	415	100%	116	3%	18
Non-Concession HHs	91%	96%	95%	121	454	575	149	424	573	552	100%	115	4%	43
<b>By Household Size -</b>														
1 person	83%	90%	80%	96	296	392	105	294	399	343	98%	116	3%	92
2 persons	88%	93%	91%	108	410	518	135	370	505	442	100%	114	3%	10
3 persons	88%	95%	94%	142	455	596	145	434	577	534	100%	114	3%	18
4 or more persons	92%	98%	96%	151	549	700	166	475	641	615	100%	115	4%	33
<b>By Housing Status -</b>														
Owned/paid off	88%	95%	94%	116	441	557	137	391	527	515	100%	115	2%	11
Buying/paying off	91%	97%	97%	125	473	597	156	445	601	569	100%	114	3%	40
Renting - Private	85%	89%	84%	122	383	505	130	348	477	362	100%	114	7%	56
Renting - Public	85%	86%	71%	123	340	471	118	308	424	358	100%	116	2%	32
<b>Total Households</b>	<b>88%</b>	<b>94%</b>	<b>91%</b>	<b>124<sup>1</sup></b>	<b>436<sup>1</sup></b>	<b>559</b>	<b>141<sup>1</sup></b>	<b>398<sup>1</sup></b>	<b>538</b>	<b>500</b>	<b>100%</b>	<b>115</b>	<b>3%</b>	<b>35</b>

1. Average 2007 monthly winter gas charge applicable (May-November) is \$62 (2001 - \$57). Average 2007 monthly summer gas charge applicable (December-April) is \$25 (2001 - \$28).
2. It is likely that the 2001 and 1996 consumption charges included the supply charge and any other charges.

Table 4.3.2.2: Gas Bill Concessions, Discounts and Total Bill Amounts 2007, 2001 and 1996

	% Receiving DHS Concession			DHS Concession (\$)			URGS Grant 2007		Other Discounts 2007		Total Gas Bill Amount (incl. GST) (\$)		
	2007	2001	1996	2007	2001	1996	%	\$	%	\$	2007	2001	1996
	n=1,735	n=1,854	n=1,811	n=560	n=1,087	n=722	n=1,735	n=16	n=1,735	n=422	n=1,735	n=1,854	n=1,770
<b>Sub-groups By Region -</b>													
Melbourne	30%	53%	35%	86	73	85	1%	80	25%	61	702	510	425
Ballarat	16%	56%	48%	80	77	113	1%	57	24%	54	804	575	526
Bendigo	16%	52%	36%	87	66	74	-	-	28%	47	716	456	355
Geelong	24%	39%	32%	96	58	33	1%	109	32%	30	660	428	356
Shepparton	33%	78%	44%	67	64	74	-	-	21%	37	561	427	327
LPG Areas	50%	n/a	n/a	90	n/a	n/a	-	-	-	-	330	n/a	n/a
Country VIC	21%	56%	40%	87	67	78	1%	94	28%	39	695	473	390
<b>By Sample Type -</b>													
Aged Concession HHs	65%	91%	63%	79	63	64	2%	83	24%	84	596	402	338
Other Concession HHs	50%	84%	58%	91	68	76	1%	85	28%	49	688	444	357
Total Concession HHs	58%	88%	61%	84	65	69	2%	84	26%	66	640	423	347
Non-Concession HHs	8%	34%	21%	96	81	109	*	81	26%	47	737	545	458
<b>By Household Size -</b>													
1 person	35%	66%	47%	65	54	53	1%	83	21%	44	523	363	292
2 persons	33%	61%	36%	84	70	82	1%	89	22%	47	652	463	365
3 persons	21%	49%	33%	90	81	94	*	71	29%	39	749	538	441
4 or more persons	19%	42%	32%	112	83	102	*	75	32%	72	848	606	510
<b>By Housing Status -</b>													
Owned/paid off	34%	60%	42%	87	69	91	1%	86	24%	59	690	485	426
Buying/paying off	16%	40%	23%	91	84	99	*	41	29%	47	753	568	473
Renting - Private	26%	57%	39%	86	66	67	-	-	26%	51	645	439	299
Renting - Public	44%	78%	51%	78	59	34	4%	89	24%	87	580	378	308
<b>Total Households</b>	<b>27%</b>	<b>54%</b>	<b>36%</b>	<b>86</b>	<b>71</b>	<b>83</b>	<b>1%</b>	<b>84</b>	<b>26%</b>	<b>54</b>	<b>700</b>	<b>500</b>	<b>415</b>

1. Whilst the person who pays the bills for the household may not hold a concession card, another person in the household may do so.

## **5 ENERGY USAGE**

NB. This section is based on respondent survey data.

### **5.1 MAJOR APPLIANCES USED**

#### **5.1.1 Incidence of Having One or More Major Appliances**

Table 5.1.1 details the mean number of major appliances within concession and non-concession households in each survey year. Across all sample types, the television is the most common household appliance in 2007, with an average of 2.0 televisions per household. Televisions are slightly more common in non-concession than concession households (means of 2.1 and 1.8 televisions per household respectively). VCRs or DVDs follow televisions as the second most common household appliances in 2007 (average of 1.6 per household), while the fridge is the third most common, with an average of 1.2 fridges per household across all sample types, just up from the average of 1.1 in 2001 and 1996.

Not surprisingly, non-concession households and to a lesser extent other concession households tended to have greater quantities of a wider range of household appliances. Audio systems and computers for example were prevalent among other concession (average of 1.0 for both) and non-concession (average of 1.2 audio systems and 1.4 computers) households in 2007, but less common in aged concession households (averages of 0.7 and 0.5 respectively). Non-concession households also had an average of 1.0 printers or scanners, compared with an average of 0.5 amongst concession households. Aged concession households had an average of 9.1 of the listed household appliances in total in 2007, compared with 10.9 in other concession households, and 12.8 in non-concession households.

Prevalence of dishwashers has increased over time from 0.3 in 1996 to 0.5 in 2007. This trend was observed for non-concession and aged concession households, but was not observed amongst other concession households.

Table 5.1.1: Mean Number of Major Appliances by Sample Type

Mean No. of Appliances	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Television	1.7	n/c	n/c	1.9	n/c	n/c	1.8	n/c	n/c	2.1	n/c	n/c	2.0	n/c	n/c
VCR or DVD	1.2	n/c	n/c	1.6	n/c	n/c	1.4	n/c	n/c	1.8	n/c	n/c	1.6	n/c	n/c
Fridge-freezers	1.2	1.1	1.1	1.2	1.1	1.1	1.2	1.1	1.1	1.2	1.2	1.1	1.2	1.1	1.1
Audio systems	0.7	n/c	n/c	1.0	n/c	n/c	0.8	n/c	n/c	1.2	n/c	n/c	1.1	n/c	n/c
Computer	0.5	n/c	n/c	1.0	n/c	n/c	0.8	n/c	n/c	1.4	n/c	n/c	1.1	n/c	n/c
Microwave Ovens	0.9	0.8	n/c	0.9	0.9	n/c	0.9	0.8	n/c	1.0	0.9	n/c	0.9	0.9	n/c
Printer or Scanner	0.4	n/c	n/c	0.7	n/c	n/c	0.5	n/c	n/c	1.0	n/c	n/c	0.8	n/c	n/c
Clothes Driers	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.6	0.6	0.7	0.6	0.6	0.6
Electric Ovens	0.5	0.5	n/c	0.4	0.4	n/c	0.5	0.4	n/c	0.6	0.6	n/c	0.6	0.5	n/c
Dishwashers	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.3	0.2	0.6	0.5	0.4	0.5	0.4	0.3
Separate Freezers	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Electric Stoves	0.5	0.6	n/c	0.4	0.5	n/c	0.4	0.6	n/c	0.3	0.6	n/c	0.4	0.6	n/c
Set Top Box	0.3	n/c	n/c	0.4	n/c	n/c	0.3	n/c	n/c	0.5	n/c	n/c	0.4	n/c	n/c
Bar Fridges	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

## **5.2 Hot Water Systems**

### **5.2.1 Type of Hot Water System**

Unlike in previous years, incidence of gas and electric hot water systems varied considerably between city and country Victoria. The proportion using gas systems remained largely unchanged from 2001 (78%), but the proportion using electric hot water fell to 18%, down from 23% in 2001 and 27% in 1996. Gas hot water systems were more common in Melbourne (82%) than country Victoria (69%), while the incidence of electric hot water systems was higher in country Victoria (27%) than Melbourne (13%). This was primarily due to the inclusion of LPG areas in the sample, which have an incidence of 80% in using electric hot water, compared with just 14% for gas hot water.

With the exception of these LPG areas (14%), the vast majority of households used gas hot water systems, with storage type gas far more common than instantaneous. Proportions using gas hot water systems in Ballarat and Melbourne continued to decline from 1996.

Incidence of electric hot water systems continues to decline in Melbourne and the provincial cities. Ballarat in particular showed a considerable decrease, from 21% in 2001 to 11%, having the lowest incidence of electric hot water usage in Victoria. The incidence in Melbourne also declined sharply from 22% to 13% in 2007. Excluding households in LPG areas (80% of which use electric hot water systems), Shepparton has the largest proportion of households using electric hot water systems (24%), although this is a marked decline from 34% in 1996. In all regions, standard electric hot water systems are much more common than heat pump systems.

Solar hot water systems now capture 2% of the Victorian market, with Bendigo having the largest incidence of these systems in 2007 (6%).



Table 5.2.1.1: Type of Hot Water System in Household by Region

Type of Hot Water System	Ballarat			Bendigo			Geelong			Shepparton			LPG		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Gas - storage type	68%	n/c	n/c	64%	n/c	n/c	56%	n/c	n/c	56%	n/c	n/c	8%	n/c	n/c
Gas - instantaneous	21%	n/c	n/c	14%	n/c	n/c	29%	n/c	n/c	17%	n/c	n/c	7%	n/c	n/c
<b>Total Gas</b>	<b>89%</b>	<b>80%</b>	<b>72%</b>	<b>78%</b>	<b>79%</b>	<b>75%</b>	<b>84%</b>	<b>81%</b>	<b>81%</b>	<b>73%</b>	<b>72%</b>	<b>63%</b>	<b>14%</b>	<b>n/c</b>	<b>n/c</b>
Electric - standard	11%	n/c	n/c	15%	n/c	n/c	13%	n/c	n/c	24%	n/c	n/c	79%	n/c	n/c
Electric - heat pump	-	n/c	n/c	-	n/c	n/c	-	n/c	n/c	-	n/c	n/c	1%	n/c	n/c
<b>Total Electric</b>	<b>11%</b>	<b>21%</b>	<b>25%</b>	<b>15%</b>	<b>20%</b>	<b>25%</b>	<b>13%</b>	<b>19%</b>	<b>18%</b>	<b>24%</b>	<b>29%</b>	<b>34%</b>	<b>80%</b>	<b>n/c</b>	<b>n/c</b>
Solar Only	-	-	-	1%	-	-	-	-	-	-	-	-	-	n/c	n/c
Solar - Gas Boosted	-	-	-	1%	-	-	2%	-	-	2%	*	-	-	n/c	n/c
Solar - Elec Boosted	-	-	-	4%	-	1%	-	-	-	1%	-	2%	3%	n/c	n/c
<b>Total Solar</b>	-	-	-	<b>6%</b>	-	<b>1%</b>	<b>2%</b>	-	-	<b>3%</b>	*	<b>2%</b>	<b>3%</b>	<b>n/c</b>	<b>n/c</b>
Other	-	1%	-	*	1%	-	-	-	-	-	1%	-	1%	n/c	n/c
Can't say	*	-	3%	1%	-	1%	1%	-	1%	1%	-	3%	2%	n/c	n/c

Type of Hot Water System	VIC Country			Melbourne			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Gas - storage type	50%	n/c	n/c	54%	n/c	n/c	53%	n/c	n/c
Gas - instantaneous	19%	n/c	n/c	29%	n/c	n/c	26%	n/c	n/c
<b>Total Gas</b>	<b>69%</b>	<b>78%</b>	<b>73%</b>	<b>82%</b>	<b>78%</b>	<b>71%</b>	<b>78%</b>	<b>78%</b>	<b>71%</b>
Electric - standard	27%	n/c	n/c	13%	n/c	n/c	17%	n/c	n/c
Electric - heat pump	*	n/c	n/c	1%	n/c	n/c	*	n/c	n/c
<b>Total Electric</b>	<b>27%</b>	<b>23%</b>	<b>26%</b>	<b>13%</b>	<b>22%</b>	<b>28%</b>	<b>18%</b>	<b>23%</b>	<b>27%</b>
Solar Only	*	-	-	-	-	*	*	-	*
Solar - Gas Boosted	1%	*	-	1%	*	*	1%	*	*
Solar - Elec Boosted	1%	-	1%	*	*	1%	1%	*	*
<b>Total Solar</b>	<b>3%</b>	*	<b>1%</b>	<b>1%</b>	*	<b>1%</b>	<b>2%</b>	*	*
Other	*	1%	-	*	*	-	*	*	-
Can't say	1%	-	2%	4%	*	3%	3%	*	3%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Non-concession households were marginally more likely to have a gas hot water system than concession households in 2007(81% compared with 75%), whilst concession households were more likely than non-concession households to have an electric hot water system (21% compared with 16%). This trend has been consistent over time.

Although the proportion of aged concession households having a gas hot water system continued to rise from 2001, amongst other concession households this proportion fell from 81% to 75%. Usage of electrical hot water systems continued to decline from 2001 levels across all sample groups.

**Table 5.2.1.2: Type of Hot Water System in Household by Sample Type**

Type of Hot Water System	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Gas - storage type	55%	n/c	n/c	48%	n/c	n/c	52%	n/c	n/c	53%	n/c	n/c	53%	n/c	n/c
Gas - instantaneous	20%	n/c	n/c	27%	n/c	n/c	24%	n/c	n/c	27%	n/c	n/c	26%	n/c	n/c
<b>Total Gas</b>	<b>75%</b>	<b>71%</b>	<b>63%</b>	<b>75%</b>	<b>81%</b>	<b>64%</b>	<b>75%</b>	<b>76%</b>	<b>64%</b>	<b>81%</b>	<b>79%</b>	<b>77%</b>	<b>78%</b>	<b>78%</b>	<b>71%</b>
Electric - standard	22%	n/c	n/c	16%	n/c	n/c	19%	n/c	n/c	16%	n/c	n/c	17%	n/c	n/c
Electric - heat pump	*	n/c	n/c	2%	n/c	n/c	1%	n/c	n/c	-	n/c	n/c	*	n/c	n/c
<b>Total Electric</b>	<b>22%</b>	<b>29%</b>	<b>32%</b>	<b>19%</b>	<b>20%</b>	<b>33%</b>	<b>21%</b>	<b>25%</b>	<b>32%</b>	<b>16%</b>	<b>21%</b>	<b>23%</b>	<b>18%</b>	<b>23%</b>	<b>27%</b>
Solar Only	*	-	-	-	*	-	*	*	-	-	-	*	*	-	*
Solar - Gas Boosted	1%	*	*	2%	-	-	1%	-	*	1%	*	*	1%	*	*
Solar - Elec Boosted	*	*	*	1%	-	-	1%	*	*	1%	*	1%	1%	*	*
<b>Total Solar</b>	<b>1%</b>	<b>*</b>	<b>1%</b>	<b>2%</b>	<b>*</b>	<b>-</b>	<b>2%</b>	<b>*</b>	<b>*</b>	<b>2%</b>	<b>*</b>	<b>1%</b>	<b>2%</b>	<b>*</b>	<b>*</b>
Other	*	1%	-	1%	1%	-	*	1%	-	-	*	-	*	*	-
Can't say	2%	-	5%	5%	*	3%	3%	*	5%	2%	-	1%	3%	*	3%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

As in previous years, the difference in incidence of usage of gas hot water systems between large and small households is apparent, with 84% of households of four or more persons using these systems compared with 69% of single-person households. There has been no substantial change in usage of gas hot water systems since 2001; however, the use of electric hot water systems has declined slightly across all household sizes between surveys.

**Table 5.2.1.3: Type of Hot Water System in Household by Household Size**

Type of Hot Water System	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Gas - storage type	50%	n/c	n/c	52%	n/c	n/c	54%	n/c	n/c	55%	n/c	n/c	53%	n/c	n/c
Gas - instantaneous	19%	n/c	n/c	27%	n/c	n/c	26%	n/c	n/c	30%	n/c	n/c	26%	n/c	n/c
<b>Total Gas</b>	<b>69%</b>	<b>70%</b>	<b>59%</b>	<b>79%</b>	<b>76%</b>	<b>67%</b>	<b>79%</b>	<b>79%</b>	<b>76%</b>	<b>84%</b>	<b>84%</b>	<b>81%</b>	<b>78%</b>	<b>78%</b>	<b>71%</b>
Electric - standard	25%	n/c	n/c	17%	n/c	n/c	17%	n/c	n/c	12%	n/c	n/c	17%	n/c	n/c
Electric - heat pump	-	n/c	n/c	*	n/c	n/c	2%	n/c	n/c	1%	n/c	n/c	*	n/c	n/c
<b>Total Electric</b>	<b>25%</b>	<b>29%</b>	<b>36%</b>	<b>17%</b>	<b>25%</b>	<b>31%</b>	<b>19%</b>	<b>20%</b>	<b>25%</b>	<b>12%</b>	<b>16%</b>	<b>19%</b>	<b>18%</b>	<b>23%</b>	<b>27%</b>
Solar Only	-	-	-	*	*	*	-	-	-	-	-	-	*	-	*
Solar - Gas Boosted	1%	*	*	1%	*	*	*	*	*	1%	*	*	1%	*	*
Solar - Elec Boosted	1%	-	*	*	*	*	*	1%	1%	1%	1%	1%	1%	*	1%
<b>Total Solar</b>	<b>1%</b>	<b>*</b>	<b>*</b>	<b>1%</b>	<b>*</b>	<b>*</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>3%</b>	<b>1%</b>	<b>1%</b>	<b>2%</b>	<b>*</b>	<b>1%</b>
Other	1%	1%	-	*	*	-	-	1%	-	*	*	-	*	*	-
Can't say	3%	*	6%	2%	*	2%	3%	-	1%	2%	-	2%	3%	*	3%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

### 5.2.2 Solar Water Heater Perceptions

This was a new question in the 2007 survey. With just 2% of Victorian households using solar hot water systems, a series of statements was asked in 2007 to determine people's perceptions of them.

Perceptions varied considerably by region. Ballarat households tended to have the most positive views, with these residents most likely to agree that *solar water heaters are a great choice for the environment* (93% - 40% strongly agree) and *the most energy-efficient water heating systems* (71%). Ballarat and LPG area residents were most likely to agree that solar water heaters *are effective in Victoria's climate* (74%, compared with 77% for LPG areas – with 23% in strong agreement). Residents of Geelong and Melbourne were least inclined to agree that solar water heaters are *the most energy-efficient water heating system* or *effective in the Victorian climate* (refer to Table 5.1.3.1). Compared with other regions, a higher proportion of Geelong residents (80%) agreed that most *people don't know much about solar water heaters*. This might reflect their own lack of knowledge about solar water heaters, which may in turn be partially responsible for their less favourable perceptions of the effectiveness and efficiency of solar water heaters.

Almost two thirds of households consider that *buying a solar hot water system is too expensive to consider* (66%), with Shepparton residents the most reticent on this issue (79%). Only a minority in each region are *reluctant to install a solar water system as it wouldn't look good on the roof*, with agreement levels lowest in Shepparton (2%) and highest in Geelong (8%).

Table 5.2.2.1: Perceptions of Solar Water Heaters by Region, 2007

Level of agreement with Statements	Ballarat			Bendigo			Geelong			Shepparton		
	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree
Solar water heaters are a great choice for the environment	40%	53%	93%	36%	52%	88%	27%	60%	88%	33%	52%	86%
Most people don't know much about solar water heaters	10%	66%	76%	9%	58%	67%	13%	67%	80%	6%	64%	71%
Solar water heaters are effective in Victoria's climate	10%	65%	74%	19%	52%	71%	12%	48%	59%	12%	60%	72%
Buying a solar water heating system is too expensive for me to consider	16%	55%	71%	19%	45%	64%	27%	36%	63%	24%	55%	79%
Solar water heating is the most energy-efficient water heating system	21%	50%	71%	20%	45%	65%	15%	42%	57%	18%	45%	63%
Reluctant to install a solar hot water system as it doesn't look good on roof	2%	3%	5%	1%	4%	5%	3%	5%	8%	1%	1%	2%

Base: Total respondents, 2007 (n=2,061)

Figures are proportions indicating agreement with the statement

Although agreement about the *effectiveness*, *energy efficiency* and *environmental friendliness* of solar water heaters was higher in country Victoria compared with Melbourne, country Victorians were also more likely than Melbourne residents to perceive solar water heaters to be *too expensive to consider buying* (67% vs. 63% respectively).

Table 5.2.2.1: Perceptions of Solar Water Heaters by Region, 2007 (continued)

Level of agreement with Statements	LPG Areas			VIC Country			Melbourne			Total VIC		
	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree
Solar water heaters are a great choice for the environment	32%	57%	88%	33%	56%	88%	29%	55%	84%	30%	55%	86%
Most people don't know much about solar water heaters	10%	61%	71%	11%	64%	74%	12%	62%	74%	11%	62%	74%
Solar water heaters are effective in Victoria's climate	23%	55%	77%	15%	55%	69%	13%	48%	61%	13%	50%	64%
Buying a solar water heating system is too expensive for me to consider	25%	42%	67%	23%	44%	67%	23%	40%	63%	23%	41%	64%
Solar water heating is the most energy-efficient water heating system	19%	44%	63%	18%	45%	63%	18%	42%	60%	18%	43%	61%
Reluctant to install a solar hot water system as it doesn't look good on roof	2%	4%	6%	2%	4%	6%	1%	5%	6%	1%	5%	6%

Base: Total respondents, 2007 (n=2,061)

Figures are proportions indicating agreement with the statement

Attitudes towards solar water heaters were generally more positive amongst non-concession than concession households, with the former more likely to agree that solar water heaters *are a great choice for the environment* (88%, compared with 82% for concession households) and *effective in Victoria's climate* (65% and 61% respectively). As would be expected, individuals from concession households were more likely (75%) to agree that solar water heating systems are *far too expensive to consider buying* than non-concession households (57%).

**Table 5.2.2.2: Perceptions of Solar Water Heaters by Sample Type**

Level of agreement with Statements	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree	Strongly Agree	Agree	Total Agree
Solar water heaters are a great choice for the environment	22%	58%	81%	29%	55%	84%	25%	57%	82%	34%	54%	88%	30%	55%	86%
Most people don't know much about solar water heaters	10%	63%	73%	13%	61%	74%	11%	62%	73%	11%	63%	74%	11%	62%	74%
Solar water heaters are effective in Victoria's climate	10%	54%	63%	14%	45%	60%	12%	50%	61%	14%	51%	65%	13%	50%	64%
Buying a solar water heating system is too expensive for me to consider	29%	49%	78%	29%	42%	71%	29%	46%	75%	18%	39%	57%	23%	41%	64%
Solar water heating is the most energy-efficient water heating system	15%	46%	61%	19%	41%	60%	17%	44%	61%	18%	42%	60%	18%	43%	61%
Reluctant to install a solar hot water system as it doesn't look good on roof	1%	6%	7%	*	5%	5%	1%	5%	6%	1%	4%	5%	1%	5%	6%

Base: Total respondents, 2007 (n=2,061)

Figures are proportions indicating agreement with the statement

Not surprisingly, the 29 households with solar hot water heaters installed had far greater proportions agreeing that they are *effective in Victoria's climate* (85%) and are *the most energy efficient heating system* (87%). Far fewer indicated that such a system was *too expensive to consider* (14%).

### 5.2.3 Electrical Hot Water Systems

In the 2007 survey, 18% of households had an electric hot water system, a continued decline from the 23% in 2001 and 27% in 1996. Of those households with an electric hot water system, the vast majority (95%) had one system, while 2% had two and 1% with three or more systems. These proportions remained relatively stable over time across all household types.

**Table 5.2.3.1: Number of Electrical Hot Water Systems in Household by Sample Type**

No. of Electric Hot Water System	Aged Concession HHS			Other Concession HHS			Total Concession HHS			Non-Concession HHS			Total HHS		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
One	96%	93%	96%	92%	94%	98%	94%	94%	97%	95%	95%	93%	95%	94%	95%
Two	4%	4%	2%	1%	4%	1%	3%	3%	1%	2%	4%	5%	2%	2%	3%
Three or more	1%	-	2%	-	-	2%	*	-	2%	1%	-	1%	1%	-	2%
Can't say	*	3%	-	7%	5%	-	3%	3%	-	2%	4%	-	3%	4%	-

Base: Total respondents with an electric hot water system, 2007 (n=437); 2001 (n=478); 1996 (n=554)

The majority (70%) of households with an electrical hot water system had an off peak system, while one in five had a standard system (19%). Compared with previous years, there has been a slight increase in the incidence of having a standard system (19% compared with 15% in 2001 and 14% in 1996). These changes can be attributed to non-aged and non-concession households, which evidenced similar changes since 1996, whilst proportions have remained relatively stable amongst aged concession households over this period.

Aged concession households are the most likely sub-group to have off peak hot water systems – 83%, compared with 69% of non-concession households and just over half (53%) of other concession households. Over time, this group tends to be increasing their use of off-peak hot water, while for other groups stability or a slight decline is evident.



**Table 5.2.3.2: Type of Electrical Hot Water Systems in Household by Sample Type**

Type of Electric Hot Water System	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Off Peak	83%	81%	72%	53%	66%	66%	69%	75%	70%	71%	71%	73%	70%	73%	72%
Standard	10%	8%	11%	22%	17%	18%	16%	12%	13%	22%	18%	15%	19%	15%	14%
Can't say	8%	11%	14%	26%	17%	14%	17%	13%	14%	9%	11%	11%	12%	12%	12%

Base: Total respondents with an electric hot water system, 2007 (n=437); 2001 (n=478); 1996 (n=554)

## 5.3 Heaters

### 5.3.1 Incidence and Type of All Heaters

On average, Victorian households have 1.48 heaters in their household – a main heater and back-up (usually a portable electric heater). Households in LPG areas tend to average 1.75 heaters per household, while in Shepparton the average is lower at 1.29.

Overall, 85% of households have gas heating of some kind, one third have electric heater types (34%), whilst one on seven have some other kind of heater (14%). Four in ten households have a built-in gas heater (43%) or gas ducted central heating (43%). Not surprisingly, one in five households have portable electric heater (18%), while one in eight use reverse-cycle air-conditioning (12%) and one in ten use wood/solid fuel heaters for their heating needs (10%).

Aged concession households are most likely to have a built-in gas heater (58%) with no real trends evident across heater type by concession status.

Table 5.3.1.1: All Types of Space or Room Heater used in Household by Sample Type

Types of All Heaters in the Household	Aged Concession HHs	Other Concession HHs	Total Concession HHHs	Non-Concession HHs	Total HHs
Built-in gas heater	58%	51%	55%	35%	43%
Gas ducted/central heating	31%	30%	31%	51%	43%
Hydronic heating	2%	2%	2%	3%	2%
Portable electric heater	20%	23%	22%	15%	18%
Reverse cycle airconditioner	13%	8%	11%	12%	12%
Built-in electric heater	3%	7%	5%	3%	4%
Electric ducted/ central heating	1%	*	*	1%	1%
Slab floor/pyrotenix heating	1%	*	1%	1%	1%
Electric operated, oil heating system	2%	5%	3%	3%	3%
Wood heater/solid fuel	7%	8%	7%	12%	10%
Oil heater	2%	2%	2%	2%	2%
Other	3%	2%	2%	2%	2%
No main heater	*	1%	1%	*	1%
<b>TOTAL gas heaters</b>	<b>87%</b>	<b>80%</b>	<b>84%</b>	<b>86%</b>	<b>85%</b>
<b>TOTAL electric heaters</b>	<b>35%</b>	<b>39%</b>	<b>37%</b>	<b>32%</b>	<b>34%</b>
<b>TOTAL other heaters</b>	<b>11%</b>	<b>12%</b>	<b>12%</b>	<b>15%</b>	<b>14%</b>
<b>Average number of heaters</b>	<b>1.48</b>	<b>1.53</b>	<b>1.44</b>	<b>1.48</b>	<b>1.48</b>

Base: Total respondents 2007: n=2,061.

When analysed by region, two thirds of Ballarat, Bendigo and Shepparton households have built-in gas heating, while one third do so in Melbourne, where gas ducting is far more prevalent (52%). Of interest is that LPG regions have far higher proportions using reverse-cycle air-conditioning hot heating, or wood/solid fuel heating (32%).

**Table 5.3.1.2: All Types of Space or Room Heater used in Household by Region**

Types of All Heaters in the Household	Ballarat	Bendigo	Geelong	Shepparton	LPG	VIC Country	Melbourne	Total HHs
Built-in gas heater	65%	68%	53%	67%	48%	58%	36%	43%
Gas ducted/central heating	31%	24%	32%	17%	7%	24%	52%	43%
Hydronic heating	3%	1%	1%	-	2%	1%	3%	2%
Portable electric heater	13%	15%	17%	13%	22%	17%	18%	18%
Reverse cycle airconditioner	6%	11%	13%	11%	33%	15%	10%	12%
Built-in electric heater	6%	1%	5%	3%	4%	4%	4%	4%
Electric ducted/ central heating	-	2%	3%	3%	1%	1%	1%	1%
Slab floor/pyrotenix heating	1%	1%	1%	3%	2%	1%	1%	1%
Electric operated, oil heating system	1%	3%	2%	3%	4%	2%	3%	3%
Wood heater/solid fuel	9%	8%	4%	8%	32%	12%	10%	10%
Oil heater	2%	2%	1%	*	3%	2%	2%	2%
Other	2%	3%	*	-	9%	3%	2%	2%
No main heater	*	-	1%	*	1%	1%	1%	1%
<b>TOTAL gas heaters</b>	<b>91%</b>	<b>90%</b>	<b>83%</b>	<b>84%</b>	<b>57%</b>	<b>81%</b>	<b>87%</b>	<b>85%</b>
<b>TOTAL electric heaters</b>	<b>25%</b>	<b>32%</b>	<b>36%</b>	<b>34%</b>	<b>55%</b>	<b>37%</b>	<b>32%</b>	<b>34%</b>
<b>TOTAL other heaters</b>	<b>13%</b>	<b>12%</b>	<b>6%</b>	<b>8%</b>	<b>41%</b>	<b>16%</b>	<b>13%</b>	<b>14%</b>
<b>Average number of heaters</b>	<b>1.52</b>	<b>1.50</b>	<b>1.36</b>	<b>1.29</b>	<b>1.74</b>	<b>1.49</b>	<b>1.48</b>	<b>1.48</b>

Base: Total respondents 2007: n=2,061.

### 5.3.2 Incidence and Type of Main Heater

Half (50%) of Melbourne households had gas ducted heating for their main heater, compared with just under one-quarter (23%) of households in country Victoria. In comparison, only 33% of Melbourne households had a built-in gas heater as their main heater, compared with 53% of provincial households. Of the regional areas, Shepparton and Bendigo households had the highest incidence of built-in gas heaters as their main heater (65% and 63% respectively), while LPG regions had the lowest (40%). Amongst regional areas, incidence of gas ducted heating as one's main heater was

highest in Geelong (30%) and Ballarat (29%) and lowest in LPG areas (6%). One-quarter (26%) of households in LPG areas had a wood heater and a further 16% used reverse cycle air conditioners as their main heater.

Incidence of built-in gas heaters as one's main heater has continued to fall from previous years in both regional and metropolitan areas, whilst the incidence of gas ducted heating as one's main heater has continued to rise in regional and metropolitan households over the same period, as did the use of reverse cycle air conditioning for heating.

**Table 5.3.2.1: Main Space or Room Heater used in Household by Region**

Type of Main Space or Room Heater	Ballarat			Bendigo			Geelong			Shepparton			LPG		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Built-in gas heater	56%	69%	71%	63%	72%	71%	51%	69%	75%	65%	64%	80%	40%	n/c	n/c
Gas ducted/central heating	29%	23%	14%	23%	18%	13%	30%	18%	14%	16%	16%	3%	6%	n/c	n/c
Hydronic heating	3%	3%	4%	1%	-	-	1%	-	-	-	*	-	2%	n/c	n/c
Portable electric heater	1%	1%	-	2%	-	1%	4%	3%	1%	1%	2%	1%	3%	n/c	n/c
Reverse cycle air conditioner	2%	-	-	2%	3%	1%	6%	4%	1%	7%	3%	1%	16%	n/c	n/c
Built-in electric heater	2%	*	-	1%	*	3%	2%	3%	4%	2%	5%	4%	1%	n/c	n/c
Electric ducted/central heating	-	1%	1%	2%	-	-	3%	1%	-	3%	-	1%	1%	n/c	n/c
Slab floor/pyrotenix heating	1%	1%	-	1%	2%	-	1%	-	-	3%	5%	2%	2%	n/c	n/c
Electric operated oil heating system	-	-	-	1%	-	-	-	1%	-	-	-	-	1%	n/c	n/c
Kerosene heater	-	-	-	-	-	-	-	1%	-	-	-	-	-	n/c	n/c
Wood heater/solid fuel	4%	3%	8%	4%	4%	12%	1%	2%	5%	4%	4%	8%	26%	n/c	n/c
Oil heater	-	-	1%	-	-	-	*	-	-	-	-	-	-	n/c	n/c
Other	2%	n/c	n/c	1%	n/c	n/c	-	n/c	n/c	-	n/c	n/c	4%	n/c	n/c
No main heater	*	-	-	-	-	-	1%	-	-	*	-	-	1%	n/c	n/c

**Table 5.3.2.1: Main Space or Room Heater used in Household by Region (continued)**

Type of Main Space or Room Heater	VIC Country			Melbourne		
	2007	2001	1996	2007	2001	1996
Built-in gas heater	53%	68%	74%	33%	37%	46%
Gas ducted/central heating	23%	19%	11%	50%	48%	36%
Hydronic heating	1%	1%	1%	2%	1%	4%
Portable electric heater	3%	1%	1%	3%	4%	4%
Reverse cycle air conditioner	7%	3%	1%	3%	1%	1%
Built-in electric heater	1%	2%	3%	3%	3%	4%
Electric ducted/central heating	1%	*	*	1%	1%	*
Slab floor/pyrotenix heating	1%	2%	1%	*	*	1%
Electric operated oil heating system	*	*	-	1%	1%	1%
Kerosene heater	-	*	-	-	*	-
Wood heater/solid fuel	7%	3%	8%	3%	3%	2%
Oil heater	*	-	*	*	1%	*
Other	1%	n/c	n/c	*	n/c	n/c
No main heater	1%	-	-	1%	-	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Just over half (51%) of concession households had built-in gas heaters as their main heater, substantially higher than the 31% of non-concession households with this type of heater as their main heater. These proportions have fallen gradually in both concession (from 63% in 1996 to 51% in 2007) and non-concession (from 48% in 1996 to 31%) households. Ducted gas heating was slightly more common as one's main heater than in the 2001 survey, but the increase was not as marked as that which occurred between 1996 and 2001. The incidence of ducted gas heating as a main heater was higher amongst non-concession (50%) than concession (29%) households.

**Table 5.3.2.2: Main Space or Room Heater used in Household by Sample Type**

Type of Main Space or Room Heater	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Built-in gas heater	54%	58%	63%	48%	59%	63%	51%	58%	63%	31%	38%	48%	39%	46%	55%
Gas ducted/central heating	29%	28%	16%	28%	26%	17%	29%	27%	17%	50%	47%	38%	41%	40%	29%
Hydronic heating	2%	1%	4%	2%	1%	4%	2%	1%	4%	2%	1%	3%	2%	1%	3%
Portable electric heater	2%	5%	4%	5%	3%	5%	4%	4%	5%	2%	3%	2%	3%	3%	3%
Reverse cycle air conditioner	4%	1%	2%	3%	2%	*	4%	1%	1%	4%	2%	*	4%	1%	1%
Built-in electric heater	1%	2%	5%	5%	4%	5%	3%	3%	5%	2%	2%	3%	2%	3%	4%
Electric ducted/central heating	*	1%	1%	*	1%	*	*	1%	*	1%	1%	*	1%	1%	*
Slab floor/pyrotenix heating	1%	1%	1%	-	1%	*	1%	1%	1%	1%	1%	1%	1%	1%	1%
Electric operated oil heating system	*	1%	1%	2%	1%	*	1%	1%		*	*	1%	1%	1%	1%
Kerosene heater	-	*	-	-	*	-	-	*	1%	-	*	-	-	*	-
Wood heater/solid fuel	4%	2%	2%	4%	4%	3%	4%	3%	-	5%	4%	5%	4%	3%	4%
Oil heater	1%	1%	1%	-	-	1%	*	*	2%	*	1%	*	*	1%	*
Other	1%	n/c	n/c	1%	n/c	n/c	1%	n/c	1%	1%	n/c	n/c	1%	n/c	n/c
No main heater	*	-	-	1%	-	-	1%	-	-	*	-	-	1%	-	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Usage of built-in gas heaters as one’s main heater tended to decrease with household size, from 52% of single-person households to 27% of four or more person households. The reverse was true for ducted gas heating, increasing from 23% of single-person households to 56% of households with four or more persons. Three-person households evidenced the largest increase in usage of ducted gas heating from 2001, rising from 37% to 45% in 2007.

Use of reverse cycle air conditioners as one’s main heater increased slightly from 2001 across all household sizes, although only a small minority (4%) of households use this form of heating. Usage of electrical heaters remained consistently low, with built-in electric heaters used by 2% of all households and portable electric heaters used in 3% of households. These proportions were slightly higher amongst single-person households (4% and 6% respectively).

**Table 5.3.2.3: Main Space or Room Heater used in Household by Household Size**

Type of Main Space or Room Heater	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Built-in gas heater	52%	56%	59%	42%	46%	56%	37%	48%	56%	27%	37%	48%	39%	46%	55%
Gas ducted/central heating	23%	25%	14%	38%	38%	26%	45%	37%	29%	56%	53%	41%	41%	40%	29%
Hydronic heating	3%	1%	4%	2%	1%	4%	2%	2%	2%	2%	1%	2%	2%	1%	3%
Portable electric heater	6%	7%	7%	2%	4%	4%	3%	2%	1%	1%	1%	1%	3%	3%	3%
Reverse cycle air conditioner	4%	1%	1%	5%	3%	1%	5%	1%	*	3%	1%	*	4%	1%	1%
Built-in electric heater	4%	5%	7%	2%	2%	4%	2%	4%	5%	1%	1%	1%	2%	3%	4%
Electric ducted/central heating	*	1%	1%	1%	1%	*	1%	1%	1%	1%	1%	*	1%	1%	*
Slab floor/pyrotenix heating	1%	-	1%	1%	1%	1%	1%	1%	1%	1%	1%	*	1%	1%	1%
Electric operated oil heating system	2%	1%	2%	*	1%	*	*	*	-	8%	-	*	1%	1%	1%
Kerosene heater	-	*	-	-	*	-	-	*	-	-	-	-	-	*	-
Wood heater/solid fuel	3%	1%	2%	5%	3%	4%	4%	4%	4%	6%	5%	5%	4%	3%	4%
Oil heater	1%	*	*	*	1%	1%	-	-	1%	-	-	-	*	1%	*
Other	1%	n/c	n/c	1%	n/c	n/c	*	n/c	1%	8%	n/c	n/c	1%	n/c	n/c
No main heater	1%	-	-	1%	-	-	-	-	-	1%	-	-	1%	-	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Households with some insulation (i.e., either completely or partly insulated) were more likely to have a gas heater as their main space or room heater (85%) compared with non-insulated households (76%), while households without insulation were more likely to use an electric heater (19%) compared with insulated households (8%).

Households living in low-rise flats were substantially less likely to use gas heaters as their main heater (42%) than those in separate (86%) or semi-detached houses (74%). Residents of low-rise flats were more likely to use electric heaters (49%) compared with those living in separate houses (7%) or semi-detached houses (25%).

### **5.3.3 Use of Main Heater**

As most households average 1.48 heaters and the spare heater tends to be a portable electric heater, analysis of use of heaters has been limited to use of the household's main heater.

As illustrated in table 5.3.3.1, usage of household main heaters during colder months (i.e., May to November) was high across all sample groups. The majority of households (89%) used their main heater at least once a day during the colder months, with no substantial difference in this proportion between concession (90%) and non-concession households (89%). Frequency of use during the colder months increased substantially across all sample types from 2001, in contrast to the decline in usage experienced between 1996 and 2001. The increase was most pronounced for other concession households, 90% of which reported using their main heater at least once a day during the colder months in 2007, up from 77% in 2001.

Other concession households indicated using their main heater an average of 46.2 times per month during May to November, slightly higher than the average use by aged concession households (44.3 times per month) or non-concession households (44.1 times per month). Average incidence of use per month increased markedly from 2001, from 31.3 times per month for all households in 2001 to 44.5 times per month in 2007. However, the average for 2007 has been influenced by the inclusion of two new frequency categories "twice a day" and "more than twice a day", which allows for a more accurate estimation of average length of use when compared with 2001 and 1996 results.

---



When 2007 survey results are analysed by 2001 frequency categories (in order to provide comparable analysis), it can be seen that only marginal increases in frequency of use over time has occurred. Please note however, that the 2007 frequency definition provides a far more accurate indication of frequency of use, but does enable strict comparisons with past survey data.

**Table 5.3.3.1: Usage of Main Heater in Colder Months by Sample Type**

Frequency of Usage of Main Heater in Colder Months	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
More than twice a day	21%	n/c	n/c	19%	n/c	n/c	20%	n/c	n/c	15%	n/c	n/c	17%	n/c	n/c
Twice a day	13%	n/c	n/c	21%	n/c	n/c	17%	n/c	n/c	24%	n/c	n/c	21%	n/c	n/c
Once a day	56%	n/c	n/c	50%	n/c	n/c	53%	n/c	n/c	49%	n/c	n/c	51%	n/c	n/c
<b>At least once a day</b>	<b>90%</b>	<b>82%</b>	<b>87%</b>	<b>90%</b>	<b>77%</b>	<b>84%</b>	<b>90%</b>	<b>80%</b>	<b>86%</b>	<b>89%</b>	<b>80%</b>	<b>87%</b>	<b>89%</b>	<b>80%</b>	<b>86%</b>
Four to six times a week	3%	9%	8%	5%	13%	8%	4%	11%	6%	7%	11%	8%	6%	11%	7%
One to three times a week	3%	4%	4%	3%	6%	5%	3%	5%	4%	3%	5%	4%	3%	5%	4%
Once every two or three weeks	*	*	1%	*	*	1%	*	*	1%	1%	1%	1%	*	1%	1%
About once a month	1%	*	1%	1%	-	1%	1%	*	1%	*	1%	*	1%	*	1%
Less often	1%	1%	2%	-	2%	1%	*	2%	2%	*	1%	1%	*	1%	1%
Don't use	1%	*	-	-	1%	-	*	1%	-	1%	-	-	1%	*	-
Can't say	1%	3%	-	1%	2%	1%	1%	1%	*	1%	1%	-	1%	1%	*
<b>Average times per month</b>	<b>44.3</b>	<b>32.0</b>	<b>32.0</b>	<b>46.2</b>	<b>30.6</b>	<b>31.6</b>	<b>45.2</b>	<b>31.3</b>	<b>31.8</b>	<b>44.1</b>	<b>31.3</b>	<b>32.3</b>	<b>44.5</b>	<b>31.3</b>	<b>32.0</b>
<b>Adjusted times per month<sup>1</sup></b>	<b>33.0</b>			<b>33.2</b>			<b>33.1</b>			<b>32.7</b>			<b>32.9</b>		

Base: Total respondents with main heater, 2007 (n=2,048); 2001 (n=1,995); 1996 (n=1,989)

1. Average calculated using 2001 frequency definition.

The average length of usage of main heaters during the colder months has remained consistent over time (see Table 5.3.3.2). Almost half (42%) of all households used their main heater for 4-6 hours. As in 2001, concession households' usage of a main heater in the colder months tended to be longer on average than for non-concession households (7.5 hours compared with 6.7 hours), with usage longer amongst aged concession (average of 8.0 hours) than other concession (7.0 hours) households. Interestingly, a slight upward trend in hours used is evident for aged concession households, whilst a slight downward trend appears for other concession households.

**Table 5.3.3.2 Usage (Hours) of Main Heater in Colder Months by Sample Type**

No. Hours Main Heater is Used in Colder Months	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Less than 1 hour	*	1%	2%	-	*	1%	*	1%	1%	*	*	1%	*	1%	1%
1 hour	2%	3%	2%	5%	3%	5%	3%	3%	3%	3%	4%	2%	3%	4%	3%
2 hours	6%	4%	7%	8%	8%	6%	7%	6%	7%	6%	8%	5%	6%	7%	6%
3 hours	8%	9%	6%	11%	11%	13%	9%	10%	9%	12%	11%	9%	11%	11%	9%
4 hours	14%	15%	14%	15%	17%	11%	14%	16%	13%	18%	18%	15%	16%	17%	14%
5 hours	9%	10%	11%	13%	9%	9%	11%	10%	11%	14%	12%	15%	13%	11%	13%
6 hours	12%	16%	16%	13%	15%	16%	13%	15%	16%	14%	15%	17%	13%	15%	17%
7 hours	3%	4%	6%	2%	3%	5%	3%	3%	5%	4%	5%	5%	3%	4%	5%
8 hours	9%	7%	10%	5%	7%	9%	7%	7%	9%	7%	6%	9%	7%	7%	9%
9-12 hours	16%	16%	14%	14%	11%	12%	15%	11%	13%	11%	9%	10%	13%	11%	11%
13-16 hours	10%	7%	6%	4%	6%	5%	7%	4%	5%	3%	3%	5%	5%	5%	5%
17-20 hours	1%	1%	1%	1%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
21-24 hours	8%	5%	6%	8%	6%	7%	8%	6%	6%	6%	6%	5%	7%	6%	6%
Not used	1%	*	-	-	1%	-	*	*	-	1%	-	-	1%	*	-
Can't say	1%	2%	-	2%	2%	-	1%	2%	-	1%	1%	*	1%	2%	*
<b>Ave. Hrs per use</b>	<b>8.0</b>	<b>7.5</b>	<b>7.3</b>	<b>7.0</b>	<b>7.2</b>	<b>7.4</b>	<b>7.5</b>	<b>7.3</b>	<b>7.3</b>	<b>6.7</b>	<b>6.7</b>	<b>7.1</b>	<b>7.0</b>	<b>6.9</b>	<b>7.2</b>
<b>Ave. Hrs per mth</b>	<b>354.4</b>	<b>240.0</b>	<b>233.6</b>	<b>323.4</b>	<b>220.3</b>	<b>233.8</b>	<b>339.0</b>	<b>228.5</b>	<b>232.1</b>	<b>295.5</b>	<b>209.7</b>	<b>229.3</b>	<b>311.5</b>	<b>216.0</b>	<b>230.4</b>
<b>Adjusted Hrs per mth<sup>1</sup></b>	<b>264.0</b>			<b>232.4</b>			<b>248.3</b>			<b>219.1</b>			<b>230.3</b>		

Base: Total respondents with main heater, 2007 (n=2,048); 2001 (n=1,995); 1996 (n=1,989)

1. Average calculated using 2001 frequency definition.

On average, insulated households used their main heater for longer periods of time, averaging 7.3 hours per use, compared with 6.4 hours amongst non-insulated households.

Main heater usage within separate houses and semi-detached dwellings tended to be longer on average (7.2 and 6.1 hours per use respectively) than amongst residents in low-rise flats (4.1 hours per use).

## **5.4 Cooling Systems**

### **5.4.1 Incidence of Cooling Systems**

Please note that questions on air conditioning and air cooling were significantly changed for the 2007 survey to accommodate more detailed analysis by cooling type.

In 2007, incidence of ceiling and stand alone fans was incorporated in to the definition of air cooling. More than half of all households have ceiling or stand alone fans (54%), with incidence highest in Ballarat (77%), Shepparton (72%) and Geelong (66%).

When fans are incorporated in to the air conditioning and air cooling total, more than nine in ten households have some form of air conditioning or cooling in their homes. When fans are excluded from this definition (to match the 2001 and 1996 version), overall incidence rates of air conditioning and air cooling systems have still risen dramatically over time from 40% in 1996 to 57% in 2001 and ultimately 62% in 2007. This increase is evident across all sample types, household sizes and regions.

**Table 5.4.1.1: Incidence of Air Conditioning or Air Cooling in Household by Sample Type, Household Size and Region**

Air Conditioning/ Cooling in HH	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	1 Person HH	2 Person HH	3 Person HH	4 Person HH	Ballarat	Bendigo	Geelong	Shepparton	LPG Areas	Total Country VIC	Melbourne	Total
1996	41%	33%	38%	42%	29%	42%	41%	46%	13%	53%	36%	74%	n/a	44%	39%	<b>40%</b>
2001	56%	53%	54%	59%	44%	57%	61%	64%	28%	75%	54%	85%	n/a	61%	56%	<b>57%</b>
2007	72%	60%	66%	70%	59%	67%	73%	76%	49%	78%	57%	93%	78%	66%	70%	<b>68%</b>
<i>Ceiling/stand alone fans 2007</i>	56%	58%	57%	53%	56%	58%	50%	51%	77%	60%	66%	72%	60%	66%	49%	<b>54%</b>
<b>Total (incl. fans) 2007</b>	<b>94%</b>	<b>90%</b>	<b>92%</b>	<b>93%</b>	<b>89%</b>	<b>94%</b>	<b>92%</b>	<b>93%</b>	<b>95%</b>	<b>96%</b>	<b>90%</b>	<b>99%</b>	<b>95%</b>	<b>94%</b>	<b>92%</b>	<b>92%</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

## 5.4.2 Cooling System Types

Ceiling or stand-alone fans were the most common form of air cooling (54%), and refrigerative air conditioners were considerably more common (44%) than evaporative coolers (28%). Ducted evaporative coolers were more common (16%) than wall mounted (7%) and portable (6%) evaporative coolers. Room refrigerative air conditioners were more common (32%) than multi-split (7%), portable (2%) and ducted (3%) refrigerative air conditioners. Just under one in ten households had no form of air conditioning or air cooling (8%).

Households in country Victoria were considerably more likely to have ceiling or stand-alone fans (66%) compared with Melbourne households (49%).

Households in Bendigo (39%), LPG regions (36%) and Shepparton (34%) were more likely to have evaporative coolers than Ballarat (19%) or Geelong (17%) households. Shepparton households were most likely to have refrigerative air conditioning (61%), while Ballarat households were least likely (28%).

**Table 5.4.2.1: Types of Air Conditioning or Air Cooling in Household by Region, 2007**

Types of air cooling systems in HH	Ballarat	Bendigo	Geelong	Shepparton	LPG regions	TOTAL Country VIC	Melbourne	Total HHs
Ceiling or stand-alone fans	77%	60%	66%	72%	60%	66%	49%	54%
Portable evaporative coolers	16%	8%	5%	2%	6%	7%	5%	6%
Wall mounted evaporative coolers	3%	11%	10%	6%	8%	8%	7%	7%
Ducted evaporative coolers	1%	20%	2%	27%	23%	12%	16%	16%
Portable refrigerative air conditioners	3%	3%	4%	1%	3%	3%	2%	2%
Room refrigerative air conditioners	19%	29%	26%	52%	30%	29%	32%	32%
Multi-split refrigerative air conditioners	7%	9%	9%	9%	13%	10%	7%	7%
Ducted refrigerative air conditioners	2%	2%	5%	1%	1%	3%	3%	3%
<b>TOTAL with evaporative coolers</b>	<b>19%</b>	<b>39%</b>	<b>17%</b>	<b>34%</b>	<b>36%</b>	<b>27%</b>	<b>28%</b>	<b>28%</b>
<b>TOTAL with refrigerative air conditioners</b>	<b>28%</b>	<b>42%</b>	<b>41%</b>	<b>61%</b>	<b>45%</b>	<b>41%</b>	<b>44%</b>	<b>44%</b>
No air conditioning/cooling	5%	4%	10%	1%	5%	6%	8%	8%

Base: Total respondents with at least one type of cooling system, 2007 (n=1,911)

Aged concession households were more likely to have refrigerative air conditioning (45%) compared with other concession households (35%). Insulated households were considerably more likely to have refrigerative air conditioning (46%) and evaporative coolers (30%) compared with households without insulation (33% and 15% respectively). The reverse is true for ceiling or stand-alone fans, with this form of cooling more prevalent in non-insulated (61%) than insulated (53%) households.

**Table 5.4.2.2: Types of Air Conditioning or Air Cooling in Household by Sample Type and Insulation Status, 2007**

Types of air cooling systems in HH	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	HHs with Insulation	HHs with no Insulation	Total HHs
Ceiling or stand-alone fans	56%	58%	57%	53%	53%	61%	54%
Portable evaporative coolers	7%	8%	8%	4%	6%	6%	6%
Wall mounted evaporative coolers	11%	6%	8%	6%	7%	5%	7%
Ducted evaporative coolers	11%	12%	12%	17%	17%	4%	16%
Portable refrigerative air conditioners	2%	2%	2%	3%	2%	3%	2%
Room refrigerative air conditioners	33%	28%	31%	32%	33%	23%	32%
Multi-split refrigerative air conditioners	8%	3%	6%	9%	8%	6%	7%
Ducted refrigerative air conditioners	3%	2%	2%	4%	4%	2%	3%
<b>TOTAL with evaporative coolers</b>	<b>29%</b>	<b>26%</b>	<b>28%</b>	<b>27%</b>	<b>30%</b>	<b>15%</b>	<b>28%</b>
<b>TOTAL with refrigerative air conditioners</b>	<b>45%</b>	<b>35%</b>	<b>40%</b>	<b>45%</b>	<b>46%</b>	<b>33%</b>	<b>44%</b>
No air conditioning/cooling	6%	10%	8%	7%	6%	13%	8%

Base: Total respondents with at least one type of cooling system, 2007 (n=1,911)

### 5.4.3 Cooling System Usage

As shown in Table 5.4.3.1, ceiling or stand-alone fans were the most used type of cooling system, with 38% of households using it as their main form of cooling, and a further 20% as their second cooling system. Room refrigerative air conditioners were ranked second in terms of usage, with ducted evaporative coolers ranked third.

**Table 5.4.3.1: Usage Ranking of Air Conditioning/Cooling Systems in Household, 2007**

	Main Cooling System	Second Cooling System	Third Cooling System
Ceiling or stand-alone fans	38%	20%	1%
Room refrigerative air conditioners	26%	8%	*
Ducted evaporative coolers	15%	1%	-
Wall mounted evaporative coolers	7%	1%	-
Multi-split refrigerative air conditioners	6%	2%	*
Portable evaporative coolers	4%	2%	*
Ducted refrigerative air conditioners	3%	*	*
Portable refrigerative air conditioners	2%	1%	*

Base: Total respondents with at least one type of cooling system, 2007 (n=1,911)

When the 2001 definition of air conditioning/cooling is used it can be clearly seen that the proportion of households with air conditioning/cooling is increasing (57% in 2001 up to 68% in 2007). This increase is occurring across all sub-groups. The increase however, is only occurring as a direct result of households obtaining their first air conditioner/cooler, with growth in households with 2 or more air conditioners/coolers remaining static since 2001.

The table overleaf shows that the increase can be attributable to the purchase/installation of multiple room air conditioners/coolers and reverse cycle air conditioners at the expense of single room, non-reverse cycle models. It also shows that the average number of air conditioners/coolers has remained static at 1.2 per household since 2001 across all sub-groups. This indicates to some degree that households that previously had air conditioners/conditioners are more than likely replacing them with multi-room, reverse cycle systems, rather than keeping the old system and buying a new system as well. It also shows that growth in air conditioner/cooler installation is continuing at the same rate it has since 2001.

**Table 5.4.3.2: Air conditioning/cooling summary 2007 & 2001 – Using 2001 Definition**

Air conditioner/cooler summary	Aged Concession HHs		Other Concession HHs		Total Concession HHs		Non-Concession HHs		Total HHs	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
% with air conditioners/coolers	72%	56%	60%	53%	66%	54%	70%	59%	68%	57%
% with 1 air conditioner/cooler	65%	48%	54%	46%	60%	47%	66%	50%	59%	49%
% with 2 air conditioners/coolers	7%	6%	4%	4%	5%	5%	9%	7%	7%	6%
% with 3+ air conditioners/coolers	*	1%	2%	3%	1%	1%	2%	2%	2%	2%
% with single room air conditioners/coolers	42%	58%	52%	63%	46%	60%	36%	58%	40%	55%
% with multiple room air conditioners/coolers	65%	50%	53%	42%	60%	46%	73%	50%	67%	51%
% with reverse cycle air conditioners/coolers	40%	30%	39%	34%	39%	31%	51%	30%	46%	36%
% of <i>air conditioners</i> reverse cycle	55%	n/a	57%	n/a	55%	n/a	62%	n/a	60%	n/a
<b>Average no. of air conditioners/coolers</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>

Not surprisingly, households had a substantially higher number of ceiling or stand-alone fans per household (average of 1.18) compared with other types of cooling systems (averages of 0.03 to 0.39 per household). Of households with at least one ceiling or stand-alone fan, less than half (44%) had only one, while one-quarter (27%) had two, and 15% with three. For these households, the average number of fans per household was 2.17. Across all other types of cooling systems, the large majority of households had only one of the same type of system per household, with averages for each system ranging from 1.05 to 1.25 per household.



Table 5.4.3.3: Types and Quantities of Air Conditioning/Cooling Systems in Household, 2007

Quantity	Ceiling or stand-alone fans		Portable Evaporative Coolers		Wall Mounted Evaporative Coolers		Ducted Evaporative Coolers		Portable Refrigerative Air Conditioners		Room Refrigerative Air Conditioners		Multi-Split Refrigerative Air Conditioners		Ducted Refrigerative Air Conditioners	
	% of All HHs <sup>1</sup>	% of this Type <sup>2</sup>	% of All HHs <sup>1</sup>	% of this Type <sup>2</sup>	% of All HHs <sup>1</sup>	% of this Type <sup>2</sup>	% of All HHs <sup>1</sup>	% of this Type <sup>2</sup>	% of All HHs <sup>1</sup>	% of this Type <sup>2</sup>	% of All HHs <sup>1</sup>	% of this Type <sup>2</sup>	% of All HHs <sup>1</sup>	% of this Type <sup>2</sup>	% of All HHs <sup>1</sup>	% of this Type <sup>2</sup>
One	24%	44%	5%	90%	7%	96%	14%	97%	2%	94%	25%	82%	6%	79%	3%	93%
Two	15%	27%	1%	10%	*	3%	*%	3%	*	4%	4%	14%	1%	19%	*	6%
Three	8%	15%	8%	*	*	1%	-	-	*	1%	1%	3%	*	1%	*	1%
Four	5%	9%	-	-	-	-	-	-	*	1%	*	1%	*	1%	-	-
Five or more	3%	6%	-	-	-	-	*	1%	-	-	*	*	-	-	-	-
Total	54%	100%	6%	100%	7%	100%	15%	100%	2%	100%	31%	100%	8%	100%	3%	100%
<b>Average number of systems</b>	<b>1.18</b>	<b>2.17</b>	<b>0.06</b>	<b>1.10</b>	<b>0.08</b>	<b>1.05</b>	<b>0.16</b>	<b>1.07</b>	<b>0.03</b>	<b>1.10</b>	<b>0.39</b>	<b>1.24</b>	<b>0.09</b>	<b>1.25</b>	<b>0.03</b>	<b>1.09</b>

1. Base: Total Respondents (n=2,061)

2. Base: Respondents with at least one of each type of cooling system, 2007 (sample sizes vary)

Overall, ceiling or stand-alone fans, portable evaporative coolers and portable refrigerative coolers most commonly cool a single room only (around 90%), whilst the other cooling systems cool multiple rooms for two-thirds of households (67%). Multiple-room cooling was more common in non-concession than concession households and amongst aged concession households compared with other concession households. As would be expected, multiple-room cooling was generally more common in larger households of four or more persons than in single-person households.

**Table 5.4.3.4: Single and Multiple Room Cooling Systems by Sample Type and Household Size, 2007**

Cooling Type	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	1 Person HHs	2 Person HHs	3 Person HHs	4+ Person HHs	Total HHs
<b>Ceiling or stand-alone fans</b>									
Single room	91%	90%	90%	95%	92%	92%	97%	94%	93%
Multiple rooms	17%	18%	17%	16%	16%	16%	10%	22%	17%
<b>Portable evaporative coolers</b>									
Single room	69%	85%	77%	65%	58%	78%	60%	77%	72%
Multiple rooms	31%	15%	23%	35%	42%	22%	40%	23%	28%
<b>Wall mounted evaporative coolers</b>									
Single room	54%	63%	57%	39%	50%	38%	65%	49%	48%
Multiple rooms	48%	39%	45%	63%	51%	64%	41%	51%	54%
<b>Ducted evaporative coolers</b>									
Single room	6%	13%	9%	4%	18%	6%	3%	4%	6%
Multiple rooms	94%	87%	91%	96%	82%	94%	97%	96%	94%
<b>Portable refrigerative air conditioners</b>									
Single room	52%	80%	69%	71%	76%	67%	72%	70%	70%
Multiple rooms	48%	20%	31%	29%	24%	33%	28%	30%	30%
<b>Room refrigerative air conditioners</b>									
Single room	45%	57%	50%	47%	41%	53%	60%	39%	48%
Multiple rooms	58%	47%	54%	59%	61%	53%	44%	68%	57%
<b>Multi-split/multi-room split system refrigerative air conditioners</b>									
Single room	33%	30%	32%	29%	38%	26%	29%	30%	30%
Multiple rooms	67%	70%	68%	74%	64%	78%	71%	70%	72%
<b>Ducted refrigerative air conditioners</b>									
Single room	-	17%	6%	-	-	5%	-	-	2%
Multiple rooms	100%	83%	94%	100%	100%	95%	100%	100%	98%

Base: Total respondents with at least one of each type of cooling system, 2007 (sample sizes vary)

As shown in Table 5.4.3.5, regional households were more likely to have multiple-room cooling systems compared with Melbourne residents.

**Table 5.4.3.5: Single and Multiple Room Cooling Systems by Region, 2007**

Cooling Type	Ballarat	Bendigo	Geelong	Shepparton	LPG regions	Total Country VIC	Melbourne	Total HHs
<b>Ceiling or stand-alone fans</b>								
Single room	96%	94%	88%	92%	86%	91%	94%	93%
Multiple rooms	11%	22%	21%	12%	27%	19%	15%	17%
<b>Portable evaporative coolers</b>								
Single room	58%	68%	78%	75%	91%	70%	72%	72%
Multiple rooms	42%	32%	22%	25%	9%	30%	28%	28%
<b>Wall mounted evaporative coolers</b>								
Single room	48%	9%	37%	46%	19%	28%	59%	48%
Multiple rooms	52%	100%	63%	54%	81%	75%	43%	54%
<b>Ducted evaporative coolers</b>								
Single room	-	-	-	4%	2%	2%	7%	6%
Multiple rooms	100%	100%	100%	96%	98%	98%	93%	94%
<b>Portable refrigerative air conditioners</b>								
Single room	53%	55%	53%	100%	60%	56%	81%	70%
Multiple rooms	47%	45%	47%	-	40%	44%	19%	30%
<b>Room refrigerative air conditioners</b>								
Single room	46%	42%	43%	33%	35%	40%	52%	48%
Multiple rooms	67%	67%	63%	73%	72%	67%	53%	57%
<b>Multi-split/multi-room split system refrigerative air conditioners</b>								
Single room	64%	6%	6%	29%	27%	21%	36%	30%
Multiple rooms	64%	94%	94%	71%	77%	83%	64%	72%
<b>Ducted refrigerative air conditioners</b>								
Single room	-	-	-	-	-	-	3%	2%
Multiple rooms	100%	100%	100%	100%	100%	100%	97%	98%

Base: Total respondents with at least one of each type of cooling system, 2007 (sample sizes vary)

Table 5.4.3.6 details the incidence of single and multiple room cooling for each individual system for each type of cooling. In general, after the first unit, subsequent systems were more likely to cool only a single room. The exception to this was portable evaporative coolers, with 72% of first units cooling a single room, and only 65% of second units doing so.

**Table 5.4.3.6 Incidence of Single and Multiple Room Cooling Systems, 2007**

Cooling Type	1st unit	2nd unit	3rd unit	4th unit	5th unit	6th unit	7th unit
<b>Ceiling or stand-alone fan</b>							
Single room	86%	95%	97%	96%	98%	100%	100%
Multiple rooms	14%	5%	3%	4%	2%	-	-
<b>Portable evaporative coolers</b>							
Single room	72%	65%	100%				
Multiple rooms	28%	35%	-				
<b>Wall mounted evaporative coolers</b>							
Single room	46%	68%	100%				
Multiple rooms	54%	32%	-				
<b>Ducted evaporative coolers</b>							
Single room	6%	24%					
Multiple rooms	94%	76%					

Base: Total respondents with each type of cooling system, 2007 (sample sizes vary)

**Table 5.4.3.6: Incidence of Single and Multiple Room Cooling Systems, 2007(continued)**

Cooling Type	1st unit	2nd unit	3rd unit	4th unit	5th unit	6th unit	7th unit
<b>Portable refrigerative air conditioners</b>							
Single room	70%	100%					
Multiple rooms	30%	-					
<b>Room refrigerative air conditioners</b>							
Single room	44%	72%	88%				
Multiple rooms	56%	28%	12%				
<b>Multi-split/multi-room split system refrigerative air conditioners</b>							
Single room	28%	38%	87%				
Multiple rooms	72%	62%	13%				
<b>Ducted refrigerative air conditioners</b>							
Single room	2%	-					
Multiple rooms	98%	100%					

Base: Total respondents with each type of cooling system, 2007 (sample sizes vary)

Reverse cycle systems were most common amongst multi-split and ducted refrigerative air conditions, with 83% and 73% respectively of the first units (and similarly high proportions for subsequent systems) capable of heating as well as cooling. More than half of first and second room refrigerative air conditioners were reverse cycle systems, whilst the reverse cycle capability was less common amongst portable refrigerative air conditioners (25%).

**Table 5.4.3.7: Incidence of Reverse Cycle Systems, 2007**

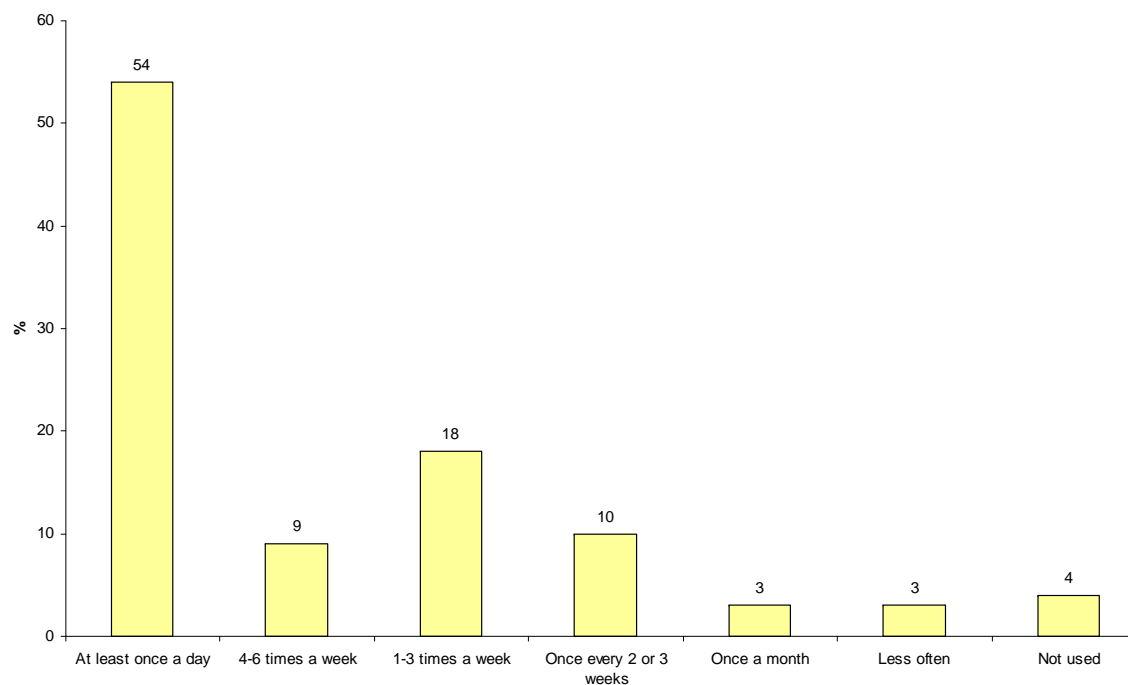
	1st unit	2nd unit	3rd unit
Portable refrigerative air conditioners	25%	-	
Room refrigerative air conditioners	54%	60%	40%
Multi-split/multi-room split system refrigerative air conditioners	83%	81%	87%
Ducted refrigerative air conditioners	73%	100%	

Base: Total respondents with each type of cooling system, 2007 (sample sizes vary)

**5.4.4 Use of Ceiling or Stand Alone Fans**

Ceiling or stand-alone fans were the most frequently used type of cooling system by a considerable margin, with fan types used an average of 34.6 times per month during the warmer months (i.e. December to April), which means that fans, on average are used slightly more than once a day each month (1.14 times per day). More than half of all households with fans use them at least once a day (54% - 20% more than twice a day; 13% twice a day; and 21% once a day) over this period.

**Chart 5.4.4.1: Frequency of Use of Ceiling or Stand Alone Fans in the Warmer Months, 2007**

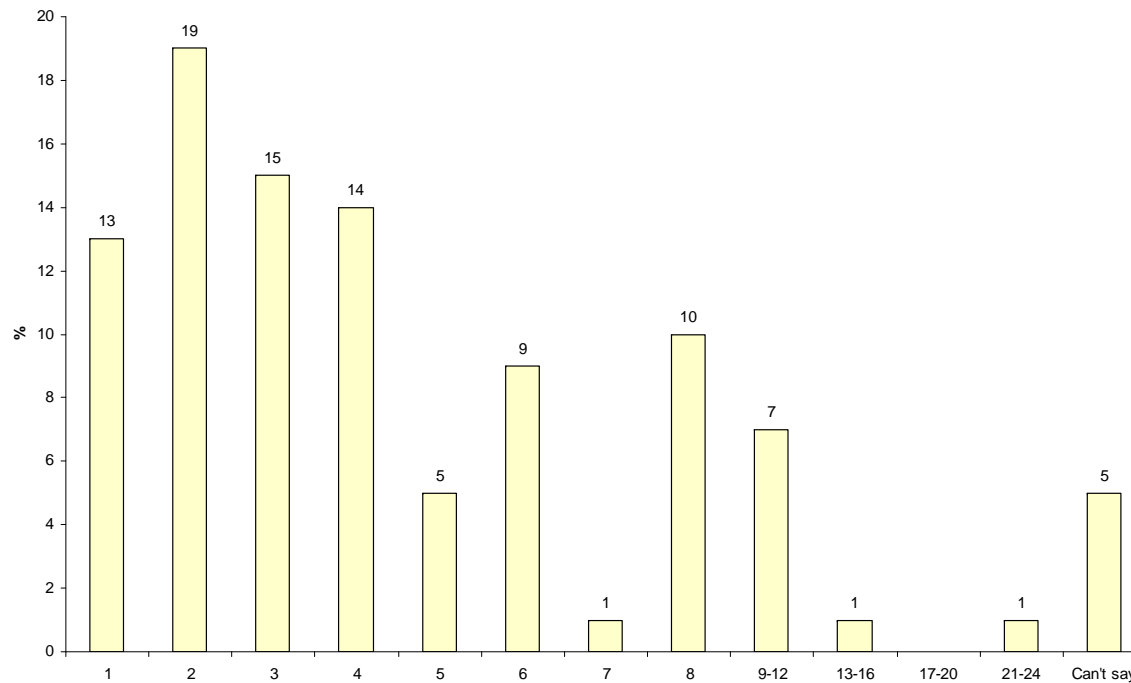


Base: Total respondents with a ceiling or stand alone fan, 2007 (n=1,179)

Other concession households use fans on a more frequent basis during the warmer months, averaging 38.8 times per month, with six in ten using them at least on a daily basis over this summer period (60%). In comparison, aged concession households use fans on average 32.6 times per month in the warmer months, while non-concession households do so 33.9 times per month. Bendigo households use fans on average 50.4 times per month (or 1.7 times a day) and Shepparton households 40.9 times per month (1.3 times a day), while in Ballarat and Geelong the monthly averages are just 30.4 and 31.0 over the summer period.

Fans operate on average for 4.1 hours each time they are used in the warmer months, with six in ten households using fans for 4 hours or less (60%).

**Chart 5.4.4.2: Hours Fans are Used on Each Occasion in the Warmer Months, 2007**



Base: Total respondents with a ceiling or stand alone fan, 2007 (n=1,179)

---

Other concession households use their fan on average 5.0 hours on each occasion it is used in the warmer months, compared with 3.7 hours for aged concession households and 4.0 for non-concession households. This means that other concession households, on average, have their fans operating for 194 hours per month compared 121 hours for aged concession households (i.e. 60% longer per month). Overall, fans are operated for 142 hours per month on average during the warmer months, with non-concession households operating fans at marginally under the state average (136 hours per month).

#### **5.4.5 Use of Air Conditioning or Air Cooling**

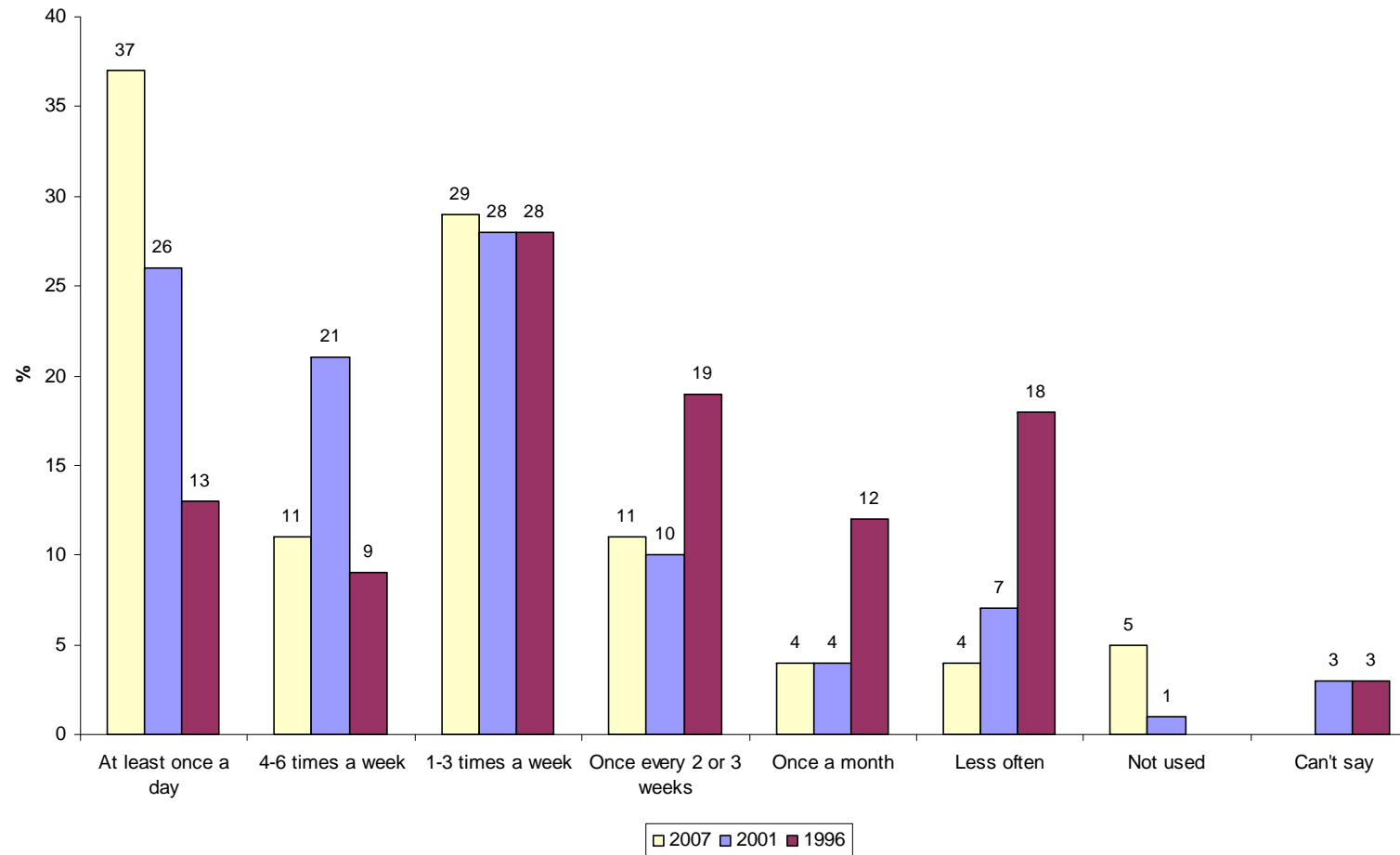
As the air conditioning/cooling questions were significantly modified in the 2007 questionnaire to obtain detail on specific types of air conditioners or coolers, a derived variable has been created in 2007 that allows comparison of 'total air conditioners and coolers' between this survey year and past survey years. In addition, the frequency of use question was expanded in 2007 to allow more detailed data on usage more frequently than once a day. 2007 frequency data is therefore more accurate than in previous years (due to this expansion of usage categories greater than once a day). However, an 'adjusted' average monthly frequency of use has been calculated using the 2001 and 1996 categories for 2007 data, so that comparison of survey results can be made between years.

In 2007, air conditioners/coolers were used on average 22.8 times a month. Adjusted to 2001 and 1996 frequency categories, this equates to 18.7 times a month. This represents an increase in usage from 16.9 times per month in 2001 and 9.6 times per month in 1996. Whilst in 2001 26% of households used their air conditioner/cooler at least once a day, in 2007, usage at this frequency had increased to 37% (28 % once a day; 10% twice a day; and 5% more than twice a day). Chart 5.1.9.1 overleaf shows the increase in frequency of use over time.

Average monthly use of air conditioners/coolers has increased across all sample type categories since 2001, continuing the increases observed from 1996. The greatest increase in frequency of use occurred amongst other concession households, from 18.8 times per month in 2001 to 21.3 times per month in 2007 (in adjusted terms). In reality, other concession households use air conditioners/coolers 26.2 times per month in 2007 (see table 5.4.5.1).



**Chart 5.4.5.1: Frequency of Use of Conditioners/coolers<sup>1</sup> are Used in the Warmer Months<sup>2</sup>, by Year**



Base: Total respondents with air conditioner/cooler (2007 n=1,402; 2001 n=1,115; 1996 n=807)

1. Air conditioners/coolers is a derived variable summed from seven different cooling systems in 2007.

2. Warmer months are December to April.

**Table 5.4.5.1: Average Days per Month Air Conditioners/coolers<sup>1</sup> are Used in the Warmer Months, by Sample Type**

Sample Type	Average No. of Days per Month Used			
	2007 n=1,402	2007 Adjusted <sup>1</sup> n=1,402	2001 n=1,115	1996 n=807
Aged concession HHs	23.6	18.9	17.5	10.5
Other concession HHs	26.2	21.3	18.8	11.2
Total Concession HHs	24.6	19.9	18.0	10.8
Non-concession HHs	21.7	17.9	16.2	9.0
<b>Total HHs with air conditioning/cooling</b>	<b>22.8</b>	<b>18.7</b>	<b>16.9</b>	<b>9.6</b>

1. Air conditioners/coolers is a derived variable summed from seven different cooling systems in 2007.

The analysis following, shows average frequency of use per month in 2007 for each air conditioning/cooling type in the warmer months. Average frequencies are derived because households could have more than one of the same type of cooling system in the household. Please note that averages are calculated on the 2007 frequency categories, rather than the 2001 categories, as they are more accurate.

Aside from ceiling and stand alone fans, wall mounted evaporative coolers (used 23.1 times per month), ducted refrigerative air conditioners (23.0) and ducted evaporative coolers (22.9) were the next most frequently used cooling systems in 2007 (23.1, 23.0 and 22.9 uses per month respectively).

Generally, concession households tended to use most cooling systems more frequently than non-concession households, with the only exceptions being multi-split and ducted refrigerative air conditioning. Amongst concession card holders, other concession households used ceiling or stand-alone fans, portable evaporative coolers, portable refrigerative air conditioners and room refrigerative air conditioners more frequently than aged concession households, while the reverse was true for ducted evaporative coolers, ducted refrigerative air conditioners and multi-split refrigerative air conditioners.

In general, average number of uses of most cooling systems increased with household size.

**Table 5.4.5.2: Derived Usage of Cooling Systems in Warmer Months by Sample Type and Household Size, 2007**

	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	1 Person HHs	2 Person HHs	3 Person HHs	4+ Person HHs	Total HHs
<b>All ceiling/stand-alone fans</b>									
Average uses per month	32.6	38.8	35.6	33.9	30.2	32.9	33.9	41.2	34.6
<b>All portable evaporative coolers</b>									
Average uses per month	16.0	31.5	23.9	21.1	19.8	20.9	31.4	24.2	22.6
<b>All wall mounted evaporative coolers</b>									
Average uses per month	27.6	27.6	27.6	18.9	17.3	21.0	26.3	27.5	23.1
<b>All ducted evaporative coolers</b>									
Average uses per month	29.7	22.1	26.0	21.4	25.7	19.9	22.4	24.4	22.9
<b>All portable refrigerative air conditioners</b>									
Average uses per month	7.7	26.9	19.1	13.9	10.7	17.0	11.5	19.5	15.7
<b>All room refrigerative air conditioners</b>									
Average uses per month	21.9	26.4	23.8	19.9	19.1	20.4	22.5	23.9	21.5
<b>All multi-split refrigerative air conditioners</b>									
Average uses per month	20.9	15.9	19.6	21.6	23.3	18.3	20.3	23.7	21.0
<b>All ducted refrigerative air conditioners</b>									
Average uses per month	15.4	15.0	15.2	26.7	9.9	18.4	26.3	32.0	23.0

Base: Total respondents with at least one of each type of cooling system, 2007 (sample sizes vary)

Overall, regional households tended to use most cooling systems more frequently than metropolitan households, with the exceptions being for portable evaporative coolers and ducted refrigerative air conditioners. Due to extremely low sample sizes in some cells, comparisons are limited to regional versus metropolitan households rather than considering each area individually.

**Table 5.4.5.3: Derived Usage of Cooling Systems in Warmer Months by Region, 2007**

	Total Country VIC	Melbourne	Total HHs
<b>All ceiling/stand-alone fans</b>			
Average uses per month	35.6	34.0	34.6
<b>All portable evaporative coolers</b>			
Average uses per month	21.0	23.8	22.6
<b>All wall mounted evaporative coolers</b>			
Average uses per month	27.3	20.7	23.1
<b>All ducted evaporative coolers</b>			
Average uses per month	27.9	21.2	22.9
<b>All portable refrigerative air conditioners</b>			
Average uses per month	19.1	13.3	15.7
<b>All room refrigerative air conditioners</b>			
Average uses per month	22.8	20.9	21.5
<b>All multi-split refrigerative air conditioners</b>			
Average uses per month	25.1	18.1	21.0
<b>All ducted refrigerative air conditioners</b>			
Average uses per month	18.7	24.7	23.0

Base: Total respondents with at least one of each type of cooling system, 2007 (sample sizes vary)

Table 5.4.5.4 presents the average uses per month of all cooling systems in the household in the warmer months. Usage of first units was highest for ceiling or stand-alone fans (average of 25.0 uses per month); overall, however, ducted evaporative coolers were the most frequently used individual system, with the second unit being used an average of 38.8 times per month.

**Table 5.4.5.4: Average Usage of Each Cooling System in the Household per Month in Warmer Months, 2007**

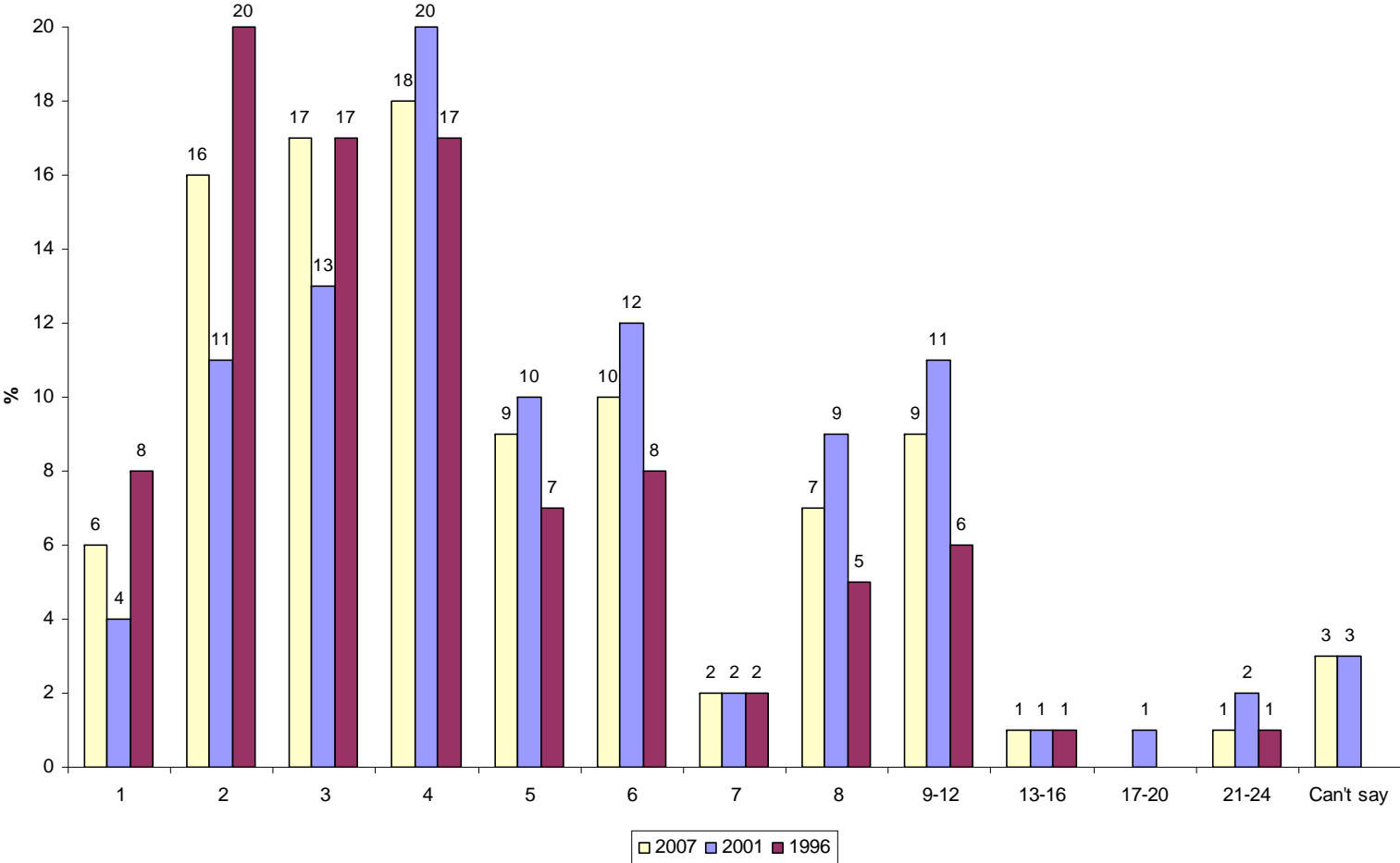
	1st unit	2nd unit	3rd unit	4th unit	5th unit	6th unit	7th unit
Ceiling/stand-alone fan	25.0	22.1	20.1	20.8	19.1	17.4	14.7
Portable evaporative cooler	21.0	32.6	30.4				
Wall mounted evaporative cooler	23.1	11.3	0.6				
Ducted evaporative cooler	23.4	38.8					
Portable refrigerative air conditioner	16.3	13.9					
Room refrigerative air conditioner	19.9	18.7	11.3				
Multi-split refrigerative air conditioner	19.1	19.6	19.5				
Ducted refrigerative air conditioner	22.6	14.4					

Base: Total respondents with each type of cooling system, 2007 (sample sizes vary)

In terms of the number of hours air conditioners/coolers are operated each time they are in use during the warmer months, a derived variable had been created for the 2007 survey data so that comparison of 'total air conditioners and coolers' between this survey year and past survey years could be undertaken. Again this was because in 2007 the air conditioner/cooler questions were segmented by type, so a 'total' variable had to be created from the sum of each air conditioner/cooler type.

Results show that while frequency of operation has increased over time, the average time of use on each occasion has decreased from 2001 levels, but not to as low as 1996. On average in 2007, each air conditioner/cooler was operated for 4.7 hours, while in 2001 the average was 5.6 and in 1996 it was 4.3. In 2007, almost six in ten households with air conditioners/coolers operated them on each occasion for 4 or less hours (57%), compared with half of these households in 2001 (48%) and over six in ten in 1996 (62%). Chart 5.1.9.2 overleaf shows the number of hours air conditioners/coolers were used by year.

**Chart 5.4.5.2: Hours Air Conditioners/coolers<sup>1</sup> are Used on Each Occasion in the Warmer Months, by Year**



Base: Total respondents with air conditioner/cooler (2007 n=1,402; 2001 n=1,115; 1996 n=807)  
 1. Air conditioners/coolers is a derived variable summed from seven different cooling systems in 2007.

Whilst other concession households remain the segment that keeps their air conditioners/coolers on longer on each occasion during the warmer months at 5.0 hours on each occasion, there has been a marked decline since 2001 (6.4) and now compares similarly with aged concession households (4.7) and non-concession households.

**Table 5.4.5.5: Average Hours Air Conditioners/coolers<sup>1</sup> are Used on Each Occasion in the Warmer Months, by Sample Type**

Sample Type	Average Hours of Use each Time Used		
	2007 n=1,402	2001 n=1,115	1996 n=807
Aged concession HHs	4.7	5.5	4.3
Other concession HHs	5.0	6.4	4.2
Total Concession HHs	4.8	6.3	4.4
Non-concession HHs	4.6	5.8	4.3
<b>Total HHs with air conditioning/cooling</b>	<b>4.7</b>	<b>5.6</b>	<b>4.3</b>

1. Air conditioners/coolers is a derived variable summed from seven different cooling systems in 2007.

While the frequency of use of air conditioners/coolers per month has increased since 2001, the actual hours in use has declined over the same period. As a consequence, the overall hours in a month that air conditioners/coolers operate in 2007 (adjusted to match 2001 and 1996 frequency categories) has fallen from 94.6 hours in 2001 to 87.9 in 2007. Please note that the actual number of hours that air conditioners coolers operate per month in 2007 is 107.2 when 2007 frequencies are used – a far ore accurate figure for monthly usage.

Of interest is that, even when 2007 survey results are adjusted to match 2001 and 1996 frequencies, monthly use of air conditioners/coolers for other concession households continues to increase over time (from 47.0 hours in 1996, to 101.5 hours in 2001 to 106.5 hours in 2007), while usage amongst aged concession households and non-concession households has fallen since 2001. More detail is provided in table 5.4.5.6 overleaf.

**Table 5.4.5.6: Total Hours Air Conditioners/coolers<sup>1</sup> are Used in the Warmer Months, by Sample Type**

Sample Type	Total Hours per Month Used			
	2007 n=1,402	2007 Adjusted <sup>2</sup> n=1,402	2001 n=1,115	1996 n=807
Aged concession HHs	110.9	88.8	96.3	45.2
Other concession HHs	131.0	106.5	101.5	47.0
Total Concession HHs	118.1	95.5	113.4	47.5
Non-concession HHs	99.8	82.3	94.0	38.7
<b>Total HHs with air conditioning/cooling</b>	<b>107.2</b>	<b>87.9</b>	<b>94.6</b>	<b>41.3</b>

1. Air conditioners/coolers is a derived variable summed from seven different cooling systems in 2007.
2. Frequency categories in 2007 have been adjusted to match 2001 and 1996 categories, so survey results can be compared.

The analysis below details hours in use for each type of air conditioner or cooler in 2007. Ducted evaporative coolers tended to be used for the longest periods of time in the warmer months, with both units used for more than six hours per usage on average. Ducted refrigerative air conditioners were also used for relatively long periods, averaging 5.8 and 4.6 hours per usage for the first and second household units respectively. Wall mounted evaporative coolers were used for the shortest periods, ranging from 0.9 to 3.8 hours per use on average.

**Table 5.4.5.7: Average Usage Periods (Hours) for Cooling Systems in Warmer Months, 2007**

	1st unit	2nd unit	3rd unit	4th unit	5th unit	6th unit	7th unit
Ceiling/stand-alone fan	4.4	4.0	3.6	4.0	4.4	4.4	4.4
Portable evaporative cooler	4.3	3.1	5.0				
Wall mounted evaporative cooler	3.8	2.8	0.9				
Ducted evaporative cooler	6.5	6.1					
Portable refrigerative air conditioner	4.7	4.7					
Room refrigerative air conditioner	4.4	3.8	3.1				
Multi-split refrigerative air conditioner	4.5	3.8	3.7				
Ducted refrigerative air conditioner	5.8	4.6					

Base: Total respondents with each type of cooling system, 2007 (sample sizes vary)



## 5.5 Clothes Driers

Not surprisingly, household usage of clothes driers was more frequent during colder months (average of 12.3 times per week) compared with warmer months (3.1).

In the warmer months, concession households with a clothes drier used it more frequently on average than non-concession households (averages of 3.6 and 2.8 times per month respectively). During the colder months, however, usage was more frequent amongst non-concession (12.5 times per month) than concession households (11.8 times per month). Other concession households tended to use clothes driers more frequently than their aged concession households, both in warmer and colder periods.

In 2007 the question on frequency of using clothes driers was modified slightly to incorporate incidence of use more often than once a day (i.e. twice a day and more than twice a day). This change assists in improving the accuracy of frequency of use of clothes driers. However, it makes it difficult to compare changes in frequency of use over time. As such, while 2007 actual frequencies are detailed in the tables following, a second 'adjusted' 2007 frequency, adjusting results match frequency categories used in 2001 and 1996, and allow comparison of survey results over time, has been included.

The average frequency of using clothes driers in the warmer months (adjusted for comparability between surveys) has remained relatively stable over time (2007 – 2.4; 2001 – 2.6; 1996; 2.5). However, there has been an increase in frequency of use of clothes driers in the warmer months amongst other concession households, from 2.2 in 1996 and 2001 to 3.0 in 2007. Frequency of use has fallen slightly amongst aged concession households and non-concession households over the same period. See table 5.5.1 for more detail.

Frequency of use of clothes driers in the colder months appears to be declining over time, falling from 11.5 times per month across all households in 1996 to 10.3 times per month in 2007. Aged concession households appear to be bucking this trend, increasing frequency of use from 7.2 times per month in 1996 and 6.9 times per month in 2001 to 7.6 times per month on 2007. See table 5.5.2 for more detail.

Table 5.5.1 Frequency of Use in Warmer<sup>1</sup> Months of Clothes Driers by Sample Type

Frequency of using Clothes Drier in Warmer Months	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
More than twice a day	3%	n/a	n/a	1%	n/a	n/a	2%	n/a	n/a	1%	n/a	n/a	1%	n/a	n/a
Twice a day	-	n/a	n/a	2%	n/a	n/a	1%	n/a	n/a	*	n/a	n/a	1%	n/a	n/a
Once a day	1%	n/a	n/a	3%	n/a	n/a	1%	n/a	n/a	2%	n/a	n/a	2%	n/a	n/a
<i>Total at least once a day</i>	3%	2%	4%	6%	2%	2%	4%	2%	3%	4%	2%	2%	3%	2%	2%
4-6 times a week	*	1%	-	1%	2%	1%	1%	1%	1%	1%	3%	2%	1%	2%	2%
1-3 times a week	6%	4%	4%	8%	7%	8%	7%	6%	6%	10%	13%	9%	9%	11%	8%
Once every 2-3 weeks	2%	1%	2%	3%	3%	6%	2%	2%	4%	7%	10%	7%	6%	7%	6%
About once a month	5%	3%	3%	6%	11%	10%	5%	7%	6%	6%	8%	11%	6%	8%	9%
Less often	12%	59%	66%	7%	53%	56%	9%	56%	61%	12%	49%	57%	11%	51%	58%
Not used	68%	19%	-	67%	14%	-	67%	17%	-	58%	10%	-	61%	12%	-
Can't say	4%	11%	21%	3%	8%	18%	4%	10%	20%	3%	6%	12%	3%	7%	14%
<b>Average times per month</b>	<b>3.3</b>	<b>1.6</b>	<b>2.4</b>	<b>4.0</b>	<b>2.2</b>	<b>2.2</b>	<b>3.6</b>	<b>1.9</b>	<b>2.3</b>	<b>2.8</b>	<b>2.9</b>	<b>2.6</b>	<b>3.1</b>	<b>2.6</b>	<b>2.5</b>
<b>Adjusted times per month<sup>2</sup></b>	<b>3.3</b>			<b>4.0</b>			<b>3.6</b>			<b>2.8</b>			<b>3.1</b>		

Base: Total respondents with a clothes drier, 2007 (n=1,056); 2001 (n=1,085); 1996 (n=1,080)

1. Warmer months are December to April.

2. Frequency categories in 2007 have been adjusted to match 2001 and 1996 categories, so survey results can be compared.

Table 5.5.2: Frequency of Use in Colder<sup>1</sup> Months of Clothes Driers by Sample Type

Frequency of using Clothes Drier in Colder Months	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
More than twice a day	4%	n/a	n/a	4%	n/a	n/a	4%	n/a	n/a	2%	n/a	n/a	3%	n/a	n/a
Twice a day	1%	n/a	n/a	4%	n/a	n/a	2%	n/a	n/a	3%	n/a	n/a	3%	n/a	n/a
Once a day	4%	n/a	n/a	9%	n/a	n/a	6%	n/a	n/a	9%	n/a	n/a	8%	n/a	n/a
<i>Total at least once a day</i>	9%	6%	9%	9%	18%	21%	12%	13%	15%	15%	14%	14%	14%	13%	14%
4-6 times a week	3%	4%	4%	11%	13%	15%	7%	9%	9%	8%	14%	17%	8%	13%	15%
1-3 times a week	38%	36%	34%	36%	38%	32%	37%	37%	33%	38%	42%	39%	38%	40%	37%
Once every 2-3 weeks	11%	12%	9%	13%	12%	15%	12%	12%	12%	17%	9%	11%	15%	10%	11%
About once a month	14%	14%	13%	5%	9%	3%	10%	12%	8%	9%	10%	6%	9%	11%	7%
Less often	13%	23%	32%	10%	8%	14%	12%	16%	23%	6%	10%	14%	8%	11%	17%
Not used	10%	2%	-	7%	1%	-	9%	1%	-	5%	*	-	7%	1%	-
Can't say	1%	2%	-	2%	2%	-	1%	2%	-	1%	1%	-	1%	1%	-
<b>Average times per month</b>	<b>9.4</b>	<b>6.9</b>	<b>7.2</b>	<b>14.6</b>	<b>12.9</b>	<b>13.8</b>	<b>11.8</b>	<b>10.0</b>	<b>10.4</b>	<b>12.5</b>	<b>11.8</b>	<b>12.1</b>	<b>12.3</b>	<b>11.3</b>	<b>11.5</b>
<b>Adjusted times per month<sup>2</sup></b>	<b>7.6</b>			<b>11.8</b>			<b>9.5</b>			<b>10.8</b>			<b>10.3</b>		

Base: Total respondents with a clothes drier, 2007 (n=1,056); 2001 (n=1,085); 1996 (n=1,080)

1. Colder months are May to November.

2. Frequency categories in 2007 have been adjusted to match 2001 and 1996 categories, so survey results can be compared.

## 5.6 Dishwashers

Tables 5.6.1 and 5.6.2 illustrate that dishwasher usage was consistent between the colder and warmer months. In 2007, average usage for both warmer and colder months was 17.0 and 17.3 respectively. Other concession households had a slightly higher frequency of use of dishwashers in the colder months compared with the warmer months (19.6 and 17.7 respectively).

In 2007 the question on frequency of using dishwashers was modified slightly to incorporate incidence of use more often than once a day (i.e. twice a day and more than twice a day). This change assists in improving the accuracy of frequency of use of dishwashers. However, it makes it difficult to compare changes in frequency of use over time. As such, while 2007 actual frequencies are detailed in the tables following, a second 'adjusted' 2007 frequency, adjusting results match frequency categories used in 2001 and 1996, and allow comparison of survey results over time, has been included.

Frequency of use of dishwashers in the warmer months (adjusted for comparability between surveys) has remained relatively constant over time. In 1996 the frequency was 15.4 times per month, while in 2007 it was 15.5. However, frequency of use in warmer months has increased for concession households over time (from 10.1 in 1996 to 11.7 in 2007), particularly amongst other concession households (12.6 in 1996 to 14.7 in 2007). See table 5.6.1 for more detail.

There has been a decline in the frequency of use of dishwashers from 2001 and 1996 levels (1996 – 17.0; 2001 – 16.9; 2007 – 15.8), which was also observed amongst non-concession households (1996 – 18.4; 2001 – 18.5; 2007 – 17.1). However, growth in frequency of use is occurring amongst concession households (1996 – 11.3; 2001 – 11.6; 2007 – 12.2), again, particularly amongst other concession households (1996 – 14.3; 2001 – 15.1; 2007 – 15.6). See table 5.6.2 for more detail.

Table 5.6.1: Frequency of Use in Warmer Months<sup>1</sup> of Dishwashers by Sample Type

Frequency of using Dishwasher in Warmer Months	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
More than twice a day	3%	n/a	n/a	7%	n/a	n/a	5%	n/a	n/a	3%	n/a	n/a	3%	n/a	n/a
Twice a day	*	n/a	n/a	-	n/a	n/a	0%	n/a	n/a	3%	n/a	n/a	2%	n/a	n/a
Once a day	10%	n/a	n/a	18%	n/a	n/a	13%	n/a	n/a	23%	n/a	n/a	21%	n/a	n/a
<i>Total at least once a day</i>	13%	10%	13%	26%	30%	19%	18%	19%	15%	29%	30%	34%	26%	28%	30%
4-6 times a week	10%	10%	12%	8%	13%	24%	9%	12%	17%	18%	20%	22%	16%	18%	21%
1-3 times a week	32%	23%	24%	32%	15%	21%	32%	19%	23%	30%	28%	24%	30%	26%	24%
Once every 2-3 weeks	9%	12%	6%	8%	10%	10%	8%	11%	8%	5%	4%	3%	6%	6%	4%
About once a month	9%	9%	7%	3%	7%	-	7%	8%	4%	3%	4%	4%	4%	5%	4%
Less often	8%	30%	37%	6%	15%	26%	7%	24%	33%	6%	8%	14%	6%	12%	17%
Not used	18%	3%	-	11%	4%	-	15%	4%	-	8%	2%	-	10%	2%	-
Can't say	2%	3%	-	7%	6%	-	4%	4%	-	2%	3%	*	2%	3%	*
<b>Average times per month</b>	<b>11.0</b>	<b>7.6</b>	<b>8.5</b>	<b>17.7</b>	<b>13.9</b>	<b>12.6</b>	<b>13.5</b>	<b>10.4</b>	<b>10.1</b>	<b>18.2</b>	<b>16.1</b>	<b>16.7</b>	<b>17.0</b>	<b>14.8</b>	<b>15.4</b>
<b>Adjusted times per month<sup>2</sup></b>	<b>9.9</b>			<b>14.7</b>			<b>11.7</b>			<b>16.9</b>			<b>15.5</b>		

Base: Total respondents with a dishwasher, 2007 (n=830); 2001 (n=705); 1996 (n=568)

1. Warmer months are December to April.

2. Frequency categories in 2007 have been adjusted to match 2001 and 1996 categories, so survey results can be compared.

**Table 5.6.2: Frequency of Use in Colder Months of Dishwashers by Sample Type**

Frequency of using Dishwasher in Colder Months	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
More than twice a day	2%	n/a	n/a	9%	n/a	n/a	4%	n/a	n/a	3%	n/a	n/a	3%	n/a	n/a
Twice a day	-	n/a	n/a	-	n/a	n/a	-	n/a	n/a	3%	n/a	n/a	2%	n/a	n/a
Once a day	11%	n/a	n/a	18%	n/a	n/a	14%	n/a	n/a	24%	n/a	n/a	21%	n/a	n/a
<i>Total at least once a day</i>	13%	11%	13%	27%	27%	21%	19%	18%	16%	30%	32%	33%	27%	29%	30%
4-6 times a week	11%	11%	10%	8%	13%	24%	10%	12%	16%	17%	21%	21%	15%	19%	20%
1-3 times a week	32%	23%	27%	37%	20%	19%	34%	22%	24%	30%	27%	25%	31%	26%	25%
Once every 2-3 weeks	8%	14%	6%	2%	11%	19%	6%	13%	8%	5%	4%	3%	5%	6%	4%
About once a month	9%	8%	10%	3%	9%	-	7%	8%	6%	3%	5%	4%	4%	6%	4%
Less often	11%	28%	34%	6%	12%	26%	9%	20%	31%	5%	7%	14%	6%	10%	17%
Not used	14%	2%	-	10%	5%	-	12%	3%	-	8%	2%	-	9%	2%	-
Can't say	2%	3%	-	7%	4%	-	4%	4%	-	1%	2%	-	2%	3%	-
<b>Average times per month</b>	<b>10.6</b>	<b>8.8</b>	<b>9.3</b>	<b>19.6</b>	<b>15.1</b>	<b>14.3</b>	<b>13.9</b>	<b>11.6</b>	<b>11.3</b>	<b>18.5</b>	<b>18.5</b>	<b>18.4</b>	<b>17.3</b>	<b>16.9</b>	<b>17.0</b>
<b>Adjusted times per month<sup>2</sup></b>	<b>10.1</b>			<b>15.6</b>			<b>12.2</b>			<b>17.1</b>			<b>15.8</b>		

Base: Total respondents with a dishwasher, 2007 (n=830); 2001 (n=705); 1996 (n=568)

1. Colder months are May to November.
2. Frequency categories in 2007 have been adjusted to match 2001 and 1996 categories, so survey results can be compared.

## 5.7 Lighting

This was a new question that was included on the 2007 survey. Main lighting per room was relatively similar across rooms with the exception of the kitchen. The type of lighting most commonly used in the kitchen was linear fluorescent tubes (31%), followed by incandescent light globes (20%). In all other rooms, incandescent light globes were the most common type of main lighting (ranging from 41% to 70%), generally followed by compact fluorescent lamps (approximately one-fifth of households).

Half (52%) of households used fluorescent lighting of some type as the main form of lighting in their kitchen, while about six in ten used incandescent lighting in their lounge room (62%), dining room (60%) and family room (56%). Incandescent lighting was most common as the main type of lighting in bedrooms, used in 74% of main and second bedrooms, 75% of third bedrooms and 69% of fourth bedrooms.

**Table 5.7.1: Main Type of Lighting by Room, 2007**

Type of Lighting	Kitchen n=2,061	Lounge Room n=2,049	Dining Room n=1,519	Family Room n=972	Main Bedroom n=2,061	2nd Bedroom n=1,977	3rd Bedroom n=1,547	4th Bedroom n=424
Incandescent light globe	20%	52%	51%	41%	69%	70%	70%	61%
Incandescent down-light	10%	7%	6%	10%	3%	3%	4%	7%
Incandescent reflector light	3%	3%	3%	5%	1%	1%	2%	2%
Linear fluorescent tube	31%	3%	6%	5%	1%	1%	2%	2%
Circular fluorescent tube	8%	2%	4%	2%	1%	1%	1%	2%
Compact fluorescent lamp	13%	21%	17%	17%	17%	18%	16%	18%
Halogen spots or down-lights	15%	11%	13%	18%	6%	5%	5%	7%
Other	*	*	*	*	*	*	*	1%
Can't say	*	*	*	1%	*	*	1%	2%
<b>Total incandescent lighting</b>	<b>33%</b>	<b>62%</b>	<b>60%</b>	<b>56%</b>	<b>74%</b>	<b>74%</b>	<b>75%</b>	<b>69%</b>
<b>Total fluorescent lighting</b>	<b>52%</b>	<b>27%</b>	<b>27%</b>	<b>24%</b>	<b>19%</b>	<b>20%</b>	<b>18%</b>	<b>22%</b>
<b>Total other lighting</b>	<b>15%</b>	<b>12%</b>	<b>13%</b>	<b>19%</b>	<b>7%</b>	<b>5%</b>	<b>5%</b>	<b>8%</b>

Table 5.7.2 displays the differences in main lighting in various rooms across sample groups and regions. By area, regional households were more likely to use fluorescent lighting in the kitchen, dining room and family room, and also more likely to use incandescent lighting in the family room and fourth bedroom compared with Melbourne households. Melbourne residents were generally more likely to use ‘other’ (i.e., neither incandescent nor fluorescent – predominantly halogens) lighting than regional households.

Incandescent lighting was generally more prevalent in concession than non-concession households, with the exceptions being in the kitchen and the fourth bedroom (no substantive differences between concession and non-concession households). In the kitchen, family room and fourth bedroom, concession households were more likely to use fluorescent lighting compared with non-concession households.

Aged concession households were more likely to use incandescent lighting and less likely to use fluorescent lighting in the bedrooms compared with other concession households. By contrast, in the kitchen, dining room and family room, other concession households were more likely to use incandescent lighting and less likely to use fluorescent lighting than were aged concession households.

**Table 5.7.2: Main Type of Lighting in Each Room by Sample Type and Region, 2007**

	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	Country Vic	Melbourne	Total HHs
<b>Kitchen</b>							
Incandescent lighting	32%	37%	34%	32%	31%	34%	33%
Fluorescent lighting	62%	55%	59%	47%	60%	47%	52%
Other lighting	6%	7%	6%	21%	9%	18%	15%
<b>Lounge Room</b>							
Incandescent lighting	67%	69%	68%	57%	63%	61%	62%
Fluorescent lighting	27%	26%	27%	26%	29%	25%	27%
Other lighting	5%	5%	5%	16%	7%	14%	12%



Table 5.7.2: **Main Type of Lighting in Each Room by Sample Type and Region, 2007 (continued)**

	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	Country Vic	Melbourne	Total HHs
<b>Dining Room</b>							
Incandescent lighting	62%	68%	65%	57%	59%	60%	60%
Fluorescent lighting	30%	26%	28%	25%	33%	24%	27%
Other lighting	7%	6%	6%	17%	8%	16%	13%
<b>Family Room</b>							
Incandescent lighting	56%	63%	59%	54%	60%	54%	56%
Fluorescent lighting	35%	23%	30%	22%	29%	22%	24%
Other lighting	7%	10%	8%	23%	10%	22%	19%
<b>Main Bedroom</b>							
Incandescent lighting	81%	76%	79%	71%	76%	73%	74%
Fluorescent lighting	16%	22%	18%	20%	21%	19%	19%
Other lighting	2%	2%	2%	10%	3%	8%	7%
<b>2nd Bedroom</b>							
Incandescent lighting	83%	77%	81%	70%	75%	74%	74%
Fluorescent lighting	15%	21%	18%	22%	21%	20%	20%
Other lighting	2%	1%	2%	8%	3%	6%	5%
<b>3rd Bedroom</b>							
Incandescent lighting	83%	78%	80%	72%	78%	74%	75%
Fluorescent lighting	13%	19%	16%	20%	18%	19%	18%
Other lighting	1%	1%	1%	8%	3%	6%	5%
<b>4th Bedroom</b>							
Incandescent lighting	74%	60%	67%	70%	74%	67%	69%
Fluorescent lighting	26%	33%	29%	19%	19%	23%	22%
Other lighting	-	6%	3%	9%	6%	8%	8%

Base: Total respondents with each type of room, 2007 (sample size varies)

## 6 WATER CONSUMPTION AND EXPENDITURE

NB. This section is based on respondent survey data.

### 6.1 INCIDENCE OF BILLING FOR WATER CONSUMPTION

#### 6.1.1 Incidence of Claiming to Have a Water Meter

Interestingly, incidence of claiming to have a water meter is increasing over time across all concession types.

The vast majority of dwellings in 2007 (95%) had separate water meters, with separate houses (98%) having the greatest incidence and high rise flats (12%) having the lowest incidence. Over time, higher proportions of respondents from semi-detached houses claim to have a water meter (82%, up from 52% in 1996), as do people from low rise flats (66%, up from 26% in 1996).

**Table 6.1.1.1: Incidence of Water Meter by Sample Type and Housing Type**

Separate water meters for HH	Aged Pensioner HHs	Non-Aged Pensioner HHs	Total Concession HHs	Non-Concession HHs	Separate House	Dwelling/ Non-dwelling combined <sup>1</sup>	Semi Detached	Low Rise Flats	High Rise Flats <sup>1</sup>	Total
2007	94%	91%	92%	96%	98%	80%	82%	66%	12%	95%
2001	93%	89%	91%	94%	99%	100%	74%	41%	38%	93%
1996	76%	74%	75%	90%	96%	56%	52%	26%	-	84%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

1. CAUTION: Small sample sizes.

Note: Public rental high rise flats are not individually metered. In such instances DHS Public Housing deliver water concessions based on average consumption per flat (i.e., total consumption ÷ no. of flats in complex).

### 6.1.2 Incidence of Claiming to Receive a Water Bill

Overall, 93% of households claimed to have received a water bill in 2007 (as in 2001) with non-concession households remaining more likely to receive a water bill (94%) than concession households (90%). As aged concession households have similar proportions claiming to receive water bills as non-concession households, the disparity between concession and non-concession households is primarily due to the lower incidence of other concession households claiming to receive water bills.

Sixteen percent of those who reported not having a water meter claimed to receive a water bill (down from 30% in 2001), and 3% of households with a water meter claimed to not receive a water bill, as was the case in 2001. This degree of mis-reporting can be attributed to (a) respondents being surveyed in 2007, but billing data actually being collected for 2006, so time lag can account for some of the error; and (b) confusion over the actual receipt of bills for rental properties (particularly private rental properties), where the landlord received the bill and passes part of the bill on to the tenant for payment. Hence the tenant perceives that they receive a water bill, because they have to pay for part of the bill received by the landlord. Since 85% of private renters claimed to receive a water bill when billing data indicates that only 70% did, appears to confirm this conclusion.

**Table 6.1.2.1: Incidence of Receiving a Water Bill by Sample Type and Housing Type**

Claimed Incidence of receiving water bills	Aged Pensioner HHs	Non-Aged Pensioner HHs	Total Concession HHs	Non-Concession HHs	Separate House	Dwelling/ Non-dwelling combined <sup>1</sup>	Semi Detached	Low Rise Flats	High Rise Flats <sup>1</sup>	Total
2007	93%	87%	90%	94%	97%	54%	75%	60%	12%	93%
2001	93%	85%	90%	94%	98%	83%	80%	39%	34%	93%
1996	84%	74%	80%	92%	96%	91%	66%	34%	1%	87%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

1. CAUTION: Small sample sizes.

### 6.1.3 Type of Water Bill Claimed to Receive

The type of water bill received has changed markedly across all sample types from 2001 results. While the majority still claimed to receive a *combined or combination* water bill, the proportion was down substantially from 2001 (from 87% to 73%), with corresponding increases in proportions claiming to receive bills for *water use only* (up from 7% to 16%) and for a *fixed service charge only* (up from 4% to 7%).

A higher proportion of concession than non-concession households claimed to receive *water consumption only* bills (21% and 12% respectively), while the reverse is true for *combination* bills (76% of non-concession and 69% of concession households). As in 2001, other concession households were more likely than aged concession households to claim to receive bills for *water consumption only*, and less likely to claim to receive *combination* bills, as other concession households tend to have higher proportions of renting households, that do not have to pay fixed service charges.

Households in semi-detached (27%) and low rise flats (40%) were more likely to claim they receive a *water consumption only* bill than were those in separate houses (14%). Higher proportions of private renters (51%) and public renters (54%) claimed they received a *water use only* bill than do those in houses that are fully paid off (9%) or being paid off (8%).

**Table 6.1.3.1: Type of Water Bill Claimed Received by Sample Type**

Claimed Type of Water Bill	Aged Concession HHs		Other Concession HHs <sup>1</sup>		Total Concession HHs		Non-Concession HHs		Total HHs	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
Actual amount of water used only	15%	5%	29%	16%	21%	10%	12%	5%	16%	7%
Fixed service charge only	8%	4%	6%	3%	7%	4%	8%	4%	7%	4%
Combination of both	76%	88%	61%	79%	69%	84%	76%	89%	73%	87%
Other	1%	-	-	-	*	-	2%	-	1%	-
Can't say	1%	3%	4%	2%	3%	2%	2%	2%	2%	2%

Base: Total respondents who received a water bill, 2007 (n=1,897); 2001 (n=1,817)

1. Other concession households tend to have high proportions of renting households (47% in 2007), which should not receive water bills with fixed service charges included. Therefore, it should be noted that some mis-reporting by respondents may be occurring in relation to this question.

**Table 6.1.3.2: Type of Water Bill Claimed Received by Housing Type**

Claimed Type of Water Bill	Separate House		Dwelling/Non-dwelling combined <sup>1</sup>		Semi Detached		Low Rise Flats		High Rise Flats <sup>1</sup>		Total HHs	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
Actual amount of water used only	14%	6%	-	-	27%	14%	40%	13%	-	9%	16%	7%
Fixed service charge only	7%	4%	-	-	12%	5%	7%	1%	100%	11%	7%	4%
Combination of both	76%	88%	100%	100%	56%	78%	49%	76%	-	80%	73%	87%
Other	1%	-	-	-	4%	-	5%	-	-	-	1%	-
Can't say	2%	2%	-	-	2%	3%	-	10%	-	-	2%	2%

Base: Total respondents who received a water bill, 2007 (n=1,897); 2001 (n=1,817)

1. CAUTION: Small sample sizes.

**Table 6.1.3.3: Type of Water Bill Claimed Received by Housing Status**

Claimed Type of Water Bill	Owned/fully paid off		Buying/paying off		Rent - Private <sup>1</sup>		Rent - Public <sup>1</sup>		Total HHs	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
Actual amount of water used only	9%	3%	8%	1%	51%	35%	54%	49%	16%	7%
Fixed service charge only	8%	3%	7%	4%	8%	7%	10%	4%	7%	4%
Combination of both	81%	92%	81%	94%	37%	52%	27%	38%	73%	87%
Other	2%	-	2%	-	1%	-	1%	-	1%	-
Can't say	1%	2%	2%	1%	3%	6%	8%	9%	2%	2%

Base: Total respondents who received a water bill, 2007 (n=1,897); 2001 (n=1,817)

1. Renting households should not receive water bills with fixed service charges included. Therefore, it should be noted that some mis-reporting by respondents may be occurring in relation to this question.

## 6.2 WATER COSTS AND CONSUMPTION

NB. This section is based on billing data supplied by energy suppliers and linked to respondent survey data.

### 6.2.1 Water Consumption

Over nine in ten Victorian households received water bills in 2007 (93%), a similar result to 2001 and 1996 (93% and 87% respectively). The lowest incidence rates in 2007 were observed amongst other concession (87%) and private and public rental households (70% and 71% respectively). On average, households received four water bills per year (3.9), although in Ballarat and Shepparton, three bills per year was the norm (3.00 and 3.03 respectively). For households in LPG regions the average was 3.5 water bills per year, with 48% receiving 3 bills and 52% receiving 4 bills.

Nine in ten households paid their 2007 annual water bill in full (91%), with low incidence of full payment observed amongst public and private rental households (53% and 79% respectively), Geelong households (75%) and other concession households (82%). One in six households paid water bills by agreed/compulsory instalment, with higher incidence rates found amongst LPG (23%), Melbourne (21%), other concession (21%) and public rental households (22%).

**Table 6.2.1.1a: Incidence of 2007 Water Bill being Paid in Full**

<b>Water Bill Paid in Full (of those paying water bills)</b>			
<b>By Region -</b>		<b>By Household Size -</b>	
Melbourne	93%	1 person	90%
Ballarat	98%	2 persons	93%
Bendigo	91%	3 persons	91%
Geelong	75%	4 or more persons	89%
Shepparton	93%	<b>By Housing Status -</b>	
LPG Areas	94%		
Country VIC	88%		
<b>By Sample Type -</b>		Owned/paid off	95%
Aged Concession HHs	94%	Buying/paying off	94%
Other Concession HHs	82%	Renting - Private	79%
Total Concession HHs	89%	Renting - Public	53%
Non-Concession HHs	93%	<b>Total Households</b>	<b>91%</b>

**Table 6.2.1.1b: Incidence of 2007 Water Bill Paid by Compulsory Instalment**

<b>Bill Paid in Instalments (of those paying water bills)</b>			
<b>By Region -</b>		<b>By Household Size -</b>	
Melbourne	21%	1 person	17%
Ballarat	1%	2 persons	17%
Bendigo	3%	3 persons	15%
Geelong	-	4 or more persons	17%
Shepparton	6%	<b>By Housing Status -</b>	
LPG Areas	23%		
Country VIC	6%		
<b>By Sample Type -</b>		Owned/paid off	16%
Aged Concession HHs	16%	Buying/paying off	16%
Other Concession HHs	21%	Renting - Private	19%
Total Concession HHs	18%	Renting - Public	22%
Non-Concession HHs	15%	<b>Total Households</b>	<b>16%</b>

---

Six respondents were recorded as being on a hardship programme for water bill payment (representing 7,000 Victorian households), of which four were from other concession households.

**Table 6.2.1.2** provides details of average water consumption amongst households over the past three surveys. Average annual water consumption has fallen by 22% since 2001, from 276 Kilolitres to 216 Kilolitres in 2007. Since 1996, average annual water consumption has fallen by 9%. This fall in water consumption is most likely the result of increased water restrictions across Victoria, which have led to households modifying their water consumption habits, particularly garden watering. This is reinforced by the fact that 2007 was a drier year on average across all regions of Victoria than was the case in 2001 and 1996. As such, water consumption from garden watering would be more likely to have increased to supplement the lack of rain, if water restrictions were not otherwise in place.

Average water consumption increased over the last six years in only one region – Geelong (up 3.9% from 208 KL to 214 KL). As Geelong has been on water restrictions for almost a decade, it is not surprising that water consumption has increased slightly over time, simply due to the overall increase in the number of water appliances now used in households (i.e. more appliances generally results in more are used, which results in more water being used). Even so, Geelong's annual household water consumption has still not reached 1996 levels (221 KL).

Annual household water consumption fell by the greatest proportion in Bendigo (-54%) over the last six years from 454 KL in 2001 to 209KL in 2007, and by 26% over the last ten years (from 281 KL in 1996). This is not surprising, as Bendigo has been on the highest level of Victorian water restrictions for a number of years.

Aged concession households had the lowest average water consumption rates of all sample types (181 KL), but the percentage fall in consumption over the past six years (-22.3%) is similar to both other concession households (-23.2) and non-concession households (-20.9%) over the same period.

Not surprisingly, water consumption increases with household size. Also, reductions in consumption over time decrease with household size. Over the past six years single-person households have reduced water consumption by 34.7%, while households of four or more persons have reduced consumption by 11.7%.

Average monthly water consumption in summer months has fallen more significantly than in winter months (-35% compared with -8%), most likely due to the reduction in garden watering in summer due to water restrictions. 2007 was drier than average across all regions of Victoria in both summer and winter when compared with the 2001 and 1996 seasons (apart from Bendigo in summer), so water consumption would more than likely have increased to meet garden watering needs not met by rainfall. As consumption fell, rather than rose in 2007, water restrictions must have played a significant part in the fall in water consumption in 2007.

Of interest is that summer monthly water consumption in Shepparton has increased since 2001, the only region to show this trend (58KL per month c.f. 48KL). This may be due to Shepparton only being on moderate water restrictions over the last 6 years (i.e. level 2), compared with higher levels of restriction in other centres.



**Table 6.2.1.2: Average Annual Water Consumption 2001 and 1996 (Kilolitres)**

Sub-groups	Average Annual Water Consumption (Kilolitres)							% Growth Since 2001	% Growth Since 1996
	2007			2001			1996		
	Summer n=1,890	Winter n=1,883	Total n=1,895	Summer n=1,790	Winter n=1,701	Total n=1,803	n=1,680		
<b>By Region -</b>									
Melbourne	92	111	203	147	108	254	220	-20.1%	-7.7%
Ballarat	94	104	198	183	114	215	217	-7.9%	-8.8%
Bendigo	102	107	209	260	196	454	281	-54.0%	-25.6%
Geelong	98	117	214	118	91	208	221	2.9%	-3.2%
Shepparton	291	107	398	239	224	460	398	-13.5%	0.0%
LPG Areas	163	132	297	n/a	n/a	n/a	n/a	n/a	n/a
Country VIC	129	115	244	200	165	333	281	-26.7%	-13.2%
<b>By Sample Type -</b>									
Aged Concession HHs	92	89	181	140	103	233	175	-22.3%	3.4%
Other Concession HHs	99	120	219	167	129	285	247	-23.2%	-11.3%
Total Concession HHs	95	103	198	153	115	257	204	-23.0%	-2.9%
Non-Concession HHs	110	118	227	167	126	287	258	-20.9%	-12.0%
<b>By Household Size -</b>									
1 person	64	65	128	117	88	196	143	-34.7%	-10.5%
2 persons	99	98	196	161	114	268	200	-26.9%	-2.0%
3 persons	112	122	233	170	127	289	259	-19.4%	-10.0%
4 or more persons	131	154	286	183	147	324	306	-11.7%	-6.5%
<b>By Housing Status -</b>									
Owned/paid off	107	106	212	162	116	269	226	-21.2%	-6.2%
Buying/paying off	107	125	233	163	132	290	269	-19.7%	-13.4%
Renting - Private	88	105	194	159	122	275	198	-29.5%	-2.0%
Renting - Public	95	110	204	130	110	229	232	-10.9%	-12.1%
<b>Total Households</b>	<b>104<sup>1</sup></b>	<b>112<sup>1</sup></b>	<b>216</b>	<b>162<sup>1</sup></b>	<b>122<sup>1</sup></b>	<b>276</b>	<b>238</b>	<b>-21.7%</b>	<b>-9.2%</b>

1. Average monthly summer consumption (i.e. December-April) in 2007 is 21KL (2001 - 32 KL). Average monthly winter consumption (i.e. May-November) is 16KL (2001 - 17 KL).

## 6.2.2 Water Charges

Prior to identifying the key elements of Water Charges, particularly when comparing results from the 2001 and 1996 surveys, it should be pointed out that between 1996 and 2001 the method of calculation of Water Charges has been significantly altered. A 20% reduction in fixed service charges, plus a revised calculation of consumption charges during the period between surveys means that results in 1996 are not strictly comparable with results in 2001. As a consequence, the majority of analysis of water charges over time has been restricted to differences between 2007 and 2001.

The average annual bill paid for water<sup>1</sup> by households in 2007 was \$516 (**Table 6.2.2.3**). This compares with an average outlay of \$442 in 2001 and \$444 in 1996. This represents a 16.7% increase in the water bill amount since 2001, while average annual household consumption has fallen by 21.7%. If consumption had remained constant over the last six years, an increase in the bill amount of 16% would account for any inflationary increases to water charges. However, because water consumption has fallen over the period, it would appear that the increase in average household water bill has been disproportionate. This is of interest, since the average water bill amount for other concession households has increased by 26% while consumption has fallen for this segment by 23% over the past six years. This indicates that other concession households have experienced greater relative increases in water charges since 2001 than have other households.

Over the last six years only private rental households (-21.0%) and Bendigo households (-7.6%) experienced reductions in their average annual water bills. The greatest increases in water rates since 2001 were observed amongst Geelong households (+78.4%) and Ballarat households (58.6%), with Geelong recording a slight increase in water consumption (2.9%) and Ballarat recording only a small reduction in water consumption (-7.9%) over the same period. It is therefore surprising that average bill amounts have increased so greatly for these towns considering the general decline in water consumption in these areas over the same period.

Four or more person households also recorded significant growth in water bills since 2001 (+32.0%), while reducing consumption by 11.7%.

1. Refers to the actual bill paid by households, including any concessions or discounts applied.

---

When water bills are broken into their constituent parts an interesting trend emerges (see **Tables 6.2.2.1 and 6.2.2.2**). Whilst the average water bill has increased by 16.7% over the last six years the actual water consumption charge has only increased by 9.0%. Similarly water service charges have increased by 20.6% and drainage service charges by 14.3%. However, sewerage service charges have increased by 50.0% since 2001, while sewerage disposal charges have increased by 44.8%. These results appear to indicate that increases in the average annual water bill have not been as much a result of unit water charges being hiked inordinately, but unit sewerage charges being increased disproportionately. In addition, the annual parks charge has increased by 63.9% over the last six years, so it would appear water bills are increasing due to suppliers increasing sewerage rates and non-water consumption related rates rather than water consumption rates.

Water consumption charges have fluctuated markedly on a regional basis since 2001. Melbourne households only experienced a 6% rise in this charge, while Geelong households experienced a rise more than ten times this proportion (67.9%). Similarly large rises were observed in Shepparton and Ballarat (36.9% and 34.3%), while in Bendigo, the water consumption charge fell by 40.5% since 2001, commensurate with their fall in water consumption (-54.0%). Other concession households experienced a 21.7% increase in water consumption charges over the past six years, while at the same time achieving consumption reductions of 23.2%.

In 2007, 84% of water using households had a water service charge levied on them. The incidence was far lower for rental households, both private and public (15% and 13% respectively) and for non-concession households (63%). This is not surprising since renting households (which includes a significant proportion of other concession households) should not receive this charge. This result indicates that there has been some mis-reporting by water retailers in relation to application of this charge<sup>1</sup>. Overall the average annual water service charge applied was \$76 in 2007, up from \$63 in 2001.

1. As respondent survey data was collected for the 2007 year and billing data was collected for the 2006 year, there is some likelihood that respondent and billing data will cause some anomalies in terms of analysis. For example, a household in 2007 may have been renting, but not in 2006 (although such an occurrence should be rare).

---

Eight in ten households received a sewerage service charge in 2007 (81%), with rental households (15% private and 13% public) and other concession households (61%) again recording the lowest levels of incidence, as expected (as these properties/tenants should not receive such charges, indicating some mis-reporting by water retailers in this area<sup>1</sup>). The average sewerage service charge amount in 2001 was \$183, compared with \$122 in 1996. Sewerage service charges were far higher in country areas, averaging \$265 in 2007 compared with \$142 for Melbourne households. Ballarat households were charged \$419 for sewerage services in 2007, while it was not much lower in LPG areas (\$334). Only Geelong bucked the trend, with the average charge being \$129 in 2007.

Three quarters of all Victorian water using households were charged the sewerage disposal charge (76%), with this charge only really being imposed in Melbourne (96%) and Geelong (100%). The annual average sewerage disposal charge amount was \$139, up from \$96 in 2001. Similarly, the drainage service charge was only really applied for Melbourne households (81%). The annual drainage service charge in 2007 was \$64, up from \$56 in 2001.

In 2007, the annual parks charge was only imposed in Melbourne (83%), where the average fee was \$59. This charge was more than 50% higher in 2007 than was the case in 2001 from Melbourne residents (\$37 – a rise of 59.5%). Just 3% of households were charged other charges, with the average amount charged being -\$5, indicating that households were being reimbursed for over-charging on previous bills.

The proportion of households receiving DHS concessions on their water bills increased to 43%<sup>2</sup> in 2007 from 35% in 2001. Small increases in incidence of receipt of concessions were observed for both concession and non-concession households (concession – 76% to 80%; non-concession 12% to 19%). Large and disparate movements were observed in the incidence of receiving the DHS concession on water bills across country regions, with incidences in Ballarat and Bendigo falling (69% down to 34% and 55% down to 42% respectively), while in Geelong the incidence increased (48% up to 63%). Two thirds of LPG households received concessions on their water bills in 2007 (67%).

1. As respondent survey data was collected for the 2007 year and billing data was collected for the 2006 year, there is some likelihood that respondent and billing data will cause some anomalies in terms of analysis. For example, a household in 2007 may have been renting, but not in 2006 (although such an occurrence should be rare).
2. This proportion is too high when based on actual DHS concession data (33%). However, for this survey, a household is classified as receiving a DHS concession if it receives a concession amount on just one of the bills it received in a 12-month period. As such an over-estimation in the proportion receiving a concession, based on supplier billing data, is not unexpected. Please refer to section 1.4 for more detail.

In 2004-5, changes to the water and sewerage concession were introduced as part of the Victorian Government's concession reform package. This resulted in an 8% increase in the water concession amount in 2004. However, the average annual concession on water bills, based on water supplier billing data, has increased from \$108 in 2001 to \$132 in 2007 (a 22.2% increase). The average concession amount for aged concession households increased from \$118 in 2001 to \$139 in 2007 (a 17.8% increase), while for other concession households the increase was from \$104 to \$122 (a 17.3% increase). Concession amounts on water have increased by 64.6% amongst public rental households over the last six years, from \$65 to \$107. While a 91.2% increase in the concession amount was evident in Ballarat over the last six years (from \$68 to \$130), the amount appeared inordinately low in 2001 compared with other regional centres, which gives cause to conclude that the data provided in 2001 for Ballarat on the DHS concession was not accurate. Considering that the incidence of receiving concessions went from 37% in 1996 to 69% in 2001 to 34% in 2007 would appear to confirm this conclusion. If Ballarat data is excluded from the 2001 DHS concession calculation (because of this anomaly), the 2001 concession amount averaged \$116, resulting in an overall increase in the concession amount since 2001 of 13.8%.

Just 1% of households received some other water retailer discount off their water bills in 2007, with the average amount being \$40. No details were provided by retailers as to what this discount comprised.

Table 6.2.2.1: Water Bill Charges 2007, 2001 and 1996 – Part 1

Sub-group	% Paying Water Bills			Water Consumption Charge				Water Service Charge				Sewerage Service Charge			
	2007 n=2,061	2001 n=2,006	1996 n=2,000	2007		2001	1996	2007		2001	1996	2007		2001	1996
				%	\$	\$	\$	%	\$	\$	\$	%	\$	\$	\$
				n=1,897	n=1,895	n=1,809	n=1,677	n=1,897	n=1,583	n=1,686	n=1,524	n=1,897	n=1,535	n=1,661	n=1,512
<b>By Region -</b>															
Melbourne	93%	92%	86%	100%	178	168	144	84%	57	58	88	79%	142	98	321
Ballarat	96%	98%	88%	100%	192	143	93	84%	75	45	122	84%	419	188	122
Bendigo	89%	96%	84%	100%	135	227	136	85%	117	93	121	84%	289	225	288
Geelong	86%	93%	94%	100%	220	131	121	83%	123	93	99	88%	129	114	120
Shepparton	95%	88%	92%	100%	215	157	87	76%	109	77	96	75%	228	266	158
LPG Areas	96%	n/a	n/a	100%	175	n/a	n/a	92%	146	n/a	n/a	85%	334	n/a	n/a
Country VIC	91%	94%	89%	100%	190	164	108	85%	116	76	110	85%	265	185	174
<b>By Sample Type -</b>															
Aged Concession HHs	93%	93%	84%	100%	142	139	96	90%	81	73	92	88%	190	123	260
Other Concession HHs	87%	85%	74%	99%	202	166	134	63%	78	75	83	61%	184	118	231
Total Concession HHs	90%	90%	80%	100%	169	151	111	78%	80	74	89	76%	188	121	250
Non-Concession HHs	94%	94%	92%	100%	190	176	147	88%	74	57	97	84%	180	122	296
<b>By Household Size -</b>															
1 person	83%	86%	73%	100%	96	118	76	84%	79	59	96	81%	189	121	259
2 persons	94%	93%	87%	99%	158	161	113	83%	78	64	92	80%	188	120	266
3 persons	95%	91%	89%	100%	192	177	144	91%	71	65	93	77%	179	119	279
4 or more persons	97%	98%	94%	100%	261	197	175	87%	75	64	96	84%	175	126	302
<b>By Housing Status -</b>															
Owned/paid off	99%	100%	99%	100%	175	164	127	98%	75	65	95	94%	183	125	275
Buying/paying off	100%	100%	99%	100%	205	175	152	98%	76	61	94	95%	183	119	284
Renting - Private <sup>1</sup>	70%	64%	59%	100%	157	164	116	15%	93	57	90	15%	176	112	295
Renting - Public <sup>1</sup>	71%	62%	39%	100%	170	139	115	13%	66	56	91	13%	155	109	250
<b>Total Households</b>	<b>93%</b>	<b>93%</b>	<b>87%</b>	<b>100%</b>	<b>182</b>	<b>167</b>	<b>134</b>	<b>84%</b>	<b>76</b>	<b>63</b>	<b>94</b>	<b>81%</b>	<b>183</b>	<b>122</b>	<b>279</b>

1. Renting households would not be charged water or sewerage service charges. As such, there is some mis-reporting in the data provided by water suppliers. As respondent survey data was collected for the 2007 year and billing data was collected for the 2006 year, there is some likelihood that respondent and billing data will cause some anomalies in terms of analysis. For example, a household in 2007 may have been renting, but not in 2006 (although such an occurrence should be rare).

Table 6.2.2.2: Water Bill Charges 2007, 2001 and 1996 – Part 2

Sub-group	Sewerage Disposal Charge				Drainage Service Charge				Annual Parks Charge				Other Charges	
	2007		2001	1996	2007		2001	1996	2007		2001	1996	2007	
	% n=1,897	\$ n=1,246	\$ n=1,419	\$ n=1,357	% n=1,897	\$ n=914	\$ n=1,202	\$ n=1,120	% n=1,897	\$ n=959	\$ n=1,249	\$ n=1,075	% n=1,897	\$ n=59
<b>By Region -</b>														
Melbourne	96%	139	98	22	81%	64	57	56	83%	59	37	43	3%	-15
Ballarat	-	-	80	68	-	-	40	-	-	-	26	-	9%	10
Bendigo	-	-	80	44	-	-	40	95	-	-	26	41	-	-
Geelong	100%	139	83	101	1%	60	77	90	-	-	26	41	-	-
Shepparton	-	-	80	98	-	-	40	82	-	-	26	41	1%	3
LPG Areas	1%	96	n/a	n/a	-	-	n/a	n/a	-	-	n/a	n/a	5%	31
Country VIC	33%	139	82	83	*	60	42	90	-	-	26	41	3%	17
<b>By Sample Type -</b>														
Aged Concession HHs	71%	117	77	25	55%	59	76	62	57%	55	43	43	5%	-10
Other Concession HHs	72%	145	90	31	37%	56	64	51	38%	63	40	41	4%	9
Total Concession HHs	71%	130	82	27	47%	58	71	58	48%	58	42	42	4%	-3
Non-Concession HHs	79%	145	103	34	61%	66	49	60	63%	59	34	43	2%	-8
<b>By Household Size -</b>														
1 person	74%	79	76	20	52%	60	61	59	53%	62	41	43	4%	-2
2 persons	74%	126	89	29	52%	64	58	60	55%	57	37	42	2%	-7
3 persons	75%	149	102	33	56%	64	52	56	58%	58	35	43	2%	-6
4 or more persons	79%	186	111	38	61%	65	53	61	62%	60	34	43	3%	-5
<b>By Housing Status -</b>														
Owned/paid off	74%	135	92	33	66%	65	61	61	68%	56	38	43	3%	-6
Buying/paying off	77%	150	104	34	64%	63	52	58	65%	58	36	43	2%	-5
Renting - Private <sup>1</sup>	80%	131	92	20	8%	55	42	55	7%	141	28	43	3%	0
Renting - Public <sup>1</sup>	76%	139	102	28	7%	48	40	55	7%	168	26	39	1%	3
<b>Total Households</b>	<b>76%</b>	<b>139</b>	<b>96</b>	<b>32</b>	<b>55%</b>	<b>64</b>	<b>56</b>	<b>59</b>	<b>57%</b>	<b>59</b>	<b>36</b>	<b>43</b>	<b>3%</b>	<b>-5</b>

1. Renting households would not be charged drainage service or annual parks charges. As such, there is some mis-reporting in the data provided by water suppliers. As respondent survey data was collected for the 2007 year and billing data was collected for the 2006 year, there is some likelihood that respondent and billing data will cause some anomalies in terms of analysis. For example, a household in 2007 may have been renting, but not in 2006 (although such an occurrence should be rare).

Table 6.2.2.3: Water Bill Concessions and Total Bill Amounts 2007, 2001 and 1996

Sub-group	DHS Concession						Other Discounts		Total Water Bill Amount (excl. GST)		
	2007 %	2001 %	1996 %	2007 \$	2001 \$	1996 \$	2007		2007 \$	2001 \$	1996 \$
	n=1,897	n=1,817	n=1,723	n=932	n=782	n=751	% n=1,897	\$ n=32	n=1,897	n=1,815	n=1,530
<b>By Region -</b>											
Melbourne	39%	29%	35%	129	114	142	1%	43	521	467	512
Ballarat	34%	69%	37%	130	68	144	7%	44	563	355	211
Bendigo	42%	55%	33%	123	120	126	-	-	426	461	366
Geelong	63%	48%	39%	143	119	114	-	-	544	305	389
Shepparton	43%	38%	51%	110	109	109	1%	65	421	391	182
LPG Areas	67%	n/a	n/a	143	n/a	n/a	2%	13	500	n/a	n/a
Country VIC	52%	53%	40%	136	100	124	2%	38	506	377	255
<b>By Sample Type -</b>											
Aged Concession HHs	87%	85%	92%	139	118	172	1%	28	407	355	323
Other Concession HHs	71%	67%	70%	122	104	129	2%	48	457	363	318
Total Concession HHs	80%	76%	83%	132	113	155	1%	38	430	359	321
Non-Concession HHs	19%	12%	9%	131	92	159	1%	42	573	490	515
<b>By Household Size -</b>											
1 person	56%	55%	59%	131	103	143	1%	36	364	355	350
2 persons	48%	41%	41%	134	113	168	2%	41	466	420	397
3 persons	35%	32%	31%	128	106	170	*	37	524	456	456
4 or more persons	33%	20%	25%	130	109	144	1%	41	672	509	519
<b>By Housing Status -</b>											
Owned/paid off	50%	47%	48%	139	114	178	1%	50	532	444	450
Buying/paying off	31%	18%	18%	132	107	158	*	10	624	488	523
Renting – Private	41%	26%	33%	103	88	81	1%	15	274	347	274
Renting – Public	57%	61%	54%	107	65	83	1%	15	258	223	234
<b>Total Households</b>	<b>43%</b>	<b>35%</b>	<b>37%</b>	<b>132</b>	<b>108</b>	<b>155</b>	<b>1%</b>	<b>40</b>	<b>516</b>	<b>442</b>	<b>444</b>

1. Whist the person who pays the bills for the household may not hold a concession card, another person in the household may do so.



## 7 WATER USAGE

NB. This section is based on respondent survey data.

### 7.1 HOUSEHOLD WATER FITTINGS

#### 7.1.1 Types of Household Fittings

Tables 7.1.1.1 through to 7.1.1.3 detail the prevalence of household water fittings in Victorian households over time. Baths remain the most common household fittings by a considerable margin, named by 82% of households in 2007, despite a gradual decline in prevalence over time (down from 86% in 2001 and 88% in 1996). The incidence of having a bath with spa jets was also down from 2001 (from 12% to 9%) with a slight increase in the proportion with none of the listed household water fittings evident, from 7% in 2001 to 10% in 2007. The decreased usage of household water fittings may be due to recent government-imposed water restrictions in certain areas of Victoria. Concession households were less likely to have *any* of these water fittings (84%) compared with non-concession households (93%).

**Table 7.1.1.1: Types of Household Fittings by Sample Type**

Type of Fitting	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Bath	80%	83%	81%	82%	86%	89%	81%	84%	85%	83%	86%	90%	82%	86%	88%
Bath with spa jets	4%	5%	2%	5%	5%	3%	4%	5%	2%	13%	16%	9%	9%	12%	6%
Spa pool	1%	2%	1%	2%	2%	1%	1%	2%	1%	3%	6%	4%	3%	4%	3%
Above ground swimming pool	-	1%	1%	2%	3%	1%	1%	2%	1%	2%	4%	3%	1%	3%	2%
In ground swimming pool	1%	*	1%	1%	1%	1%	1%	*	1%	4%	5%	5%	3%	3%	3%
Toddler's pool	*	*	*	2%	6%	8%	1%	3%	3%	2%	5%	7%	1%	4%	6%
Sauna	*	-	-	-	1%	*	*	*	*	*	*	*	*	*	*
Waterbed	1%	*	1%	1%	3%	5%	1%	1%	2%	1%	3%	5%	1%	2%	4%
None of the above	16%	13%	18%	14%	8%	8%	15%	10%	14%	6%	5%	4%	10%	7%	8%
Can't say	2%	-	-	*	-	-	1%	-	-	1%	-	-	1%	-	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

As in previous years, the incidence of having a bath increased with household size, from 77% of single-person households to 85% of households with four or more persons. Larger households were also more likely to have luxury water fittings such as a bath with spa jets (14%), in-ground swimming pools (7%) and spa pools (5%) than are smaller households. Single-person households were substantially more likely to have none of the listed water fittings (19%) compared with larger households (4%).

**Table 7.1.1.2: Types of Household Fittings by Household Size**

Type of Fitting	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Bath	77%	80%	79%	82%	85%	87%	83%	86%	90%	85%	89%	93%	82%	86%	88%
Bath with spa jets	4%	4%	2%	9%	11%	5%	9%	12%	7%	14%	17%	9%	9%	12%	6%
Spa pool	1%	1%	1%	1%	3%	2%	5%	3%	3%	5%	9%	4%	3%	4%	3%
Above ground swimming pool	*	1%	*	*	1%	1%	1%	4%	2%	3%	6%	4%	1%	3%	2%
In ground swimming pool	*	*	*	2%	3%	2%	1%	3%	4%	7%	6%	6%	3%	3%	3%
Toddler's pool	*	-	*	1%	1%	1%	1%	6%	6%	3%	10%	13%	1%	4%	6%
Sauna	-	-	-	*	-	*	-	*	-	*	*	1%	*	*	*
Waterbed	1%	1%	1%	1%	1%	3%	1%	2%	4%	1%	4%	7%	1%	2%	4%
None of the above	19%	14%	20%	10%	6%	8%	8%	6%	6%	4%	3%	3%	10%	7%	8%
Can't say	1%	-	-	1%	-	-	2%	-	-	*	-	-	1%	-	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Public rented households were the least likely of any household groups to have a bath (76%), as has been the case in previous survey years. As expected, households which own or are buying their homes had higher incidence rates of 'luxury' household fittings than renters, particularly for baths with spa jets (12%, compared with 1% of both private and public renters).

**Table 7.1.1.3: Types of Household Fittings by Home Ownership Status**

Type of Fitting	Own/Buying			Renting - Private			Renting - Public			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Bath	82%	86%	88%	85%	87%	89%	76%	75%	81%	82%	86%	88%
Bath with spa jets	12%	14%	8%	1%	4%	1%	1%	-	-	9%	12%	6%
Spa pool	3%	5%	3%	*	1%	-	-	-	-	3%	4%	3%
Above ground swimming pool	1%	3%	3%	*	1%	*	1%	-	-	1%	3%	2%
In ground swimming pool	4%	4%	4%	-	1%	1%	-	-	-	3%	3%	3%
Toddler's pool	1%	4%	6%	1%	6%	5%	1%	4%	4%	1%	4%	6%
Sauna	*	*	*	-	-	-	-	-	-	*	*	*
Waterbed	1%	2%	4%	*	1%	5%	*	1%	2%	1%	2%	4%
None of the above	8%	5%	6%	13%	11%	10%	20%	24%	19%	10%	7%	8%
Can't say	1%	-	-	*	-	-	3%	-	-	1%	-	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

## 7.1.2 Number and Types of Showers and Toilets

### 7.1.2.1 Toilets

The mean number of toilets overall per household has remained unchanged from 2001 at 1.6. The mean number of single flush toilets has decreased from 0.6 to 0.3, while the average number of dual flush toilets has risen from 1.2 to 1.4. Similarly, the proportion of households with dual flush toilets has continued to increase from 2001 (up from 71% to 85%), with a corresponding decline in the proportion with single flush toilets (from 37% to 19%). These changes are generally consistent across all sample types and highlight the trend for households to install or upgrade to dual-flush toilets over time. Non-concession households remained more likely than concession households to have dual flush toilets (87% compared with 81%) and less likely to have single flush toilets (17% compared with 23%), although these gaps have narrowed slightly since 2001.

**7.1.2.1: Mean Number and Type of Toilets by Sample Type**

No. & Type of Toilets	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
1 toilet	64%	68%	79%	72%	71%	84%	68%	69%	81%	43%	44%	59%	53%	54%	68%
2 toilets	31%	29%	19%	25%	26%	16%	28%	27%	18%	45%	42%	34%	39%	36%	27%
3+ toilets	4%	3%	7%	3%	3%	1%	3%	3%	1%	11%	14%	7%	8%	10%	5%
<b>Mean No. Toilets</b>	<b>1.4</b>	<b>1.4</b>	<b>1.2</b>	<b>1.3</b>	<b>1.3</b>	<b>1.2</b>	<b>1.4</b>	<b>1.3</b>	<b>1.2</b>	<b>1.7</b>	<b>1.7</b>	<b>1.5</b>	<b>1.6</b>	<b>1.6</b>	<b>1.4</b>
No single flush toilet	64%	37%	38%	61%	37%	43%	63%	37%	40%	64%	43%	48%	63%	41%	45%
1+ single flush toilets	23%	46%	62%	22%	42%	57%	23%	44%	60%	17%	33%	52%	19%	37%	55%
<b>Mean No. Single Flush</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.3</b>	<b>0.6</b>	<b>0.6</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.3</b>	<b>0.6</b>	<b>0.7</b>	<b>0.3</b>	<b>0.6</b>	<b>0.7</b>
No dual flush toilet	15%	23%	10%	14%	23%	5%	14%	23%	8%	9%	16%	11%	11%	18%	10%
1+ dual flush toilets	81%	61%	44%	80%	65%	47%	81%	63%	45%	87%	75%	58%	85%	71%	53%
<b>Mean No. Dual Flush</b>	<b>1.2</b>	<b>0.9</b>	<b>1.0</b>	<b>1.1</b>	<b>1.0</b>	<b>1.1</b>	<b>1.1</b>	<b>0.9</b>	<b>1.0</b>	<b>1.5</b>	<b>1.4</b>	<b>1.2</b>	<b>1.4</b>	<b>1.2</b>	<b>1.1</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

**7.1.2.2 Showers**

In 2007, non-concession households had a slightly higher mean number of showers (1.6) than concession households (1.3), consistent with 2001 findings. Almost half (44%) of households have at least one shower with water saving capabilities, a considerable increase on the 24% reported in 2001. Non-concession households had a higher incidence rate of water saving showers (0.7 per household, compared with 0.5 for concession households). Amongst concession households, aged concession households had a higher average number of water saving showers (0.6 per household) than other concession households (0.4). This trend toward water saving showers is likely to have been boosted in recent years by the impact of increased water restrictions and government advertising and advice for households to move toward installing water saving fixtures and appliances.

7.1.2.2: Mean Number and Type of Showers by Sample Type

No. & Type of Showers	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
1 shower	71%	76%	86%	78%	75%	87%	74%	75%	86%	50%	51%	64%	60%	60%	73%
2 showers	27%	23%	12%	21%	24%	13%	24%	23%	13%	44%	43%	33%	36%	36%	25%
3+ showers	2%	1%	1%	1%	2%	*	1%	1%	1%	6%	6%	3%	4%	4%	2%
<b>Mean No. Showers</b>	<b>1.3</b>	<b>1.3</b>	<b>1.1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.1</b>	<b>1.3</b>	<b>1.3</b>	<b>1.1</b>	<b>1.6</b>	<b>1.6</b>	<b>1.4</b>	<b>1.4</b>	<b>1.4</b>	<b>1.3</b>
No water saving showers	50%	71%	82%	63%	79%	81%	57%	75%	81%	52%	74%	75%	54%	74%	78%
1 water saving shower	37%	23%	18%	29%	18%	17%	33%	20%	17%	28%	16%	19%	30%	17%	18%
2 water saving showers	10%	5%	1%	6%	3%	2%	8%	4%	1%	17%	9%	6%	13%	7%	4%
3+ water saving showers	*	*	*	*	-	*	*	*	*	2%	1%	1%	1%	*	*
<b>Mean No. Water Saving Showers</b>	<b>0.6</b>	<b>0.3</b>	<b>0.2</b>	<b>0.4</b>	<b>0.2</b>	<b>0.2</b>	<b>0.5</b>	<b>0.3</b>	<b>0.2</b>	<b>0.7</b>	<b>0.4</b>	<b>0.3</b>	<b>0.6</b>	<b>0.3</b>	<b>0.3</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

## 7.1.3 Heating Systems for Spas and Swimming Pools

In 2007, just 4% of households had a swimming pool with 3% owning a spa pool. Non-concession households were more likely to have a swimming pool (6%) than concession households (2%).

**Table 7.1.3.1: Number with Spa Pool and/or Swimming Pool**

	Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Spa Pool	1%	2%	1%	3%	6%	4%	3%	4%	3%
Swimming Pool	2%	2%	2%	6%	9%	8%	4%	6%	5%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

There has been a slight decline in gas heating for spa pools (56% down from 68% in 1996) and a marked increase in solar heating for pools (up to 64% from 35% in 1996). Solar heating for pools has increased across both sample groups, with the sharpest increase among concession households; in 2001, no concession households reported using solar heating for their pools, whilst in 2007 almost half (48%) did so. A substantially lower proportion of concession households used electric spa pool heaters (15%, down from 34% in 2001).

Due to small sample sizes, analysis of the types of heating systems used for spa pools and swimming pools has been limited to comparisons between concession and non-concession households.

### **7.1.3.2: Types of Heating for Spas and Pools by Sample Type**

	Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Spa - Electric	15%	34%	13%	32%	28%	8%	28%	30%	9%
Spa - Gas	69%	72%	63%	52%	55%	68%	56%	60%	68%
Spa - Solar	16%	-	24%	9%	13%	5%	11%	10%	9%
Pool - Electric	3%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c
Pool - Gas	16%	6%	-	2%	6%	14%	4%	6%	12%
Pool - Solar	48%	-	27%	68%	43%	36%	64%	35%	35%

Base: Total respondents with a spa pool, 2007 (n=37); 2001 (n=65); 1996 (n=46)

Total respondents with a swimming pool, 2007 (n=72); 2001 (n=94); 1996 (n=102)

## 7.2 HOUSEHOLD WATER APPLIANCES

### 7.2.1 Washing Machines

Although the majority of households in 2007 have a top loader washing machine (77%), the proportion was down considerably from previous years (87% in 2001 and 88% in 1996), with the prevalence of front loaders higher in 2007 (20%, up from 10% in 2001). This trend may be driven by the encouragement given to households to save water due to recent government-imposed water restrictions. Concession households were more likely to have a top loader (84%) than non-concession households (71%), while the prevalence was higher for aged (88%) than other concession households (81%).

**Table 7.2.1.1: Types of Washing Machine by Sample Type**

Type of Washing Machine	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Top Loader	88%	94%	85%	81%	88%	86%	84%	91%	86%	71%	85%	90%	77%	87%	88%
Front Loader	9%	3%	3%	12%	5%	3%	10%	4%	3%	26%	13%	6%	20%	10%	5%
Twin Tub	2%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c	*	n/c	n/c	1%	n/c	n/c
Other	*	1%	n/c	*	2%	n/c	*	2%	n/c	-	*	n/c	*	1%	n/c
None of these	1%	2%	11%	6%	5%	11%	3%	3%	11%	2%	2%	5%	3%	2%	7%
Can't say	*	-	-	*	*	-	*	*	-	*	1%	-	*	*	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

The incidence of top loader washing machines has fallen across all household sizes since 2001, with one- or two-person households more likely to have a top loader (78% and 79% respectively) compared with larger households of three or more persons (73%). Similarly, incidence of having a front loader increased with household size, from 13% of single-person households to one-quarter (25%) of households of four or more persons.

**Table 7.2.1.2: Types of Washing Machine by Household Size**

Type of Fitting	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Top Loader	78%	85%	77%	79%	88%	88%	73%	87%	90%	73%	87%	93%	77%	87%	88%
Front Loader	13%	6%	4%	18%	9%	6%	23%	10%	6%	25%	12%	4%	20%	10%	5%
Twin Tub	1%	n/c	n/c	1%	n/c	n/c	*	n/c	n/c	*	n/c	n/c	1%	n/c	n/c
Other	*	2%	n/c	-	1%	n/c	-	1%	n/c	-	-	n/c	*	1%	n/c
None of these	7%	7%	19%	1%	2%	6%	3%	2%	4%	1%	1%	3%	3%	2%	7%
Can't say	*	1%	-	0%	*	-	1%	*	-	-	*	-	*	*	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Owners/buyers were more likely to have a front loader (22%) than private (15%) or public renters (6%). Public renters were the least likely group to have a washing machine of any kind, with 16% having no washing machine.



**Table 7.2.1.3: Types of Washing Machine by Home Ownership Status**

Type of Fitting	Own/Buying			Renting - Private			Renting - Public			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Top Loader	77%	89%	93%	77%	81%	80%	73%	78%	57%	77%	87%	88%
Front Loader	22%	10%	5%	15%	10%	5%	6%	3%	2%	20%	10%	5%
Twin Tub	1%	n/c	n/c	*	n/c	n/c	2%	n/c	n/c	1%	n/c	n/c
Other	*	1%	n/c	-	*	n/c	1%	5%	n/c	*	1%	n/c
None of these	*	*	1%	8%	8%	16%	16%	14%	41%	3%	2%	7%
Can't say	*	*	-	-	1%	-	3%	-	-	*	*	-

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

### 7.2.1.1 Frequency of Washing Full and Part Loads

In 2007, 93% of households reported washing at least one full load per week, and just over one-third (34%) washed at least one part load each week. As illustrated in Table 7.2.1.1.1, non-concession households were more likely (95%) than concession households (90%) to wash at least one full load per week. Not surprisingly, individuals living alone were the least likely group to wash full loads (83%) or part loads (28%) each week.

Questions on washing full and part loads were included in the survey for the first time in 2007; as such, no historical comparisons can be drawn from the data.

**Table 7.2.1.1.1: Proportions Washing Full/Part Loads per Week by Sample Type and Household Size, 2007**

	Aged Concession HHS	Other Concession HHS	Total Concession HHS	Non-Concession HHS	1 Person HH	2 Person HH	3 Person HH	4+ Person HH	Total HHS
At least one full load per week	88%	92%	90%	95%	83%	94%	94%	97%	93%
At least one part load per week	37%	34%	35%	32%	28%	35%	35%	35%	34%
<b>At least one full load or part load per week</b>	<b>97%</b>	<b>95%</b>	<b>96%</b>	<b>97%</b>	<b>92%</b>	<b>98%</b>	<b>98%</b>	<b>98%</b>	<b>97%</b>

Base: Total respondents, 2007 (n=2,061)

Table 7.2.1.1.2 highlights substantive differences across sample types and household sizes in the frequency of washing full loads each week. As would be expected, washing of full loads increased with household size, from an average of 1.6 full loads per week amongst single-person households to 5.7 amongst households of four or more persons. Individuals living alone most frequently washed only one full load each week (60%), while more than half (53%) of larger households of four or more persons wash five or more full loads per week.

Non-concession households tended to wash fewer full loads per week (average of 3.9) compared with concession households (2.8). Amongst concession households, other concession households indicated washing considerably more full loads (3.7 per week) than aged concession households (2.0 per week). Almost half (48%) of aged concession households washed a single full load each week, while over one-quarter (26%) of other concession households washed five or more full loads each week. These marked differences between aged and other concession households are unsurprising given that aged concession households were more likely to live in smaller households compared with other concession households.

**Table 7.2.1.1.2: Full Loads Washed each Week by Sample Type and Household Size, 2007**

	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	1 Person HH	2 Person HH	3 Person HH	4+ Person HH	Total HHs
One	48%	24%	37%	17%	60%	27%	12%	5%	24%
Two	28%	21%	25%	22%	29%	32%	21%	10%	23%
Three	13%	17%	15%	21%	8%	23%	25%	15%	18%
Four	5%	12%	8%	12%	2%	8%	14%	16%	10%
Five-six	3%	10%	6%	13%	1%	6%	14%	21%	11%
Seven-eight	2%	10%	6%	10%	*	3%	11%	20%	9%
Nine-ten	*	2%	1%	2%	-	*	1%	4%	2%
More than 10	-	4%	2%	3%	-	*	2%	8%	3%
<b>Mean</b>	<b>2.0</b>	<b>3.7</b>	<b>2.8</b>	<b>3.9</b>	<b>1.6</b>	<b>2.5</b>	<b>3.8</b>	<b>5.7</b>	<b>3.5</b>

Base: Total respondents washing at least one full load each week, 2007 (n=1,871)

Frequency of washing part loads did not vary between concession and non-concession households (average of 2.2 part loads per week each). Amongst concession households, aged concession households tended to wash part loads slightly less frequently, with three-quarters (75%) washing one or two part loads each week, compared with two-thirds (67%) of other concession households.

Smaller households of one or two persons tend to wash considerably fewer part loads per week (means of 1.8 and 1.9 respectively) than households of three (2.6 part loads per week) or four or more persons (2.5 part loads). Just over half of smaller households washed a single part load each week, compared with around one-third of households of three or more persons.

**Table 7.2.1.1.3: Part Loads Washed each Week by Sample Type and Household Size, 2007**

	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	1 Person HH	2 Person HH	3 Person HH	4+ Person HH	Total HHs
One	48%	44%	46%	46%	56%	55%	34%	35%	46%
Two	27%	23%	25%	26%	28%	23%	26%	26%	25%
Three	13%	19%	16%	16%	9%	13%	24%	19%	16%
Four or more	12%	14%	13%	13%	7%	9%	17%	20%	13%
<b>Mean</b>	<b>2.1</b>	<b>2.3</b>	<b>2.2</b>	<b>2.2</b>	<b>1.8</b>	<b>1.9</b>	<b>2.6</b>	<b>2.5</b>	<b>2.2</b>

Base: Total respondents washing at least one part load each week, 2007 (n=707)

### 7.3 GARDENS, WATER TANKS & BORES

NB. This section is based on respondent survey data.

#### 7.3.1 Incidence of Having a Garden

In 2007, nine in ten households (90%) reported having a garden, with this proportion remaining relatively stable since 1996.

Differences in incidence of having a garden in 2007 were similar to those reported in previous years. A higher proportion of non-concession households had a garden than concession cardholders (92% compared with 87%), and a higher proportion of aged concession households than non-aged pensions have a garden (92% compared with 87%).

**Table 7.3.1: Incidence of Having a Garden by Sample Type**

Incidence of having a garden	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Yes	92%	94%	87%	81%	86%	81%	87%	90%	86%	92%	91%	93%	90%	91%	89%
No	8%	6%	13%	19%	14%	19%	13%	10%	14%	8%	9%	7%	10%	9%	11%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

As in previous years, incidence of having a garden tends to increase with household size, from 81% of single-person households to 94% of households with four or more persons. Similarly to 1996 and 2001 findings, homeowners (97%) and home buyers (94%) were more likely to have a garden than households in private (71%) or public (64%) rentals. Not surprisingly, households living in separate houses had the highest proportion with a garden (94%); whilst only one-third (34%) of households in low-rise flats had one. Households in LPG areas were most likely to have a garden (95%), while Bendigo residents were least likely (84%).

### 7.3.2 Impact of Water Restrictions on Garden Watering

Overall, the vast majority of households (84%) had decreased their garden watering to some extent following the most recent level of water restrictions, with the proportion highest among aged concession households (89%) and lowest among other concession households (82%). Proportionately more other concession households reported that they no longer watered their gardens at all (43%) compared with aged concession households (28%). As aged concession households were more likely to have their own homes it is unsurprising that a smaller proportion of this sub-group had stopped maintaining their gardens.

**Table 7.3.2.1: Impact of Most Recent Level of Water Restrictions on Garden Watering by Sample Type, 2007**

Impact on garden watering	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	Total HHs
No longer water garden at all	28%	43%	35%	30%	32%
A great deal	47%	26%	38%	41%	40%
Somewhat	10%	4%	7%	7%	7%
A little	4%	9%	6%	4%	5%
No change	5%	8%	6%	7%	7%
Increased	-	-	-	1%	*
Did not water garden before water restrictions	5%	6%	5%	7%	6%
Water restrictions don't apply in my area	-	1%	*	*	*
Can't say	1%	4%	2%	3%	3%
<b>Total decreased garden watering</b>	<b>89%</b>	<b>82%</b>	<b>86%</b>	<b>83%</b>	<b>84%</b>

Base: Total respondents with a garden, 2007 (n=1,838)

A higher proportion of country Victorian than Melbourne households had decreased their garden watering since the introduction of the most recent level of water restrictions (87% compared with 82%), with the proportion no longer watering their gardens at all likewise higher in country Victoria

(40%) than in Melbourne (28%). The response to water restrictions was lowest in Geelong, with only 82% of households decreasing their garden watering and only one-quarter (27%) no longer watering at all. The comparatively low proportions in Geelong are likely to be due to the fact that water restrictions have been in effect for many years in this region; as such, water-saving behaviour is likely to be more ingrained for these residents. Attesting to this is that the proportion who did not water their gardens before the most recent level of water restrictions was also highest among Geelong households (8%).

**Table 7.3.2.2: Impact of Most Recent Level of Water Restrictions on Garden Watering by Region, 2007**

	Ballarat	Bendigo	Geelong	Shepparton	LPG regions	Country Vic	Melbourne	Total HHs
No longer water garden at all	45%	55%	27%	57%	39%	40%	28%	32%
A great deal	32%	31%	44%	28%	34%	36%	42%	40%
Somewhat	3%	3%	6%	4%	12%	6%	8%	7%
A little	7%	4%	5%	1%	3%	5%	5%	5%
No change	7%	6%	6%	7%	5%	6%	7%	7%
Increased	-	-	-	-	-	-	*	*
Did not water garden before water restrictions	4%	1%	8%	2%	6%	5%	7%	6%
Water restrictions don't apply in my area	-	-	1%	-	1%	*	*	*
Can't say	2%	-	2%	-	1%	1%	3%	3%
<b>Total decreased garden watering</b>	<b>87%</b>	<b>93%</b>	<b>82%</b>	<b>91%</b>	<b>88%</b>	<b>87%</b>	<b>82%</b>	<b>84%</b>

Base: Total respondents with a garden, 2007 (n=1,838)

Overall there was no substantive difference in proportions decreasing garden watering across household sizes; however, larger households of four or more persons were more likely to no longer water their gardens at all (37%) compared with individuals living alone (29%), most likely because larger households are likely to have larger garden areas than single person households, who can take the time to care for smaller gardens (if they have one).

### 7.3.3 Water Tanks

Tables 7.3.3.1 through to 7.3.3.3 detail the incidence of water tanks on properties from 1996 to 2007. A substantially higher proportion have a water tank on their property in 2007 (19%) compared with 2001 (6%) and 1996 (5%). This is likely to be due to the imposition of higher level water restrictions, particularly over the past year, resulting in households electing to harvest their own water by installing water tanks. Incidence rates were similar between concession (20%) and non-concession (18%) households; however, amongst concession households, aged concession households were much more likely to have a water tank (24%) compared with other concession households (14%).

In terms of household size, two-person households had the highest proportion with a water tank on their property (25%), while incidence rates were lowest amongst single and three-person households (both 19%).

Bendigo households had the highest incidence rate of water tanks (42%), as in the 2001 and 1996 surveys, followed closely by households in LPG regions (39%). Not surprisingly, incidence rates were higher in country Victoria (28%) than Melbourne (14%), where water storage has been a feature for a much longer period.

Incidence rates increased from 2001 across all sample sub-groups with the exception of Shepparton households, where ownership of water tanks has remained low (8% in 2001 and 7% in 2007). Whilst 20% of households with gardens had a water tank in 2007, just 4% without a garden did so.

**Table 7.3.3.1: Incidence of Having a Water Tank by Sample Type**

Incidence of having a water tank	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Yes	24%	10%	5%	14%	4%	6%	20%	7%	5%	18%	5%	5%	19%	6%	5%
No	76%	90%	95%	86%	96%	94%	80%	93%	95%	82%	95%	95%	81%	94%	95%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)



**Table 7.3.3.2: Incidence of Having a Water Tank by Household Size**

Incidence of having a water tank	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Yes	12%	5%	4%	25%	7%	6%	12%	5%	5%	19%	5%	5%	19%	6%	5%
No	88%	95%	96%	75%	93%	94%	88%	95%	95%	81%	95%	95%	81%	94%	95%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

**Table 7.3.3.3: Incidence of Having a Water Tank by Region**

Incidence of having a water tank	2007		2001		1996	
	Yes	No	Yes	No	Yes	No
Ballarat	27%	73%	11%	89%	5%	95%
Bendigo	42%	58%	28%	72%	26%	74%
Geelong	19%	81%	10%	90%	6%	94%
Shepparton	7%	93%	8%	92%	12%	88%
LPG areas	39%	61%	n/a	n/a	n/a	n/a
<b>Country VIC</b>	<b>28%</b>	<b>72%</b>	<b>14%</b>	<b>86%</b>	<b>12%</b>	<b>88%</b>
Melbourne	14%	86%	3%	97%	2%	98%
<b>Total</b>	<b>19%</b>	<b>81%</b>	<b>6%</b>	<b>94%</b>	<b>5%</b>	<b>95%</b>

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Of households with at least one water tank on their property, the majority (67%) had a single tank, with a further quarter (24%) having two tanks. On average, Victorian households with water tanks had an average of 1.5 water tanks on their properties. There were no substantive differences between regional and metropolitan households or between concession and non-concession households in terms of number of tanks per property. Amongst concession households, however, other concession households tended to have more water tanks than aged concession households (means of 1.6 and 1.4 respectively). Almost half (46%) of other concession households had more than one tank on their property, compared with just 32% of aged concession households having multiple tanks.

**Table 7.3.3.4: Number of Tanks by Sample Type and Region, 2007**

	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	Country Vic	Melbourne	Total HHs
One	68%	55%	64%	70%	67%	67%	67%
Two	23%	31%	26%	22%	23%	24%	24%
Three	5%	13%	8%	5%	8%	4%	6%
Four or more	4%	2%	3%	4%	2%	5%	3%
Can't say	-	-	-	-	-	-	-
<b>Mean</b>	<b>1.4</b>	<b>1.6</b>	<b>1.5</b>	<b>1.4</b>	<b>1.4</b>	<b>1.5</b>	<b>1.5</b>

Base: Total respondents with water tank on property, 2007 (n=409)

The average capacity of all water tanks on Victorian properties was 6,454.4 litres. Despite similar quantities of tanks per property, average capacity was higher for regional than metropolitan households (8,161.4L and 4,899.1L respectively), and for non-concession than concession households (8,009.1L and 4,374.4L respectively). Total capacity was also higher amongst other concession households, with an average capacity of 4,822.7 litres, compared with 4,140.2 litres for aged concession households.

**Table 7.3.3.5: Tank Capacity by Sample Type and Region, 2007**

	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	Country Vic	Melbourne	Total HHs
Less than 500L	13%	12%	13%	12%	10%	14%	12%
500-999L	12%	17%	14%	7%	9%	11%	10%
1,000-1,999L	23%	18%	21%	23%	20%	25%	22%
2,000-2,999L	19%	7%	15%	11%	15%	11%	13%
3,000-3,999L	6%	11%	7%	5%	8%	4%	6%

Base: Total respondents with water tank on property, 2007 (n=409)

**Table 7.3.3.5: Tank Capacity by Sample Type and Region, 2007 (continued)**

	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-Concession HHs	Country Vic	Melbourne	Total HHs
4,000-4,999L	8%	13%	10%	7%	6%	10%	8%
5,000-9,999L	4%	7%	5%	14%	11%	10%	10%
10,000L or more	6%	8%	7%	12%	12%	8%	10%
Can't say	9%	7%	8%	8%	9%	8%	8%
<b>Mean (litres)</b>	<b>4,140.2</b>	<b>4,822.7</b>	<b>4,374.4</b>	<b>8,009.1</b>	<b>8,161.4</b>	<b>4,899.1</b>	<b>6,454.4</b>

Base: Total respondents with water tank on property, 2007 (n=409)

There have been marked changes in the uses of tank water since 2001 and 1996. In previous years the primary use of tank water was for drinking only (46%); this has since declined to just 13%, with garden watering now the most common use (77%, up from 38% in 2001). This is not surprising with current water restrictions limiting use of mains water for this purpose, resulting in households resorting to tank water to maintain their gardens. Use for drinking, cooking and washing has also declined from 20% to 9% since 2001.

Use of water for drinking only was considerably higher in country Victoria (24%) than Melbourne (4%), with Ballarat residents most likely to use their tank water for drinking only (37%). A higher proportion of households in Melbourne (84%) used tank water for watering their gardens compared with country Victoria (68%), despite equal proportions in country and metropolitan Victoria having a garden (both 90%).

Concession households were more likely to use their tank water solely for drinking (17%) than non-concession households (11%). Amongst concession households, aged concession households more commonly used tank water for drinking only than did other concession households (21% and 8% respectively).

Single-person households were considerably more likely to use their tank water for drinking only (24%) than were larger households of three (4%) or four or more persons (7%). Single-person households were the least likely sub-group to use tank water for gardens (64%), which is unsurprising as this group was also the least likely to have a garden (81%).

**Table 7.3.3.6: Uses of Tank Water by Location**

Water Tanks Uses	Ballarat			Bendigo			Geelong			Shepparton			LPG Areas		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Drinking only	37%	58%	65%	23%	72%	55%	13%	54%	68%	13%	65%	72%	26%	n/a	n/a
Drinking/cooking/washing	17%	49%	12%	8%	21%	30%	11%	18%	29%	13%	-	5%	18%	n/a	n/a
Emergency use	6%	4%	-	-	-	6%	-	-	-	9%	-	-	5%	n/a	n/a
Fire fighting purposes	-	-	n/c	-	-	n/c	-	-	n/c	9%	-	n/c	3%	n/a	n/a
All purposes	-	-	-	10%	2%	3%	5%	5%	-	-	-	-	10%	n/a	n/a
Garden watering	79%	7%	n/c	73%	11%	n/c	74%	59%	n/c	61%	16%	n/c	52%	n/a	n/a
Wash cars	8%	n/c	n/c	1%	n/c	n/c	3%	n/c	n/c	-	n/c	n/c	5%	n/a	n/a
Other	5%	7%	23%	8%	2%	22%	9%	-	29%	-	-	7%	9%	n/a	n/a
Don't use	-	7%	n/c	-	8%	n/c	-	-	n/c	17%	19%	n/c	-	n/a	n/a
No answer	2%	-	-	-	-	-	11%	-	-	-	-	-	3%	-	-

Water Tanks Uses	Total Country VIC			Melbourne			Total		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Drinking only	24%	65%	61%	4%	7%	11%	13%	46%	46%
Drinking/cooking/washing	13%	23%	22%	5%	13%	19%	9%	20%	21%
Emergency use	3%	1%	3%	3%	6%	3%	3%	2%	3%
Fire fighting purposes	1%	-	n/c	6%	2%	n/c	4%	1%	n/c
All purposes	7%	2%	2%	3%	9%	-	5%	4%	1%
Garden watering	68%	20%	n/c	84%	75%	n/c	77%	38%	n/c
Wash cars	4%	n/c	n/c	8%	n/c	n/c	6%	n/c	n/c
Other	8%	3%	19%	12%	24%	36%	10%	9%	25%
Don't use	*	8%	n/c	1%	-	n/c	1%	5%	n/c
No answer	4%	-	-	5%	-	-	5%	-	-

Base: Total respondents with water tank on property, 2007 (n=409); 2001 (n=123); 1996 (n=106)

**Table 7.3.3.7: Uses of Tank Water by Sample Type**

Water Tanks Uses	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Drinking only	21%	59%	56%	8%	64%	35%	17%	60%	50%	11%	32%	43%	13%	46%	46%
Drinking/cooking/washing	12%	30%	26%	10%	12%	13%	11%	25%	22%	7%	15%	21%	9%	20%	21%
Emergency use	5%	2%	-	3%	-	-	4%	1%	-	2%	3%	5%	3%	2%	3%
Fire fighting purposes	2%	2%	n/c	4%	-	n/c	3%	1%	n/c	4%	-	n/c	4%	1%	n/c
All purposes	4%	7%	-	8%	-	-	5%	5%	-	5%	3%	2%	5%	4%	1%
Garden watering	72%	27%	n/c	76%	31%	n/c	73%	28%	n/c	79%	47%	n/c	77%	38%	n/c
Wash cars	5%	n/c	n/c	5%	n/c	n/c	5%	n/c	n/c	7%	n/c	n/c	6%	n/c	n/c
Other	5%	-	24%	15%	18%	6%	9%	5%	19%	11%	14%	28%	10%	9%	25%
Don't use	1%	5%	n/c	1%	6%	n/c	1%	6%	n/c	*	5%	n/c	1%	5%	n/c
No answer	4%	-	-	7%	-	-	5%	-	-	4%	-	-	5%	-	-

Base: Total respondents with water tank on property, 2007 (n=409); 2001 (n=123); 1996 (n=106)

### 7.3.4 Bores

One percent of all households have bore water on the property as was the case in previous years. Bendigo properties were most likely to use bore water on their properties (5%).

**Table 7.3.4: Incidence of Bores on Property**

Incidence of bores on property	2007	2001	1996
Yes	1%	1%	1%
No	99%	99%	99%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

## **8 FACTORS AFFECTING ENERGY AND WATER USAGE**

NB. This section is based on respondent survey data.

### **8.1 PERCEIVED DIFFICULTIES ENCOUNTERED IN HEATING DWELLING**

Overall, just over one-third (35%) of households indicated having difficulties heating their homes in the colder months. This proportion does not vary considerably between concession (34%) and non-concession (36%) households. Amongst concession card holders, however, other concession households are substantially more likely than aged concession households to encounter problems heating their dwellings (45% vs. 23%). Compared with 2001, proportionately slightly more households are experiencing difficulties heating their homes during the colder months (up from 31% to 35%), but the level has not as yet returned to 1996 levels (37%). A four point rise in the proportion of households having difficulties with heating their homes can be seen across all sample types over the period 2001 to 2007.

No marked differences in the types of difficulties encountered in heating dwellings was observed over time or by sample type. The main difficulties in maintaining warmth in the colder months stem from house design (e.g., high ceilings etc.) and draughts or poor thermal performance, both of which were cited by one in ten households. Both of these are more of a concern for non-concession and other concession households.

Ten percent of other concession households also indicated that it was difficult to maintain a constant temperature in their homes, with this proportion being lower amongst aged concession households (3%) and non-concession households (6%).

**Table 8.1.1: Perceived Difficulties with Heating in Cold Months by Sample Type**

Difficulties in Heating Dwellings	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Design of house (high ceilings etc.)	6%	5%	5%	10%	13%	14%	8%	9%	9%	12%	11%	12%	10%	10%	11%
Draughts/poor thermal performance	5%	3%	5%	12%	13%	19%	9%	8%	11%	12%	10%	11%	10%	9%	11%
Hard to maintain constant temperature	3%	5%	2%	10%	10%	6%	6%	7%	4%	5%	4%	5%	6%	5%	5%
Running costs of heating	5%	6%	4%	8%	7%	7%	7%	7%	5%	4%	4%	3%	5%	5%	4%
Takes a long time to heat up	5%	3%	3%	8%	8%	6%	6%	6%	4%	5%	4%	5%	6%	5%	5%
No insulation	2%	1%	2%	8%	5%	9%	5%	3%	5%	7%	4%	5%	6%	3%	5%
Inefficient/defective heater	1%	1%	1%	6%	5%	8%	3%	3%	4%	4%	4%	4%	4%	3%	4%
Cost of buying/installing better heater	1%	-	n/c	2%	1%	n/c	2%	*	n/c	1%	2%	n/c	2%	1%	n/c
Large windows/too much glass	n/c	1%		n/c	1%	1%	n/c	1%	1%	n/c	1%	1%	n/c	1%	1%
Not enough heaters	n/c	1%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	1%	n/c
Doors left open/traffic flow	n/c	-	n/c	n/c	1%	n/c	n/c	*	n/c	n/c	1%	n/c	n/c	*	n/c
Other reasons	3%	3%	14%	14%	6%	13%	8%	4%	10%	11%	5%	14%	10%	5%	12%
<b>Total having difficulties with heating</b>	<b>23%</b>	<b>19%</b>	<b>39%</b>	<b>45%</b>	<b>42%</b>	<b>50%</b>	<b>34%</b>	<b>30%</b>	<b>34%</b>	<b>36%</b>	<b>32%</b>	<b>39%</b>	<b>35%</b>	<b>31%</b>	<b>37%</b>
No difficulties with heating	76%	81%	61%	54%	58%	50%	66%	70%	66%	63%	68%	61%	64%	69%	63%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Note: Respondents could give more than one answer to this question.

As in previous years, difficulties heating homes in the colder months were much more common for private (52%) and public (55%) renters than for homeowners or buyers (30%).

Amongst homeowners/buyers, concerns were largely to do with house design (9%) and draughts or poor thermal performance (8%), consistent with previous years.

The key difficulties amongst private renters included draughts or poor thermal performance (17%), lack of insulation (16%, up from 7% in 2001), taking a long time to heat up (14%, up from 9% in 2001), house design (13%) and difficulties maintaining a constant temperature (11%).

Almost one-quarter (23%) of public renters cited draughts or poor thermal performance as a difficulty experienced in heating their homes in the cold months, while 10% mentioned the lack of insulation. Problems stemming from the design of the house have declined from 2001 (17% to 8%), as have concerns about the difficulties maintaining a constant temperature (12% to 7%) and the length of time taken to heat up (16% to 8%).



**Table 8.1.2: Perceived Difficulties with Heating in Cold Months by Home Ownership Status**

Difficulties in Heating Dwellings	Own/Buying HHs			Renting - Private HHs			Renting - Public HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Design of house (high ceilings etc.)	9%	9%	10%	13%	14%	16%	8%	17%	7%	10%	10%	11%
Draughts/poor thermal performance	8%	7%	8%	17%	15%	23%	23%	21%	14%	10%	9%	11%
Hard to maintain constant temperature	4%	4%	3%	11%	9%	10%	7%	12%	5%	6%	5%	5%
Running costs of heating	4%	5%	4%	10%	7%	5%	6%	9%	6%	5%	5%	4%
Takes a long time to heat up	4%	3%	3%	14%	9%	8%	8%	16%	9%	6%	5%	5%
No insulation	3%	2%	4%	16%	7%	13%	10%	6%	3%	6%	3%	5%
Inefficient/defective heater	2%	2%	3%	8%	7%	7%	8%	8%	6%	4%	3%	4%
Cost of buying/installing better heater	1%	1%	n/c	2%	3%	n/c	4%	2%	n/c	2%	1%	n/c
Large windows/too much glass	n/c	1%	1%	n/c	2%	2%	n/c	-	1%	n/c	1%	1%
Not enough heaters	n/c	1%	n/c	n/c	1%	n/c	n/c	*	n/c	n/c	1%	n/c
Doors left open/traffic flow	n/c	1%	n/c	n/c	-	n/c	n/c	-	n/c	n/c	*	n/c
Other reasons	9%	4%	12%	12%	5%	15%	15%	8%	14%	10%	5%	12%
<b>Total having difficulties with heating</b>	<b>30%</b>	<b>26%</b>	<b>31%</b>	<b>52%</b>	<b>49%</b>	<b>59%</b>	<b>55%</b>	<b>50%</b>	<b>41%</b>	<b>35%</b>	<b>31%</b>	<b>37%</b>
No difficulties with heating	69%	74%	69%	48%	51%	41%	45%	50%	59%	64%	69%	63%

Base: Total respondents, 2007 (n=2,061); 2001 (n=2,006); 1996 (n=2,000)

Note: Respondents could give more than one answer to this question.

A higher proportion of households in country Victoria indicated having difficulties heating their homes (41%) compared with Melbourne residents (33%). Ballarat residents were most likely to have difficulties (44%), whilst Shepparton households were least likely (31%).

## 8.2 HEALTH PROBLEMS

Six percent of households had a health problem which affects their electricity usage, 5% which affects their gas usage and 3% their water usage with similar incidence rates recorded in the 2001 and 1996 surveys. Concession card holders were more likely to have health problems affecting electricity usage (10% compared with 3% of non-concession households), gas usage (8% compared with 3%) and water usage (5% compared with 2%) compared with non-concession households.

Of those households with health problems affecting electricity usage, 26% are due to asthma, 18% to arthritis, 7% to emphysema and 7% to multiple sclerosis. The proportion of households reporting that their electricity usage affected by asthma has fallen considerably from previous years (from 49% in 2001 to 26%); this is largely attributable to the substantial drop amongst concession households (from 45% to 19%), while the decline amongst non-concession households was more modest (from 55% to 42%). Most of those households who consume additional energy do so for heating in order maintain a constant household temperature (61%).

Of those households with health problems that affect gas usage, 19% are due to asthma, 31% due to arthritis, 8% to emphysema and 7% to multiple sclerosis. Incidence of asthma affecting gas usage was also down from 2001 (from 43% to 19%), with decreases amongst both concession and non-concession households, whilst incidence of arthritis was up (from 21% to 31%), as a result of an increase amongst non-concession households (from 10% to 25%). The vast majority of those households who consume additional gas do so in order to heat their homes and retain a constant temperature (85%).

Only a small percentage of households had a member who suffers from a health problem which affects their water usage, 7% of whom suffer from asthma, 24% from arthritis, 4% from emphysema and 10% from multiple sclerosis. Non-concession households were more likely than concession card holders to have their water use affected by asthma (12% vs. 5%) and arthritis (36% vs. 17%), whilst the reverse was true of multiple sclerosis (13% of concession and 5% of non-concession households). More than one-third (39%) of these households stated that water usage increased to heat their homes in order to maintain a constant household temperature.

Types of Health Problems	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
<b>Affecting Electricity Usage -</b>															
Asthma	8%	23%	11%	28%	66%	60%	19%	45%	37%	42%	55%	46%	26%	49%	40%
Arthritis/bad back/joints	29%	32%	45%	16%	9%	14%	22%	20%	29%	8%	9%	16%	18%	16%	24%
Emphysema/lungs	12%	11%	-	6%	9%	-	9%	10%	-	4%	2%	-	7%	6%	-
Multiple Sclerosis	4%	5%	-	13%	5%	-	9%	5%	-	3%	6%	-	7%	5%	-
Other	62%	39%	44%	53%	17%	26%	57%	28%	35%	43%	27%	38%	53%	28%	36%
Can't say	-	4%	-	2%	4%	-	1%	4%	-	10%	5%	-	4%	5%	-
<b>Affecting Gas Usage -</b>															
Asthma	7%	20%	8%	16%	51%	41%	11%	35%	24%	39%	50%	32%	19%	43%	27%
Arthritis/bad back/joints	41%	39%	45%	24%	24%	24%	34%	32%	35%	25%	10%	26%	31%	21%	32%
Emphysema/lungs	9%	n/c	n/c	7%	n/c	n/c	8%	n/c	n/c	9%	n/c	n/c	8%	n/c	n/c
Multiple Sclerosis	3%	n/c	n/c	21%	n/c	n/c	11%	n/c	n/c	4%	n/c	n/c	9%	n/c	n/c
Other	52%	61%	48%	39%	25%	37%	46%	44%	43%	24%	40%	42%	39%	42%	43%
Can't say	3%	2%	-	5%	8%	-	4%	5%	-	14%	5%	-	7%	5%	-
<b>Affecting Water Usage -</b>															
Asthma	3%	n/c	n/c	6%	n/c	n/c	5%	n/c	n/c	12%	n/c	n/c	7%	n/c	n/c
Arthritis/bad back/joints	17%	n/c	n/c	17%	n/c	n/c	17%	n/c	n/c	36%	n/c	n/c	24%	n/c	n/c
Emphysema/lungs	4%	n/c	n/c	3%	n/c	n/c	3%	n/c	n/c	6%	n/c	n/c	4%	n/c	n/c
Multiple Sclerosis	2%	n/c	n/c	20%	n/c	n/c	13%	n/c	n/c	5%	n/c	n/c	10%	n/c	n/c
Other	83%	100%	100%	56%	89%	100%	66%	95%	100%	32%	100%	100%	53%	97%	100%
Can't say	5%	-	-	5%	11%	-	5%	5%	-	25%	-	-	13%	3%	-

Base: Total respondents with a health problem that affects electricity usage, 2007 (n=138); 2001 (n=157); 1996 (n=145)

Total respondents with a health problem that affects gas usage, 2007 (n=117); 2001 (n=128); 1996 (n=155)

Total respondents with a health problem that affects water usage, 2007 (n=70); 2001 (n=37); 1996 (n=40)

## **9 CONSERVATION OF ENERGY AND WATER**

NB. This section is based on respondent survey data.

### **9.1 Energy Conservation**

#### **9.1.1 Perceived Causes of High Energy Usage**

Tables 9.1.1.1 through to 9.1.1.1 detail the perceived causes of high energy usage. Between the periods 1996 to 2001 and to 2007 reported causes of high energy usage have remained fairly consistent across all of the sample groups. More than 40% of householders across all three surveys stated there were no causes of high energy usage within their homes (46% in 1996, 43% in 2001, and 44% in 2007). This claim is particularly evident amongst aged concession households, though it appears to be declining (64% compared with 74% in 1996).

The principal perceived cause of high energy usage amongst both concession (14%) and non-concession (20%) householders was lights or appliances being left on. Non-concession householders were more likely than concession holders to report open plan design (8% compared with 5%) and very high ceilings (9% compared with 4%) as causing high energy usage. Concession householders were more likely than non-concession householders to state there are no causes of energy usage within their homes (51% compared with 40%). The perceived causes of high energy usage amongst all households have remained fairly consistent across the periods from 1996 to 2007. Notable differences between surveys include frequent use of large electric appliances (9% in 1996, 12% in 2001, 6% in 2007) and doors left open and heat lost (12% in 1996, 8% in 2001, 6% in 2007). (See Table 9.1.1.1)

The proportion of householders citing causes of high energy usage tended to increase with the size of the household. For example, households of four or more persons more commonly mentioned lights and appliances being left on (30%), long showers (16%), frequent use of large electrical appliances (8%) and open plan design (8%) as causes for high energy usage than did smaller households. Similar to previous survey periods, in 2007 householders

with fewer occupants were more likely than householders with many occupants to state there were no causes of high energy usage (56% for 1 person households, compared with 31% in 4 or more person households) (See Table 9.1.1.1).

Leaving lights and appliances on was the most commonly cited cause of high energy usage for public (19%) and private (16%) renters and owners/buyers (18%). The proportion of public (11%) and private (13%) renters mentioning poor insulation as a cause of high energy usage was similar to the relatively high levels reported in 2001 (14% and 10%, respectively) and substantially greater than seen in 1996 (1% and 1%, respectively). Poor quality of dwelling was cited more frequently by public (11%) and private (10%) renters, than owners/buyers (3%), similar to previous survey periods (See Table 9.1.1.1).

**Table 9.1.1.1 Perceived Causes of High Energy Usage by Sample Type**

Causes of High Energy Consumption	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Lights/appliances left on	8%	5%	4%	20%	21%	23%	14%	13%	12%	21%	24%	24%	18%	20%	19%
Long showers/frequent baths	3%	4%	2%	14%	15%	13%	8%	9%	7%	11%	16%	15%	10%	13%	12%
Frequent use of large electric appliances	3%	5%	4%	7%	12%	11%	5%	8%	7%	7%	14%	11%	6%	12%	9%
Open plan design	5%	7%	1%	4%	9%	3%	5%	8%	2%	8%	11%	6%	7%	10%	4%
Doors left open & heat lost	5%	3%	4%	9%	13%	17%	7%	8%	9%	5%	9%	14%	6%	8%	12%
Very high ceilings	3%	5%	4%	5%	5%	7%	4%	5%	5%	9%	6%	8%	7%	6%	7%
Heating turned up too high	4%	3%	2%	7%	10%	6%	5%	6%	4%	7%	7%	8%	6%	6%	7%
No/poor insulation	4%	1%	*	9%	8%	2%	6%	4%	1%	8%	5%	1%	7%	5%	1%
Poor quality dwelling	2%	1%	2%	7%	7%	9%	5%	4%	5%	4%	2%	4%	4%	3%	4%
Expensive to run/faulty appliances	3%	2%	1%	8%	4%	4%	5%	3%	2%	6%	3%	4%	6%	3%	3%
General usage of heating/external use	n/c	2%	n/c	n/c	3%	n/c	n/c	3%	n/c	n/c	4%	n/c	n/c	3%	n/c
Excessive people traffic	1%	1%	*	2%	3%	1%	1%	2%	1%	2%	2%	3%	2%	2%	2%
Other	5%	5%	1%	9%	6%	5%	7%	5%	3%	14%	11%	4%	11%	9%	3%
None	64%	67%	74%	36%	37%	37%	51%	53%	58%	40%	37%	37%	44%	43%	46%
Can't say	6%	5%	n/c	5%	6%	n/c	5%	5%	n/c	5%	3%	n/c	5%	4%	n/c

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys.

**Table 9.1.1.2: Perceived Causes of High Energy Usage by Household Size**

Causes of High Energy Consumption	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Lights/appliances left on	7%	6%	6%	14%	12%	11%	18%	26%	23%	30%	35%	35%	18%	20%	19%
Long showers/frequent baths	2%	4%	2%	8%	8%	5%	14%	15%	16%	16%	25%	21%	10%	13%	12%
Frequent use of large electric appliances	3%	2%	4%	7%	8%	7%	5%	17%	11%	8%	19%	14%	6%	12%	9%
Open plan design	5%	7%	4%	7%	7%	4%	7%	10%	6%	8%	14%	5%	7%	10%	4%
Doors left open & heat lost	4%	3%	5%	5%	5%	8%	6%	12%	12%	9%	13%	20%	6%	8%	12%
Very high ceilings	5%	5%	7%	7%	6%	6%	6%	5%	9%	8%	5%	6%	7%	6%	7%
Heating turned up too high	4%	4%	2%	6%	5%	6%	8%	8%	6%	8%	9%	10%	6%	6%	7%
No/poor insulation	8%	4%	1%	7%	6%	2%	7%	4%	2%	7%	4%	1%	7%	5%	1%
Poor quality dwelling	4%	2%	3%	3%	3%	5%	4%	2%	5%	6%	3%	4%	4%	3%	4%
Expensive to run/faulty appliances	4%	3%	2%	6%	3%	3%	6%	4%	3%	7%	3%	4%	6%	3%	3%
General usage of heating/external use	n/c	2%	n/c	n/c	3%	n/c	n/c	4%	n/c	n/c	4%	n/c	n/c	3%	n/c
Excessive people traffic	0%	1%	1%	2%	*	1%	2%	2%	3%	3%	5%	3%	2%	2%	2%
Other	9%	6%	4%	9%	8%	4%	11%	13%	3%	14%	10%	3%	11%	9%	3%
None	56%	63%	65%	50%	50%	57%	40%	33%	39%	31%	26%	27%	44%	43%	46%
Can't say	6%	5%	n/c	5%	3%	n/c	6%	4%	n/c	3%	3%	n/c	5%	4%	n/c

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys.

**Table 9.1.1.3 Perceived Causes of High Energy Usage by Home Ownership Status**

Causes of High Energy Consumption	Owning/Buying HHs			Renting - Private HHs			Renting - Public HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Lights/appliances left on	18%	20%	20%	16%	19%	20%	19%	16%	13%	18%	20%	19%
Long showers/frequent baths	10%	14%	12%	9%	10%	12%	8%	8%	7%	10%	13%	12%
Frequent use of large electric appliances	5%	12%	9%	9%	14%	13%	7%	9%	3%	6%	12%	9%
Open plan design	7%	10%	5%	6%	10%	6%	6%	5%	2%	7%	10%	4%
Doors left open & heat lost	5%	8%	12%	9%	9%	12%	9%	12%	10%	6%	8%	12%
Very high ceilings	7%	5%	7%	4%	6%	9%	4%	4%	1%	7%	6%	7%
Heating turned up too high	6%	6%	6%	8%	7%	7%	6%	6%	7%	6%	6%	7%
No/poor insulation	6%	4%	1%	13%	10%	3%	11%	14%	1%	7%	5%	1%
Poor quality dwelling	3%	2%	2%	10%	8%	11%	11%	9%	10%	4%	3%	4%
Expensive to run/faulty appliances	6%	3%	4%	8%	5%	4%	4%	7%	1%	6%	3%	3%
General usage of heating/external use	n/c	3%	n/c	n/c	3%	n/c	n/c	3%	n/c	n/c	3%	n/c
Excessive people traffic	2%	2%	2%	2%	2%	1%	3%	2%	-	2%	2%	2%
Other	10%	8%	3%	12%	12%	6%	7%	7%	3%	11%	9%	3%
None	45%	44%	47%	42%	35%	38%	39%	47%	53%	44%	43%	46%
Can't say	5%	4%	n/c	6%	3%	n/c	5%	1%	n/c	5%	4%	n/c

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys.



### **9.1.2 Perceived Impacts on High Energy Usage**

Respondents were asked which causes of high energy usage had the biggest perceived impact on their energy bills. This question was only asked of those householders who had previously named one or more factors that caused high energy usage in their homes.

In 2007, the biggest perceived impact on energy bills was lights/appliances left on (19%), followed by heating turned up too high and no/poor insulation (both 9%). From 2001, there was a decline in reporting of frequent use of large appliances (down from 13% to 6%) and long/frequent showers (down from 11% to 8%). The incidence of open plan design (6%) as the biggest impact on energy bills returned to levels seen in 1996 (5%), after peaking at 12% in 2001. No/poor insulation continues to become more important in contributing to high energy bills, increasing from 1% in 1996, to 6% in 2001 and 9% in 2007. Doors left open and heat lost (3%) remained at similar levels to 2001 (4%) which was substantially down from the levels reported in 1996 (10%).

Non-concession households were less likely to mention long showers or frequent baths as an impact on bills than were concession households (7% compared with 10%), which was contrary to the trends in 2001 and 1996. There were no other notable differences between non-concession and concession households in 2007, which was consistent with the findings from 2001. (See Table 9.1.2.1)

In 2007, the larger the household the greater the proportion who named lights/appliances left on as having the biggest impact on bills (4+ person households at 27% compared with 13% of 1 person households). In contrast, the smaller the household the greater the proportion who named no/poor insulation as having the biggest impact on bills, with 17% of 1 person households citing this cause compared with 6% of four or more person households). Open plan design was mentioned by far fewer households in 2007 than 2001, most noticeably in 1 person households (down from 16% in 2001 to 6% in 2007) (See Table 9.1.2.2).

Renters (both private and public) were more likely to report no/poor insulation (10% and 16%, respectively) and poor quality dwelling (9% and 11%, respectively) than owners/buyers (8% and 2%, respectively) as having the biggest impact on energy bills in 2007. Public renters (12%) were more

likely to report frequent use of large electric appliances than private renters (5%) and owners/buyers (6%). Very high ceilings were named as having the biggest impact on energy bills by greater proportions of owning or buying households than those renting their homes (See Table 9.1.1.1.3).

**Table 9.1.2.1: Perceived Biggest Impact on High Energy Bills by Sample Type**

Biggest Impact on Energy Bills	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Lights/appliances left on	15%	10%	8%	20%	20%	19%	18%	17%	15%	20%	19%	21%	19%	18%	19%
Frequent use of large electric appliances	6%	15%	11%	9%	10%	13%	8%	12%	12%	5%	13%	11%	6%	13%	11%
Open plan design	11%	20%	4%	4%	8%	4%	7%	12%	4%	6%	12%	5%	6%	12%	5%
Long showers/frequent baths	7%	6%	5%	11%	10%	7%	10%	9%	6%	7%	13%	12%	8%	11%	10%
Heating turned up too high	9%	9%	8%	8%	10%	6%	8%	9%	6%	9%	6%	8%	9%	7%	8%
No/poor insulation	10%	4%	1%	11%	6%	1%	11%	6%	1%	9%	6%	1%	9%	6%	1%
Doors left open & heat lost	6%	3%	10%	5%	9%	10%	5%	7%	10%	2%	3%	10%	3%	4%	10%
Very high ceilings	6%	6%	10%	4%	3%	7%	5%	4%	8%	6%	3%	6%	5%	4%	7%
Expensive to run/faulty appliances	7%	4%	7%	8%	4%	4%	7%	4%	5%	4%	4%	5%	5%	4%	5%
Poor quality dwelling	1%	2%	4%	6%	7%	10%	4%	5%	8%	3%	2%	2%	4%	3%	4%
General usage of heating/external use	n/c	-	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c	2%	n/c		2%	n/c
Excessive people traffic	-	-	-	1%	2%	1%	1%	1%	1%	*	1%	3%	1%	1%	2%
Other	14%	15%	2%	11%	6%	5%	12%	9%	4%	17%	14%	5%	15%	12%	4%
Can't say	3%	6%	n/c	*	4%	n/c	1%	5%	n/c	3%	3%	n/c	2%	3%	n/c

Base: Total respondents 2007 (n=963), 2001 (n=990) and 1996 (n=1,029) surveys who stated a cause of high energy usage

**Table 9.1.2.2: Perceived Biggest Impact on High Energy Bills by Household Size**

Biggest Impact on Energy Bills	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Lights/appliances left on	13%	9%	13%	15%	16%	16%	17%	19%	18%	27%	21%	24%	19%	18%	19%
Frequent use of large electric appliances	4%	7%	9%	8%	11%	15%	6%	15%	9%	6%	15%	11%	6%	13%	11%
Open plan design	6%	16%	8%	7%	10%	5%	8%	11%	7%	4%	13%	3%	6%	12%	5%
Long showers/frequent baths	2%	7%	3%	7%	9%	6%	13%	13%	13%	9%	14%	14%	8%	11%	10%
Heating turned up too high	8%	10%	5%	10%	7%	11%	7%	8%	8%	8%	6%	7%	9%	7%	8%
No/poor insulation	17%	9%	1%	10%	9%	3%	9%	4%	1%	6%	3%	*	9%	6%	1%
Doors left open & heat lost	7%	2%	9%	3%	3%	8%	3%	5%	11%	3%	6%	12%	3%	4%	10%
Very high ceilings	4%	5%	11%	9%	7%	7%	3%	1%	8%	4%	2%	5%	5%	4%	7%
Expensive to run/faulty appliances	6%	7%	6%	6%	5%	4%	4%	2%	6%	6%	3%	5%	5%	4%	5%
Poor quality dwelling	6%	5%	5%	4%	4%	7%	1%	2%	3%	4%	2%	3%	4%	3%	4%
General usage of heating/external use	n/c	2%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	2%	n/c	n/c	2%	n/c
Excessive people traffic	*	-	2%	1%	-	1%	1%	1%	3%	1%	2%	2%	1%	1%	2%
Other	22%	18%	6%	12%	14%	5%	16%	14%	4%	14%	8%	4%	15%	12%	4%
Can't say	2%	4%	n/c	2%	2%	n/c	2%	5%	n/c	2%	3%	n/c	2%	3%	n/c

Base: Total respondents 2007 (n=963), 2001 (n=990) and 1996 (n=1,029) surveys who stated a cause of high energy usage

**Table 9.1.2.3 Perceived Biggest Impact on High Energy Bills by Home Ownership Status**

Biggest Impact on Energy Bills	Owning/Buying HHs			Renting - Private HHs			Renting - Public HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Lights/appliances left on	20%	19%	20%	16%	16%	17%	22%	13%	17%	19%	18%	19%
Frequent use of large electric appliances	6%	13%	11%	5%	14%	16%	12%	13%	4%	6%	13%	11%
Open plan design	6%	13%	5%	5%	8%	5%	3%	7%	2%	6%	12%	5%
Long showers/frequent baths	9%	13%	11%	3%	4%	8%	9%	10%	6%	8%	11%	10%
Heating turned up too high	8%	7%	7%	10%	6%	9%	6%	8%	10%	9%	7%	8%
No/poor insulation	8%	5%	1%	16%	9%	3%	10%	10%	1%	9%	6%	1%
Doors left open & heat lost	3%	4%	44%	6%	6%	8%	5%	3%	12%	3%	4%	10%
Very high ceilings	7%	3%	7%	1%	5%	7%	0%	-	4%	5%	4%	7%
Expensive to run/faulty appliances	5%	3%	6%	7%	5%	3%	3%	10%	3%	5%	4%	5%
Poor quality dwelling	2%	1%	2%	9%	8%	7%	11%	12%	17%	4%	3%	4%
General usage of heating/external use	n/c	1%	n/c	n/c	2%	n/c	n/c	3%	n/c	n/c	2%	n/c
Excessive people traffic	*	1%	2%	1%	-	2%	3%	1%	-	1%	1%	2%
Other	15%	12%	4%	14%	14%	7%	7%	8%	2%	15%	12%	4%
Can't say	2%	4%	n/c	2%	2%	n/c	2%	1%	n/c	2%	3%	n/c

Base: Total respondents 2007, 2001 and 1996 surveys who stated a cause of high energy usage

### **9.1.3 Energy Saving Modifications Made**

The question regarding energy saving modifications was slightly altered for the 2007 and 2001 surveys from the 1996 survey. By focusing on modifications made by the current householder (as opposed to modifications *ever* made to the dwelling as in 1996) it was considered that a truer representation of household modifications to save energy would be obtained. As such, the proportions naming energy saving modifications has fallen considerably since 1996 as can be seen in Table 9.1.3.1. This difference in the sample base should be taken into consideration when interpreting the results for this question, and as such, the 1996 results are not strictly comparable with 2001 and 2007.

Across the board, there were increases in the proportions of householders naming energy saving modifications in 2007 from 2001. Both concession and non-concession householders were notably more likely to name energy saving modifications in 2007 than in 2001, so such modifications are not confined to one group or the other. Home owners and buyers (74%) were more likely than private (44%) and public renters (43%) to name energy saving modifications (Table 9.1.3.1).

In the 2007 survey, the most commonly mentioned energy saving modifications made to dwellings were special energy efficient light globes and roof insulation, named by almost one-half of households whose dwellings where energy saving modifications were claimed to have been made (49% and 47%, respectively). The utilisation of special energy efficient light globes has increased dramatically from previous survey periods (15% in 2001, 17% in 1996), most likely a result of awareness campaigns advocating the use of energy efficient electrical items. The incidence of roof insulation as an energy saving modification continued to fall from 83% in 1996 and 65% in 2001 to 47% on 2007, most likely due to the fact that the majority of houses already have such insulation installed (therefore fewer can claim it as a modification). The incidence of wall insulation as an energy saving modification also dropped substantially in 2007 (17%) compared with 2001 (29%), probably due to similar reasons as those discussed about roof insulation.

In 2007, non-concession households were more likely to mention wall insulation (21%) than concession households (11%). Aged concession households were more likely than other concession households to report roof insulation as an energy saving modification made to the dwelling (54%

compared with 34%). In contrast, aged concession households were considerably less likely than non-aged concession households to report special energy efficient light globes as an energy saving modification (41% compared with 53%) (Table 9.1.3.2).

In 2007, larger households were more likely to mention wall insulation as an energy saving modification, a similar result to previous surveys. Larger households were also considerably more likely to utilise special energy efficient light globes than households with fewer occupants. One (24%) and two person (26%) households were notably more likely to cite external blinds/roller shutters than four or more person households (19%) (Table 9.1.3.3).

As expected, far fewer renters named energy saving modifications to their dwellings than owners/buyers (as renters have either less desire or less opportunity to enact such modifications from their landlords<sup>1</sup>). Most notably, over one-half of owners/buyers (54%) installed roof insulation compared with 9% of private renters and 23% of public renters. In addition, 20% of owners/buyers had installed wall insulation while only one percent of renters had done so. Renters (both private and public) were, however, more likely to have utilised special energy efficient light globes as an energy saving modification (Table 9.1.3.4).

---

1. Private landlords or the Victorian Office of Housing that would make this type of modification, rather than the tenants themselves. It is interpreted that a tenet has made an energy saving modification if a person in the household has instigated the work themselves, most likely by directly contacting the landlord, property manager or the Office of Housing.

Table 9.1.3.1- Incidence of Energy Saving Modifications Being Made

Incidence of making Energy Saving Modifications to Current Dwelling	Naming Energy Saving Modifications			No Energy Saving Modifications			Unaware of Any Energy Saving Modifications			Can't Say		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
<b>By sample type -</b>												
Aged Concession HHs	69%	55%	85%	18%	23%	7%	12%	17%	7%	2%	5%	n/c
Other Concession HHs	57%	46%	69%	29%	27%	14%	10%	22%	17%	4%	5%	n/c
Total Concession HHs	63%	50%	78%	23%	25%	10%	11%	20%	12%	3%	5%	n/c
Non-concession HHs	70%	58%	89%	21%	22%	5%	7%	16%	6%	3%	4%	n/c
<b>By Household Size -</b>												
1 Person HH	55%	42%	76%	28%	30%	11%	13%	23%	13%	4%	5%	n/c
2 Person HH	69%	55%	87%	20%	24%	6%	8%	18%	7%	3%	3%	n/c
3 Person HH	70%	58%	83%	17%	22%	9%	10%	16%	8%	2%	4%	n/c
4+ person HH	71%	63%	88%	22%	18%	4%	5%	15%	8%	2%	4%	n/c
<b>By home ownership status -</b>												
Own/buying	74%	63%	93%	17%	20%	4%	7%	13%	3%	2%	4%	n/c
Renting - Private	44%	23%	63%	37%	37%	14%	14%	34%	23%	4%	6%	n/c
Renting - Public	43%	27%	51%	41%	32%	20%	13%	35%	29%	4%	6%	n/c
<b>TOTAL</b>	<b>67%</b>	<b>55%</b>	<b>84%</b>	<b>22%</b>	<b>23%</b>	<b>7%</b>	<b>9%</b>	<b>18%</b>	<b>9%</b>	<b>3%</b>	<b>4%</b>	<b>n/c</b>

Base: Total Respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) surveys

Table 9.1.3.2 Energy Saving Modifications Made to Dwelling by Sample Type

Energy Saving Modification Made	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Roof insulation	54%	70%	83%	34%	60%	73%	45%	67%	79%	49%	64%	86%	47%	65%	83%
Special window treatments	26%	39%	26%	22%	34%	19%	24%	37%	23%	25%	33%	20%	25%	34%	21%
Wall insulation	12%	17%	23%	9%	31%	21%	11%	23%	22%	21%	33%	34%	17%	29%	30%
Draught stoppers on doors	22%	26%	43%	27%	26%	43%	24%	26%	43%	20%	24%	44%	21%	25%	44%
Special energy efficient light globes	41%	9%	10%	53%	14%	13%	46%	12%	11%	51%	17%	20%	49%	15%	17%
North facing aspect	7%	8%	28%	4%	11%	21%	6%	9%	25%	7%	9%	31%	6%	9%	28%
Deciduous shading plants	5%	9%	13%	4%	5%	13%	5%	7%	13%	5%	8%	22%	5%	8%	19%
Fewer/smaller windows facing west	2%	2%	12%	0%	2%	11%	1%	2%	12%	3%	2%	18%	2%	2%	16%
Double glazed windows	2%	2%	2%	1%	2%	1%	1%	2%	2%	4%	3%	2%	3%	2%	2%
Skylights	n/c	1%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	2%	n/c	n/c	2%	n/c
Ceiling fans	n/c	1%	n/c	n/c	2%	n/c	n/c	1%	n/c	n/c	2%	n/c	n/c	2%	n/c
External blinds/roller shutters	30%	n/c	n/c	20%	n/c	n/c	26%	n/c	n/c	21%	n/c	n/c	23%	n/c	n/c
Other Energy Saving Features	18%	13%	n/c	28%	18%	n/c	22%	15%	n/c	29%	25%	n/c	29%	22%	n/c

Base: Total respondents naming an energy saving modification to their dwelling 2007 (n=1,389), 2001 (n=1,082) and 1996 (n=1,684) Surveys.



**Table 9.1.3.3 Energy Saving Modifications Made to Dwelling by Household Size**

Energy Saving Modification Made	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Roof insulation	43%	62%	76%	50%	66%	83%	50%	68%	80%	45%	62%	89%	47%	65%	83%
Special window treatments	27%	33%	24%	27%	37%	23%	18%	34%	23%	24%	32%	18%	25%	34%	21%
Wall insulation	10%	14%	20%	14%	26%	24%	19%	34%	27%	24%	36%	41%	17%	29%	30%
Draught stoppers on doors	22%	28%	41%	21%	21%	45%	22%	22%	43%	21%	30%	45%	21%	25%	44%
Special energy efficient light globes	45%	9%	7%	47%	12%	16%	53%	17%	17%	53%	19%	22%	49%	15%	17%
North facing aspect	7%	14%	27%	7%	7%	29%	4%	11%	27%	7%	9%	30%	6%	9%	28%
Deciduous shading plants	8%	7%	9%	5%	9%	21%	6%	6%	17%	3%	8%	23%	5%	8%	19%
Fewer/smaller windows facing west	2%	3%	13%	3%	1%	17%	3%	3%	12%	2%	1%	17%	2%	2%	16%
Double glazed windows	2%	1%	2%	2%	2%	1%	3%	3%	3%	4%	3%	3%	3%	2%	2%
Skylights	n/c	*	n/c	n/c	1%	n/c	n/c	*	n/c	n/c	3%	n/c	n/c	2%	n/c
Ceiling fans	n/c	2%	n/c	n/c	1%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c	2%	n/c
External blinds/roller shutters	24%	n/c	n/c	26%	n/c	n/c	23%	n/c	n/c	19%	n/c	n/c	23%	n/c	n/c
Other Energy Saving Features	20%	17%	n/c	24%	19%	n/c	29%	22%	n/c	32%	27%	n/c	29%	22%	n/c

Base: Total respondents naming an energy saving modification to their dwelling 2007 (n=1,389), 2001 (n=1,082) and 1996 (n=1,684) Surveys

Table 9.1.3.4 Energy Saving Modifications Made to Dwelling by Home Ownership Status

Energy Saving Modification Made	Owning/Buying HHs			Renting - Private HHs			Renting - Public HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Roof insulation	54%	69%	90%	9%	24%	50%	23%	21%	57%	47%	65%	83%
Special window treatments	26%	36%	21%	17%	23%	20%	20%	20%	30%	25%	34%	21%
Wall insulation	20%	32%	34%	1%	6%	9%	1%	3%	6%	17%	29%	30%
Draught stoppers on doors	21%	24%	44%	25%	33%	42%	30%	45%	46%	21%	25%	44%
Special energy efficient light globes	47%	14%	19%	64%	23%	6%	56%	24%	7%	49%	15%	17%
North facing aspect	7%	9%	30%	0%	13%	22%	0%	-	23%	6%	9%	28%
Deciduous shading plants	6%	8%	20%	2%	3%	13%	1%	-	6%	5%	8%	19%
Fewer/smaller windows facing west	3%	2%	16%	0%	1%	15%	0%	7%	5%	2%	2%	16%
Double glazed windows	3%	3%	2%	1%	-	*	0%	-	-	3%	2%	2%
Skylights	n/c	2%	n/c	n/c	2%	n/c	n/c	-	n/c	n/c	2%	n/c
Ceiling fans	n/c	2%	n/c	n/c	-	n/c	n/c	7%	n/c	n/c	2%	n/c
External blinds/roller shutters	24%	n/c	n/c	17%	n/c	n/c	19%	n/c	n/c	23%	n/c	n/c
Other Energy Saving Features	28%	22%	n/c	27%	23%	n/c	14%	11%	n/c	29%	22%	n/c

Base: Total respondents naming an energy saving modification to their dwelling 2007 (n=1,389), 2001 (n=1,082) and 1996 (n=1,684) Surveys

#### **9.1.4 Energy Saving Modifications with the Biggest Perceived Impact on Energy Bills**

In the 2001 survey an item was introduced asking householders which *one* energy saving feature or modification had the biggest impact on the household's energy bills.

Roof insulation was mentioned as the dominant energy saving modification (28%) at the time of the 2007 survey, followed by special energy efficient light globes (24%). Since 2001 opinion that roof insulation has the biggest impact on energy bills has declined by 16 points, while the choice of special energy efficient light globes has increased by 18 points.

No major differences were evident by sample type and household size; however, differences were shown to exist by housing status. Home owners or buyers were much more likely (32%) to say that roof insulation had the biggest impact on energy bills than public (20%) or private (7%) renters. On the other hand, both public (41%) and private renters (44%) were more likely than owners/buyers (20%) to name special energy efficient light globes as having the biggest impact on household energy bills. These results reflect the types of energy modifications made by the various housing sub-groups as set out in the previous section. As would be expected, rental households were more likely to make the types of modifications that did not involve structural changes to the dwelling (Table 9.1.4.1).

**Table 9.1.4.1: Energy Saving Feature or Modifications which has the Biggest Perceived Impact on Energy Bills by Home Ownership Status**

Modifications having Biggest Impact on Energy Bills	Owning/Buying HHs		Renting - Private HHs		Renting - Public HHs		Total HHs	
	2007	2001	2007	2001	2007	2001	2007	2001
Roof insulation	32%	47%	7%	18%	20%	19%	28%	44%
Special window treatments	9%	13%	7%	13%	9%	12%	8%	13%
Draught stoppers on doors	3%	6%	10%	19%	9%	18%	4%	7%
Special energy efficient light globes	20%	5%	44%	17%	41%	24%	24%	6%
Wall insulation	4%	4%	0%	3%	0%	3%	3%	4%
North facing aspect	3%	4%	0%	8%	0%	-	2%	4%
Deciduous shading plants	1%	1%	0%	2%	0%	-	1%	1%
Double glazed windows	1%	1%	0%	-	0%	-	1%	1%
Skylights	n/c	1%	n/c	-	n/c	-	n/c	1%
Fewer/smaller windows facing west	0%	*	0%	1%	0%	7%	0%	*
Ceiling fans	n/c	1%	n/c	-	n/c	4%	n/c	1%
External blinds/ roller shutters	9%	n/c	11%	n/c	10%	n/c	9%	n/c
Other Energy Saving Features	15%	14%	16%	18%	9%	9%	14%	14%
Can't say	4%	4%	5%	2%	2%	5%	4%	4%

Base: Total respondents naming an energy saving modification to their dwelling 2007 (n=1,389) and 2001 (n=1,082) survey

### **9.1.5 Actions Undertaken to Save Energy**

The predominant action taken by both non-concession and concession households in order to save on energy bills in 2007 was to turn lights off when they are not in use (74% and 67%, respectively). This is not a surprising outcome considering that most households believe this was a prime cause of energy wastage in their home. Non-concession households were more likely than concession households to choose energy efficient appliances to save on energy bills (16% compared with 9%).

In 2007, substantially more households reported taking shorter showers (27%) as an action taken to save on energy bills in comparison with 2001 (13%) and 1996 (10%). This is most likely the result of higher level water restrictions being applied across the State. In addition, there were increases in the proportion of households who: bought energy efficient light globes (29% in 2007, 10% in 2001); used heaters more efficiently (39% in 2007, 5% in 2001); and closed windows/ blinds/ drapes (28% in 2007, 3% in 2001). The increase in energy efficient light globes may be due to increased availability, lower cost, and media exposure as an energy saving tactic. The increase in efficient use of heaters could be related to greater education of the public, individual experiences of a warmer winter, or the increase in installation of insulation as reported previously in this report (Table 9.1.5.1).

**Table 9.1.5.1: Actions Taken to Save on Energy Bills by Sample Type**

Actions Undertaken to Save Energy	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Turn off lights when not in use	70%	61%	58%	64%	63%	59%	67%	63%	58%	74%	63%	63%	71%	63%	61%
Turn off appliances when not in use	39%	44%	5%	37%	44%	4%	38%	44%	5%	41%	38%	5%	40%	40%	5%
Close doors to unused rooms	38%	39	31%	37%	42%	38%	38%	41%	34%	34%	34%	33%	35%	36%	34%
Wear extra clothing	25%	30	17%	28%	26%	20%	27%	28%	18%	25%	24%	15%	26%	26%	16%
Have shorter showers	25%	12	10%	24%	14%	12%	25%	13%	11%	29%	12%	9%	27%	13%	10%
Choose energy efficient appliances	9%	8	3%	9%	10%	5%	9%	9%	4%	16%	13%	9%	13%	11%	7%
Buy energy efficient light globes	24%	7	6%	27%	9%	7%	25%	8%	7%	31%	11%	10%	29%	10%	9%
Use appropriate part of stove	10%	9	10%	8%	10%	6%	9%	9%	8%	11%	8%	8%	10%	8%	8%
Efficient use of heaters	40%	3	5%	37%	4%	5%	39%	3%	5%	40%	6%	8%	39%	5%	7%
Closing windows/blinds/drapes	27%	2	2%	23%	3%	5%	25%	2%	3%	30%	4%	6%	28%	3%	5%
Careful/sensible use of energy	n/c	3	3%	n/c	1%	3%	n/c	2%	3%	n/c	1%	2%	n/c	2%	2%
Water saving shower head - low flow rose or flow restrictor	16%	n/c	n/c	13%	n/c	n/c	15%	n/c	n/c	16%	n/c	n/c	16%	n/c	n/c
Wash clothes in cold water	18%	n/c	n/c	17%	n/c	n/c	18%	n/c	n/c	20%	n/c	n/c	19%	n/c	n/c
Fix dripping taps	16%	n/c	n/c	13%	n/c	n/c	14%	n/c	n/c	16%	n/c	n/c	15%	n/c	n/c
Open windows to let in cool breezes	14%	n/c	n/c	13%	n/c	n/c	13%	n/c	n/c	17%	n/c	n/c	15%	n/c	n/c
Use draught stoppers/'door snakes' to keep out draughts	11%	n/c	n/c	15%	n/c	n/c	13%	n/c	n/c	14%	n/c	n/c	13%	n/c	n/c
Other	10%	9	8%	10%	9%	9%	10%	9%	8%	17%	10%	10%	13%	10%	9%
None	7%	13	19%	6%	11%	17%	6%	12%	18%	3%	12%	15%	5%	12%	16%
Can't say	2%	2	2%	2%	2%	2%	2%	2%	2%	1%	2%	1%	1%	2%	1%

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2000) surveys.

### **9.1.6 Biggest Impact of Main Actions Undertaken to Save Energy**

Respondents were asked which of their energy saving actions had the biggest impact on energy bills. There was a greater spread of actions that were named than in previous surveys, which was partly due to the survey having more fixed choice options available for interviewers to code respondent answers. Turning the lights off when not in use was the most common action nominated in 2007 (18%), as it was in 2001 (26%) and 1996 (34%), despite its gradual decline over time.

Concession householders (10%) were more likely than non-concession householders (6%) to nominate closing doors to unused rooms as the action having the biggest impact on energy bills. There were no other notable differences between sample types (Table 9.1.6.1).

Unlike previous surveys, public rental households were less likely than other households to turn lights off when not in use (13% in 2007 compared with 31% in 2001 and 36% in 1996). In line with the dilution of actions reported due to additional response options, there were lower proportions nominated each action by home ownership status since 2001 (Table 9.1.6.2).

**Table 9.1.6.1: Biggest Impact of Main Action on Energy Bills by Sample Type**

Action with Biggest Impact on Energy Bills	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Turn off lights when not in use	19%	23%	33%	20%	28%	34%	19%	25%	33%	17%	27%	35%	18%	26%	34%
Close doors to unused rooms	8%	22%	22%	12%	28%	23%	10%	25%	25%	6%	21%	20%	7%	22%	24%
Turn off appliances when not in use	8%	15%	3%	9%	11%	2%	9%	13%	2%	9%	14%	3%	9%	14%	2%
Wear extra clothing	4%	15%	10%	5%	13%	11%	5%	14%	10%	4%	12%	6%	4%	12%	8%
Efficient use of heaters	19%	2%	4%	15%	2%	5%	17%	2%	5%	15%	5%	8%	16%	4%	7%
Have shorter showers	5%	2%	3%	4%	3%	5%	4%	3%	4%	5%	3%	3%	5%	3%	3%
Buy energy efficient light globes	5%	2%	3%	6%	2%	2%	5%	2%	2%	6%	2%	2%	5%	2%	2%
Choose energy efficient appliances	1%	1%	2%	1%	2%	1%	1%	2%	1%	3%	4%	3%	2%	3%	2%
Careful/sensible use of energy	n/c	3%	3%	n/c	1%	2%	n/c	2%	3%	n/c	1%	2%	n/c	1%	2%
Closing windows/blinds/drapes	5%	1%	*	3%	1%	1%	4%	1%	1%	7%	1%	3%	6%	1%	2%
Use appropriate part of stove	*	3%	4%	0%	-	*	0%	2%	2%	0%	1%	1%	-	1%	1%
Other	16%	7%	2%	18%	4%	4%	17%	6%	3%	22%	6%	6%	20%	6%	5%
Can't say	10%	7%	-	6%	6%	-	8%	6%	-	7%	4%	-	8%	5%	-

Base: Total respondents 2007 (n=1,923), 2001 (n=1,709) and 1996 (n=1,643) surveys who named a main action to avoid wasting energy.



Table 9.1.6.2: **Biggest Impact of Main Action on Energy Bills by Home Ownership Status**

Action with Biggest Impact on Energy Bills	Owning/Buying HHs			Renting - Private HHs			Renting - Public HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
	Turn off lights when not in use	17%	26%	34%	21%	22%	35%	13%	31%	36%	18%	26%
Close doors to unused rooms	7%	22%	22%	10%	23%	23%	6%	16%	19%	7%	22%	24%
Turn off appliances when not in use	8%	13%	2%	10%	17%	3%	13%	18%	3%	9%	14%	2%
Wear extra clothing	4%	11%	7%	7%	19%	10%	5%	13%	11%	4%	12%	8%
Efficient use of heaters	16%	4%	7%	14%	3%	7%	18%	1%	4%	16%	4%	7%
Have shorter showers	5%	3%	3%	5%	2%	5%	2%	3%	4%	5%	3%	3%
Buy energy efficient light globes	5%	2%	2%	6%	3%	1%	4%	3%	4%	5%	2%	2%
Choose energy efficient appliances	3%	4%	2%	*	*	1%	3%	1%	-	2%	3%	2%
Careful/sensible use of energy	n/c	1%	2%	n/c	1%	2%	n/c	3%	3%	n/c	1%	2%
Closing windows/blinds/drapes	6%	1%	2%	3%	1%	2%	4%	-	-	6%	1%	2%
Use appropriate part of stove	*	1%	1%	*	*	*	1%	2%	3%	-	1%	1%
Other	17%	6%	6%	13%	8%	3%	11%	1%	4%	20%	6%	5%
Can't say	6%	5%	5%	9%	3%	-	18%	8%	-	8%	5%	-

Base: Total respondents 2007 (n=1,923), 2001 (n=1,709) and 1996 (n=1,643) surveys who named a main action to avoid wasting energy.

### 9.1.7 Main Reasons for Making Energy Saving Improvements

In 2007, a new question was introduced to understand the motivation behind undertaking energy saving improvements or actions to reduce or save energy.

More than one-half of households who had made energy saving improvements did so to save money (53%), with one-quarter reporting doing so to reduce waste/energy (25%) and one-fifth to help the environment (20%). Concession households were more likely than non-concession households to cite saving money as the main reason for making energy saving improvements (61% compared with 49%), whereas non-concession households were more likely than concession households to nominate helping the environment (23% compared with 15%).

A greater proportion of country Victoria households nominated helping the environment being the main reason for undertaking energy saving improvements, in comparison with Melbourne households (26% compared with 17%).

**Table 9.1.7.1: Main Reasons for Making Energy Saving Improvements by Sample Type in 2007**

	Aged Concession HHs	Other Concession HHs	Total Concession	Non-Concession	Total
Save money	57%	64%	61%	49%	53%
Reduce waste/energy	23%	23%	23%	26%	25%
Improve comfort	12%	7%	10%	7%	8%
Help the environment	15%	15%	15%	23%	20%
Reduce greenhouse gas emissions	3%	7%	5%	10%	8%
Other	2%	3%	2%	2%	2%
Can't say	7%	6%	6%	7%	6%

Base: Total respondents undertaking energy savings improvements in 2007 (n=1,971)

Note: A substantial proportion of respondents nominated multiple reasons as the 'main' and could not decide which was the most important reason. Therefore, percentages do not sum to 100%

### 9.1.8 Energy Conservation Information Sources

Households were asked where energy conservation information could be obtained. The proportion who could name any information source (81%) returned to levels seen in 1996 (83%) after dropping slightly to 76% in 2001. Eleven percent were aware that a source was available, but could not name such a source, similar to the proportion in 2001 (13%). One's electricity supplier was again the most commonly cited energy conservation information source (37%), though the proportion has decreased from 2001 and 1996 (both 56%). The internet and/or websites increased dramatically in 2007, with almost one-third of households (31%) citing this source, compared with six percent in 2001 (this option was not featured on the 1996 survey). Gas suppliers were nominated by 26% of households, which was down from over 44% in 2001 and 41% in 1996. TV/radio (17%), magazines/newspaper articles (13%) and advertising (TV/radio/press - 11%) all increased substantially from the previous surveys (see Table 9.1.8.1).

The internet/websites were considerably more likely to be nominated by non-concession households (41%) than concession households (16%) as being a source of energy conservation information. This is not surprising as non-concession households would be more likely than concession households to have home internet access. Non-aged concession households were more likely than aged concession households to cite the internet/websites (25% compared with 7%), as aged concession households are less likely than non-aged concession households to have home internet access). Aged concession households were more likely than non-concession households to cite magazine/newspaper articles (17% compared with 9%).

One person households (73%) were less likely to be able to nominate an energy conservation information source than larger households. Furthermore, larger households had a higher proportion naming internet/websites as information sources (39%, four or more persons) compared with smaller households (18%, single person) (see Table 9.1.8.2).

In 2007, awareness of energy conservation sources was lower for public renters (69%) than private renters (74%) or owner/ buyers (83%), which was also the case in 2001 and 1996. Owners/buyers (15%) were more likely than renters to nominate Sustainability Victoria<sup>1</sup> as an energy conservation information source. Internet/websites were less likely to be nominated as an energy conservation information source by public renters (13%), in comparison to private renters (34%) and owners/buyers (31%) (see Table 9.1.8.3).

1. Sustainability Victoria, Energy Victoria and the Sustainable Energy or Authority of Victoria are the same agency under different names.

**Table 9.1.8.1: Unaided Awareness of Information Sources by Sample Type**

Energy Conservation Information Sources	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Electricity supplier	39%	48%	43%	36%	53%	54%	38%	53%	48%	37%	57%	61%	37%	56%	56%
Gas supplier	29%	36%	27%	26%	41%	40%	28%	38%	33%	25%	48%	47%	26%	44%	41%
Sustainability Victoria/Energy Victoria/ Sustainable Energy Authority of Victoria	8%	13%	4%	10%	11%	8%	9%	12%	6%	15%	16%	13%	13%	15%	10%
Local Council	15%	10%	*	13%	13%	1%	14%	11%	*	18%	12%	-	16%	12%	*
TV/radio programs	18%	6%	1%	18%	8%	4%	18%	7%	2%	17%	6%	3%	17%	6%	3%
Magazine/newspaper articles	17%	5%	3%	9%	6%	3%	13%	6%	3%	12%	4%	6%	13%	5%	5%
Advertising (TV/radio/press)	11%	6%	1%	11%	6%	3%	11%	6%	2%	11%	4%	4%	11%	5%	3%
Internet/web-sites	7%	1%	n/c	25%	4%	n/c	16%	2%	n/c	41%	9%	n/c	31%	6%	n/c
Word of mouth/advice from friends/family	6%	3%	5%	6%	3%	4%	6%	3%	5%	4%	3%	6%	5%	3%	5%
Other sources	5%	10%	19%	5%	5%	18%	5%	7%	18%	6%	9%	15%	6%	8%	16%
<b>Total aware of information source</b>	<b>71%</b>	<b>71%</b>	<b>74%</b>	<b>74%</b>	<b>72%</b>	<b>81%</b>	<b>72%</b>	<b>71%</b>	<b>77%</b>	<b>87%</b>	<b>79%</b>	<b>87%</b>	<b>81%</b>	<b>76%</b>	<b>83%</b>
No source available	10%	8%	26%	12%	8%	19%	11%	8%	23%	6%	6%	13%	8%	7%	17%
Information available, but don't know where	19%	21%	2%	14%	20%	1%	16%	21%	1%	7%	15%	1%	11%	17%	1%

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) surveys.

Note: Respondents could give more than one answer to this question.

**Table 9.1.8.2: Unaided Awareness of Information Sources by Household Size**

Energy Conservation Information Sources	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Electricity supplier	36%	52%	45%	36%	52%	58%	41%	56%	52%	38%	63%	62%	37%	56%	56%
Gas supplier	24%	35%	31%	26%	38%	43%	28%	50%	40%	26%	55%	47%	26%	44%	41%
Sustainability Victoria/Energy Victoria/ Sustainable Energy Authority of Victoria	10%	13%	7%	13%	14%	8%	14%	13%	8%	15%	17%	16%	13%	15%	10%
Local Council	15%	9%	-	17%	11%	*	16%	14%	*	16%	13%	*	16%	12%	*
TV/radio programs	17%	4%	2%	19%	6%	2%	19%	7%	5%	15%	7%	4%	17%	6%	3%
Magazine/newspaper articles	11%	5%	3%	16%	6%	5%	13%	5%	7%	9%	4%	5%	13%	5%	5%
Advertising (TV/radio/press)	11%	2%	2%	12%	6%	2%	14%	4%	3%	9%	6%	5%	11%	5%	3%
Internet/web-sites	18%	5%	n/c	31%	6%	n/c	35%	5%	n/c	39%	7%	n/c	31%	6%	n/c
Word of mouth/advice from friends/family	5%	4%	4%	5%	3%	6%	7%	2%	2%	4%	3%	5%	5%	3%	5%
Other sources	7%	7%	17%	7%	10%	16%	4%	8%	18%	6%	8%	15%	6%	8%	16%
<b>Total aware of information source</b>	<b>73%</b>	<b>72%</b>	<b>74%</b>	<b>81%</b>	<b>76%</b>	<b>84%</b>	<b>86%</b>	<b>73%</b>	<b>82%</b>	<b>83%</b>	<b>80%</b>	<b>88%</b>	<b>81%</b>	<b>76%</b>	<b>83%</b>
No source available	11%	8%	26%	9%	7%	16%	5%	8%	18%	7%	6%	12%	8%	7%	17%
Information available, but don't know where	16%	20%	-	10%	18%	-	9%	19%	*	10%	14%	*	11%	17%	1%

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) surveys.

Note: Respondents could give more than one answer to this question.

**Table 9.1.8.3: Unaided Awareness of Information Sources by Home Ownership Status**

Energy Conservation Information Sources	Owning/Buying HHs			Renting - Private HHs			Renting - Public HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Electricity supplier	40%	59%	58%	27%	40%	50%	36%	50%	39%	37%	56%	56%
Gas supplier	28%	48%	44%	20%	26%	38%	22%	39%	26%	26%	44%	41%
Sustainability Victoria/Energy Victoria/ Sustainable Energy Authority of Victoria	15%	16%	11%	9%	12%	7%	4%	10%	6%	13%	15%	10%
Local Council	17%	12%	*	13%	11%	1%	11%	9%	-	16%	12%	*
TV/radio programs	17%	6%	3%	17%	8%	3%	23%	5%	4%	17%	6%	3%
Magazine/newspaper articles	13%	5%	5%	10%	7%	4%	9%	5%	2%	13%	5%	5%
Advertising (TV/radio/press)	11%	5%	3%	10%	4%	2%	14%	2%	3%	11%	5%	3%
Internet/web-sites	31%	5%	n/c	34%	12%	n/c	13%	1%	n/c	31%	6%	n/c
Word of mouth/advice from friends/family	5%	3%	6%	6%	3%	5%	6%	2%	2%	5%	3%	5%
Other sources	7%	8%	15%	4%	9%	20%	7%	7%	14%	6%	8%	16%
<b>Total aware of information source</b>	<b>83%</b>	<b>78%</b>	<b>85%</b>	<b>74%</b>	<b>69%</b>	<b>80%</b>	<b>69%</b>	<b>64%</b>	<b>67%</b>	<b>81%</b>	<b>76%</b>	<b>83%</b>
No source available	7%	6%	15%	13%	7%	21%	16%	12%	33%	8%	7%	17%
Information available, but don't know where	10%	16%	-	13%	23%	-	15%	24%	1%	11%	17%	1%

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) surveys.

Note: Respondents could give more than one answer to this question.

## 9.2 Water Conservation

### 9.2.1 Perceived Causes of High Water Usage or Wastage

Residents were asked to indicate the things about their house, or the activities of the people in it, which cause high water usage. In 2007, 50% of households cited no causes of high water usage, which is considerably lower than in 2001 (35%). Due to higher level water restrictions, we consider that attitudes and behaviours changes relating to water saving, have become ingrained into Victorian society. As such, the increase in the proportion of respondents in 2007 who reported *no causes* of high water usage (now 50% of all households), may in effect be already undertaking restrained water usage behaviour that has now become the normal course of events in their everyday lives.

The most commonly nominated cause of water wastage was long showers or frequent baths named by 25% of households in 2007, 31% in 2001 and 29% in 1996. High washing machine usage was the next most common response (16%). High garden water usage (6%) was down considerably from 2001 (19%) most likely due to water restrictions.

A lower proportion of aged concession households named causes of high water usage in 2007 (68%), which was higher than in 2001 (55%), and on par with 1996 (72%). Non-concession households were more likely than concession households to indicate long showers or frequent baths as a perceived cause of high water usage (29% compared with 17%). Among concession households, non-aged concession households were considerably less likely than aged concession households to indicate long showers or frequent baths (28% compared with 8%) and high washing machine usage (18% compared with 10%) as being causes of high water usage (Table 9.1.2.1.1).

The proportion of owner/buyer households aware of causes of high water usage (47%) decreased from 2001 (62%) and 1996 (53%). Among owner/buyers, all perceived causes of high water usage were lower in 2007 than 2001; especially involving outdoor watering behaviours (e.g. high garden water usage, use of hose for cleaning) (see Table 9.1.2.1.2). Again, this could be indicative of the water restrictions that have been imposed in recent times.

Table 9.2.1.1 Perceived Cause of High Water Usage by Sample Type

Perceived Causes of High Water Usage	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Long showers/frequent baths	8%	12%	10%	28%	33%	34%	17%	22%	20%	29%	36%	35%	25%	31%	29%
High garden water usage	7%	16%	12%	3%	18%	8%	5%	17%	10%	7%	21%	15%	6%	19%	13%
High washing machine usage	10%	10%	4%	18%	17%	17%	14%	13%	9%	17%	18%	17%	16%	16%	14%
Dripping taps	2%	4%	2%	6%	12%	8%	4%	8%	5%	3%	8%	5%	3%	8%	5%
Single flush toilet	3%	6%	1%	3%	7%	2%	3%	7%	1%	4%	8%	3%	3%	7%	2%
Leaving tap running when brushing teeth	3%	2%	3%	4%	7%	5%	3%	4%	4%	2%	7%	8%	3%	6%	7%
Swimming pool/Spa	1%	1%	-	2%	4%	1%	1%	2%	*	1%	5%	3%	1%	4%	2%
High dishwasher usage	0%	*	*	2%	1%	3%	1%	1%	1%	2%	3%	2%	2%	2%	1%
Use of hose for cleaning	0%	1%	*	0%	2%	1%	0%	2%	1%	0%	4%	1%	0%	3%	1%
Landlord doesn't attend to repairs	1%	*	-	2%	2%	3%	1%	1%	1%	0%	*	1%	1%	1%	1%
Other	4%	3%	2%	11%	8%	5%	6%	6%	3%	11%	7%	4%	9%	6%	4%
None	68%	55%	72%	43%	32%	44%	56%	44%	60%	45%	30%	47%	50%	35%	47%
Can't say	5%	5%	3%	4%	4%	2%	5%	5%	3%	4%	3%	2%	4%	3%	2%

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys.



Table 9.2.1.2: Perceived Cause of High Water Usage by Home Ownership Status

Energy Conservation Information Sources	Owning/Buying HHs			Renting - Private HHs			Renting - Public HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
	Long showers/frequent baths	26%	31%	29%	21%	27%	32%	21%	32%	18%	25%	31%
High garden water usage	8%	21%	16%	2%	13%	6%	2%	7%	3%	6%	19%	13%
High washing machine usage	16%	16%	15%	17%	16%	16%	15%	19%	5%	16%	16%	14%
Dripping taps	3%	7%	4%	7%	13%	8%	4%	9%	8%	3%	8%	5%
Single flush toilet	3%	8%	2%	6%	6%	3%	1%	6%	1%	3%	7%	2%
Leaving tap running when brushing teeth	3%	6%	7%	3%	6%	6%	3%	5%	4%	3%	6%	7%
Swimming pool/Spa	2%	5%	2%	0%	1%	2%	0%	-	-	1%	4%	2%
High dishwasher usage	2%	2%	2%	0%	3%	1%	0%	-	1%	2%	2%	1%
Use of hose for cleaning	0%	3%	1%	1%	1%	-	0%	2%	1%	0%	3%	1%
Landlord doesn't attend to repairs	0%	-	-	3%	3%	2%	2%	5%	3%	1%	1%	1%
Other	8%	6%	4%	13%	8%	5%	9%	11%	5%	9%	6%	4%
None	49%	35%	46%	48%	38%	46%	56%	40%	63%	50%	35%	47%
Can't say	4%	3%	1%	4%	3%	2%	6%	5%	6%	4%	3%	2%

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys.

### **9.2.2 Activities Having the Biggest Impact on High Water Usage**

Households that named one or more causes of high water usage were asked to name which causes had the biggest impact on their water usage. Long showers or frequent baths remained the most common response (39%), up from 2001 (33%) and 1996 (26%). High washing machine usage was next (25%), up considerably from 2001 (14%). Conversely, high garden usage was down in 2007 (8%), compared to 2001 (23%) and 1996 (17%). Again, this result is likely to be due to imposed water restrictions that have been recently imposed (see Table 9.2.2.1).

Concession householders were more likely to report long showers or frequent baths as having the biggest impact on water usage, in comparison with non-concession householders (44% compared with 30%). Aged concession households were more likely than non-aged concession households to report high garden water usage as the main water waster (14% compared with 3%), whereas other concession households were more likely than aged concession households to report long showers or frequent baths (35% compared with 23%).

The proportion of home owners/buyers mentioning long showers or frequent baths (41%) has gradually increased from 1996 (26%). The reporting of high garden water usage among renters (both public and private) was negligible at 1% for both, with 10% of owners/buyers mentioning this. High washing machine usage was up from 2001 for both private renters and owner/buyers, while remaining constant for public renters (see Table 9.2.2.2).

Table 9.2.2.1 Biggest Impact on High Water Usage by Sample Type

Biggest Impact on Water Usage	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Long showers/frequent baths	23%	21%	17%	35%	33%	27%	44%	28%	24%	30%	36%	27%	39%	33%	26%
High garden water usage	14%	33%	38%	3%	16%	11%	9%	23%	21%	7%	23%	16%	8%	23%	17%
High washing machine usage	28%	15%	7%	27%	14%	20%	24%	15%	15%	28%	13%	16%	25%	14%	16%
Single flush toilet	7%	9%	2%	4%	7%	2%	3%	8%	2%	5%	5%	1%	4%	6%	2%
Dripping taps	2%	6%	3%	6%	6%	6%	1%	6%	5%	4%	5%	3%	2%	5%	4%
Swimming pool/Spa	3%	-	1%	3%	4%	-	1%	2%	*	3%	5%	3%	2%	4%	2%
Leaving tap running when brushing teeth	6%	2%	7%	3%	2%	2%	2%	2%	4%	4%	2%	5%	2%	2%	5%
Use of hose for cleaning	*	2%	1%	*	1%	-	*	1%	*	*	2%	1%	*	2%	1%
Landlord doesn't attend to repairs	1%	*	-	*	1%	2%	*	1%	1%	1%	*	*	*	1%	1%
High dishwasher usage	2%	1%	-	*	-	3%	1%	*	2%	1%	1%	1%	1%	1%	1%
Other	11%	7%	8%	16%	8%	4%	14%	7%	5%	15%	5%	6%	13%	6%	6%
Can't say	4%	5%	6%	1%	8%	9%	1%	7%	8%	2%	3%	6%	1%	4%	6%

Base: Total respondents 2007 (n=872), 2001 (n=1,140) and 1996 (n=976) Surveys who stated a cause of high water usage

**Table 9.2.2.2: Biggest Impact on High Water Usage by Home Ownership Status**

Biggest Impact on Water Usage	Owning/Buying HHs			Renting - Private HHs			Renting - Public HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Long showers/frequent baths	41%	34%	25%	31%	28%	26%	41%	35%	35%	39%	33%	26%
High garden water usage	10%	26%	21%	1%	16%	8%	1%	4%	4%	8%	23%	17%
High washing machine usage	26%	12%	15%	27%	17%	20%	21%	22%	12%	25%	14%	16%
Single flush toilet	3%	6%	1%	6%	5%	3%	2%	10%	-	4%	6%	2%
Dripping taps	2%	4%	3%	5%	11%	5%	5%	2%	12%	2%	5%	4%
Swimming pool/Spa	2%	5%	3%	1%	2%	2%	*	-	-	2%	4%	2%
Leaving tap running when brushing teeth	2%	2%	5%	2%	3%	4%	3%	-	4%	2%	2%	5%
Use of hose for cleaning	*	2%	1%	2%	1%	-	*	2%	2%	*	2%	1%
Landlord doesn't attend to repairs	*	-	-	2%	3%	2%	*	5%	4%	*	1%	1%
High dishwasher usage	1%	1%	2%	*	1%	2%	*	-	-	1%	1%	1%
Other	12%	5%	6%	21%	8%	6%	17%	12%	4%	13%	6%	6%
Can't say	1%	4%	6%	1%	6%	8%	9%	8%	9%	1%	4%	6%

Base: Total respondents 2007 (n=872), 2001 (n=1,140) and 1996 (n=976) Surveys who stated a cause of high water usage

### **9.2.3 Actions Undertaken to Conserve Water**

All respondents were asked what actions they had undertaken to conserve water in their households. The question was not designed to identify actions which were instigated by the respondent as a by-product of the water restrictions that have been introduced by the Victorian government.

In 2007 almost all households (94%) were taking action in order to conserve water, compared to 86% in 2001 and 75% in 1996. The three most common actions undertaken were having shorter showers (45%), installing dual flush toilets (37%) and collecting waste water from washing machines (37%) – all three showing vast increases from the previous years. Additionally, there were also substantial increases in respondents indicating no/little watering (33%, up from 7% in 2001). More than one third indicated that they used a bucket in the shower to collect water to use in the garden (34%).

Non-concession households were notably more likely than concession households to use a bucket in the shower to collect water to use in the garden (37% compared with 29%). Among concession households, aged concession households were more likely than other concession households to use mulch on the garden (20% compared with 9%), to install a rainwater tank for garden use (16% compared with 8%), and use a bucket in the shower to collect water to use in the garden (33% compared with 25%).

There was little deviation between the actions undertaken to conserve water by the size of the households, with all household sizes increasing the level of actions taken to conserve water from previous surveys.

Home owners/buyers and renters have all increased their water conservation actions compared with previous years. Public renters were markedly less likely than owners/buyers to undertake economical use of their washing machines (16% compared with 35%), while owners/buyers (40%) were more likely than renters (private and public both 26%) to collect waste water from washing machines (see Table 9.2.3.3).

Table 9.2.3.1 Actions Undertaken to Conserve Water by Sample Type

Actions Undertaken to Save Water	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Turn off dripping taps	19%	31%	14%	17%	34%	14%	18%	32%	14%	22%	28%	17%	20%	30%	16%
Have shorter showers	40%	24%	21%	41%	28%	25%	41%	26%	23%	48%	29%	20%	45%	28%	21%
Dual flush toilets	36%	20%	13%	32%	21%	18%	34%	20%	15%	39%	28%	23%	37%	25%	20%
Economical use of washing machine	28%	14%	5%	29%	20%	7%	28%	17%	6%	36%	21%	11%	33%	20%	9%
Mulch garden	20%	18%	n/c	9%	9%	n/c	15%	14%	n/c	18%	20%	n/c	17%	18%	n/c
Collect waste water from washing machine	40%	18%	15%	31%	11%	10%	35%	14%	13%	37%	11%	10%	37%	12%	11%
Wash car on lawn	3%	10%	6%	2%	10%	9%	2%	10%	7%	2%	12%	11%	2%	11%	9%
Sweep (not hose) driveway	7%	9%	5%	4%	10%	8%	6%	10%	7%	8%	9%	7%	7%	9%	7%
Water saving showers	16%	6%	4%	14%	7%	5%	15%	6%	4%	18%	8%	4%	16%	8%	4%
No/little watering	31%	7%	7%	28%	3%	8%	30%	5%	7%	36%	9%	11%	33%	7%	9%
Careful/sensible use for water	n/c	4%	5%	n/c	3%	4%	n/c	4%	5%	n/c	2%	3%	n/c	3%	4%
Timers on taps	n/c	2%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c	4%	n/c	n/c	3%	n/c
Minimal running of taps	n/c	1%	n/c	n/c	2%	n/c	n/c	1%	n/c	n/c	4%	n/c	n/c	3%	n/c
Economical use of dishwasher	1%	*	n/c	1%	1%	n/c	1%	1%	n/c	3%	3%	n/c	2%	2%	n/c
Brick in toilet cistern	1%	2%	1%	2%	2%	2%	1%	2%	2%	1%	1%	1%	1%	1%	1%
Water at time evaporation is low	n/c	-	n/c	n/c	-	n/c	n/c	-	n/c	n/c	1%	n/c	n/c	1%	n/c
Use bucket in shower to collect water for garden use	33%	n/c	n/c	25%	n/c	n/c	29%	n/c	n/c	37%	n/c	n/c	34%	n/c	n/c
Use water from bath for garden use	11%	n/c	n/c	12%	n/c	n/c	11%	n/c	n/c	14%	n/c	n/c	13%	n/c	n/c
Wash car at car wash	2%	n/c	n/c	4%	n/c	n/c	3%	n/c	n/c	6%	n/c	n/c	5%	n/c	n/c
Installed rainwater tank for garden use	16%	n/c	n/c	8%	n/c	n/c	12%	n/c	n/c	12%	n/c	n/c	12%	n/c	n/c
Installed rainwater tank connected to toilets	1%	n/c	n/c	0%	n/c	n/c	0%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c
Installed a grey water system	6%	n/c	n/c	5%	n/c	n/c	5%	n/c	n/c	6%	n/c	n/c	6%	n/c	n/c
Other actions	18%	12%	9%	21%	14%	10%	20%	13%	10%	25%	16%	9%	24%	16%	9%
None	4%	15%	25%	5%	19%	29%	4%	17%	32%	4%	12%	25%	4%	12%	25%
Can't say	2%	4%	*	3%	4%	*	3%	4%	1%	1%	2%	*	2%	2%	*

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys

Note: Respondents could give more than one answer to this question.

Table 9.2.3.2 Actions Undertaken to Conserve Water by Household Size

Actions Undertaken to Save Water	1 Person HH			2 Person HH			3 Person HH			4+ Person HH			Total HHS		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Turn off dripping taps	21%	29%	16%	21%	28%	16%	21%	31%	15%	18%	32%	17%	20%	30%	16%
Have shorter showers	44%	27%	20%	41%	26%	20%	47%	29%	21%	50%	29%	24%	45%	28%	21%
Dual flush toilets	37%	18%	15%	40%	24%	17%	40%	27%	23%	32%	31%	25%	37%	25%	20%
Economical use of washing machine	34%	18%	6%	33%	21%	9%	40%	15%	10%	28%	23%	10%	33%	20%	9%
Mulch garden	16%	12%	n/c	19%	19%	n/c	17%	15%	n/c	13%	20%	n/c	17%	18%	n/c
Collect waste water from washing machine	30%	14%	10%	41%	14%	12%	33%	11%	10%	37%	10%	11%	37%	12%	11%
Wash car on lawn	2%	6%	5%	2%	11%	8%	2%	13%	11%	2%	14%	12%	2%	11%	9%
Sweep (not hose) driveway	6%	5%	4%	6%	9%	6%	10%	12%	8%	6%	10%	10%	7%	9%	7%
Water saving showers	14%	3%	2%	16%	7%	5%	19%	11%	3%	17%	9%	6%	16%	8%	4%
No/little watering	32%	7%	6%	31%	7%	11%	36%	7%	10%	36%	6%	10%	33%	7%	9%
Careful/sensible use for water	n/c	6%	4%	n/c	2%	5%	n/c	3%	2%	n/c	1%	3%	n/c	3%	4%
Timers on taps	n/c	2%	n/c	n/c	3%	n/c	n/c	2%	n/c	n/c	4%	n/c	n/c	3%	n/c
Minimal running of taps	n/c	2%	n/c	n/c	2%	n/c	n/c	5%	n/c	n/c	3%	n/c	n/c	3%	n/c
Economical use of dishwasher	2%	1%	n/c	2%	2%	n/c	1%	1%	n/c	4%	5%	n/c	2%	2%	n/c
Brick in toilet cistern	1%	1%	1%	1%	2%	1%	2%	2%	1%	1%	1%	2%	1%	1%	1%
Water at time evaporation is low	n/c	-	n/c	n/c	*	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	1%	n/c
Use bucket in shower to collect water for garden use	30%	n/c	n/c	36%	n/c	n/c	35%	n/c	n/c	33%	n/c	n/c	34%	n/c	n/c
Use water from bath for garden use	9%	n/c	n/c	13%	n/c	n/c	13%	n/c	n/c	17%	n/c	n/c	13%	n/c	n/c
Wash car at car wash	5%	n/c	n/c	4%	n/c	n/c	6%	n/c	n/c	6%	n/c	n/c	5%	n/c	n/c
Installed rainwater tank for garden use	7%	n/c	n/c	17%	n/c	n/c	9%	n/c	n/c	11%	n/c	n/c	12%	n/c	n/c
Installed rainwater tank connected to toilets	0%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c
Installed a grey water system	4%	n/c	n/c	7%	n/c	n/c	3%	n/c	n/c	6%	n/c	n/c	6%	n/c	n/c
Other actions	19%	12%	10%	24%	14%	11%	26%	12%	9%	24%	19%	8%	24%	16%	9%
None	5%	18%	35%	4%	14%	29%	4%	13%	27%	3%	12%	22%	4%	12%	25%
Can't say	2%	3%	1%	2%	2%	*	1%	2%	1%	2%	3%	*	2%	2%	*

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys.

Note: Respondents could give more than one answer to this question.

Table 9.2.3.3 Actions Undertaken to Conserve Water by Home Ownership Status

Actions Undertaken to Save Water	Owning/Buying HHs			Renting - Private HHs			Renting - Public HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Turn off dripping taps	20%	30%	15%	21%	28%	18%	18%	31%	13%	20%	30%	16%
Have shorter showers	45%	27%	23%	45%	28%	23%	46%	29%	24%	45%	28%	21%
Dual flush toilets	38%	28%	22%	31%	14%	13%	38%	21%	18%	37%	25%	20%
Economical use of washing machine	35%	20%	9%	29%	18%	8%	16%	13%	8%	33%	20%	9%
Mulch garden	20%	21%	n/c	6%	8%	n/c	3%	-	n/c	17%	18%	n/c
Collect waste water from washing machine	40%	14%	13%	26%	7%	6%	26%	2%	6%	37%	12%	11%
Wash car on lawn	2%	13%	10%	2%	5%	8%	3%	3%	3%	2%	11%	9%
Sweep (not hose) driveway	8%	10%	8%	3%	5%	5%	3%	5%	3%	7%	9%	7%
Water saving showers	18%	8%	5%	11%	5%	2%	11%	4%	4%	16%	8%	4%
No/little watering	36%	7%	11%	27%	6%	4%	21%	3%	3%	33%	7%	9%
Careful/sensible use for water	n/c	3%	4%	n/c	3%	4%	n/c	4%	4%	n/c	3%	4%
Timers on taps	n/c	4%	n/c	n/c	1%	n/c	n/c	-	n/c	n/c	3%	n/c
Minimal running of taps	n/c	3%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	3%	n/c
Economical use of dishwasher	3%	3%	n/c	1%	1%	n/c	0%	-	n/c	2%	2%	n/c
Brick in toilet cistern	1%	3%	2%	2%	1%	*	0%	1%	1%	1%	1%	1%
Water at time evaporation is low	n/c	1%	n/c	n/c	1%	n/c	n/c	-	n/c	n/c	1%	n/c
Use bucket in shower to collect water for garden use	37%	n/c	n/c	24%	n/c	n/c	28%	n/c	n/c	34%	n/c	n/c
Use water from bath for garden use	14%	n/c	n/c	10%	n/c	n/c	12%	n/c	n/c	13%	n/c	n/c
Wash car at car wash	5%	n/c	n/c	5%	n/c	n/c	2%	n/c	n/c	5%	n/c	n/c
Installed rainwater tank for garden use	15%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c	12%	n/c	n/c
Installed rainwater tank connected to toilets	1%	n/c	n/c	0	n/c	n/c	0	n/c	n/c	1%	n/c	n/c
Installed a grey water system	6%	n/c	n/c	3%	n/c	n/c	4%	n/c	n/c	6%	n/c	n/c
Other actions	24%	15%	9%	22%	16%	9%	19%	13%	7%	24%	16%	9%
None	3%	11%	25%	7%	25%	34%	5%	23%	38%	4%	12%	25%
Can't say	2%	2%	*	1%	4%	-	1%	9%	1%	2%	2%	*

Base: Total respondents 2007 (n=2,061) 2001 (n=2,006) and 1996 (n=2,000) Surveys.

Note: Respondents could give more than one answer to this question.



#### **9.2.4 Biggest Impact on Water Conservation**

The most commonly named biggest impact on water conservation was having short/shorter showers (16% in 2007 and 2001; 18% in 1996). No/little watering of lawns/gardens (15%), collecting waste water from washing machines (14%) and economical use of washing machines (10%) were the next most commonly mentioned impacts in 2007. From 2001, there was a sharp decline in the impact of turning off dripping taps as the main water conservation activity (13% to 2% in 2007) along with mulching gardens (7% to 1% in 2007) and installing dual flush toilets (11% to 6% in 2007). Impacts not previously measured, including the use of buckets in showers to collect water for gardens (8%) and the installation of rainwater tanks for garden use (7%) were both regarded as having a marked impact on water conservation.

Whilst differences by sub-group were minimal, the proportion of non-concession households naming dual flush toilets continues to decline (18% in 1996, 11% in 2001 and 5% in 2007).

**Table 9.2.4.1: Biggest Impact on Water Conservation by Sample Type**

Action having Biggest Impact on Water Consumption	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Have short(er) showers	12%	15%	19%	17%	17%	23%	14%	16%	21%	17%	16%	17%	16%	16%	18%
Turn off dripping taps	2%	16%	11%	4%	16%	11%	3%	16%	11%	2%	11%	11%	2%	13%	11%
Economical use of washing machine	8%	5%	3%	10%	11%	6%	9%	8%	4%	10%	13%	8%	10%	11%	6%
Dual flush toilets	7%	10%	10%	5%	10%	13%	6%	10%	11%	5%	11%	18%	6%	11%	15%
Collect waste water from washing machine etc.	17%	10%	12%	12%	8%	8%	15%	9%	10%	13%	6%	7%	14%	7%	8%
Mulch garden	2%	8%	n/c	0%	1%	n/c	1%	5%	n/c	1%	8%	n/c	1%	7%	n/c
No/little watering of lawns/gardens	13%	6%	6%	13%	1%	8%	13%	3%	7%	16%	5%	10%	15%	4%	9%
Wash car on lawn	0%	4%	2%	0%	6%	3%	0%	5%	2%	0%	3%	5%	0%	4%	4%
Sweep (not hose) driveway	0%	3%	3%	0%	3%	3%	0%	3%	3%	0%	2%	2%	0%	2%	2%
Water saving showers	1%	3%	2%	3%	2%	3%	2%	2%	3%	2%	3%	2%	2%	3%	2%
Careful/sensible usage of water	n/c	4%	6%	n/c	2%	6%	n/c	3%	6%	n/c	2%	4%	n/c	2%	5%
Timers on taps/sprinklers	n/c	2%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c	2%	n/c
Brick in toilet cistern	1%	1%	1%	0%	1%	1%	1%	1%	1%	0%	*	1%	0%	1%	1%
Minimal running of taps	n/c	1%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	2%	n/c	n/c	2%	n/c
Economical use of dishwasher		*	n/c	0%	1%	n/c	0%	1%	n/c	1%	1%	n/c	0%	1%	n/c
Water at times when evaporation is low	n/c	-	n/c	n/c	-	n/c	n/c	-	n/c	n/c	*	n/c	n/c	*	n/c
Use bucket in shower to collect water for garden use	7%	n/c	n/c	6%	n/c	n/c	7%	n/c	n/c	8%	n/c	n/c	8%	n/c	n/c
Use water from bath for garden use	2%	n/c	n/c	3%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c
Wash car at car wash	0%	n/c	n/c	2%	n/c	n/c	1%	n/c	n/c	0%	n/c	n/c	1%	n/c	n/c
Installed rainwater tank for garden use	9%	n/c	n/c	5%	n/c	n/c	7%	n/c	n/c	6%	n/c	n/c	7%	n/c	n/c
Installed rainwater tank connected to toilets	0%	n/c	n/c	0%	n/c	n/c	0%	n/c	n/c	0%	n/c	n/c	0%	n/c	n/c
Installed a grey water system	2%	n/c	n/c	1%	n/c	n/c	1%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c
Other	8%	5%	9%	10%	10%	4%	9%	7%	7%	6%	8%	5%	7%	8%	6%
Can't say	8%	8%	8%	5%	11%	6%	6%	9%	7%	5%	7%	6%	6%	8%	6%

Base: Total respondents 2007 (n=1,923), 2001 (n=1,632) and 1996 (1,430) Surveys who had taken action to save water

### **9.2.5 Water Conservation Information Sources**

Eighty-six percent of households could name at least one information source in relation to water conservation, up from 82% in 2001. The higher figures for total awareness of information sources in 1996 are misleading, as these figures exclude those who could not give an answer to the question and are therefore higher than they should be.

The most commonly named water conservation information source was still water suppliers, named by 59% of households, although was down from the proportions in 2001 (70%) and 1996 (73%). The greatest increase in awareness from the previous surveys was the internet or websites which was identified by more than one-quarter of respondents (27%) as a source of water conservation information. This is likely due to the increase in accessibility of the internet and greater use of this communication tool by government departments. Other sources that showed marked increases since 2001 included TV/radio programs (from 7% to 15%), advertising (TV/radio/press – from 7% to 14%) and magazine or newspaper articles (from 5% to 11%), most likely as a result of the promotion of water saving practices as part of the current levels of water restrictions.

Non-concession households were markedly more likely to name at least one information source in relation to water conservation (90%) compared with concession households (80%). Non-concession households were also substantially more likely than concession households to report the internet or websites as a water conservation information source (37% compared with 11%). Aged concession households were less likely to name the internet or websites than non-aged concession households (5% compared with 18%), not surprisingly, as they are less likely to have access to the internet than other groups.

One person households (79%) and public renters (74%) had the lowest incidence of naming water conservation information sources in reference to their respective comparison groups.

Table 9.2.5.1: Unaided Awareness of Information Sources by Sample Type

Water Conservation Awareness Sources	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Water supplier	62%	66%	61%	52%	68%	72%	57%	67%	66%	60%	72%	78%	59%	70%	73%
Local council	11%	10%	3%	11%	13%	3%	11%	11%	3%	13%	13%	2%	12%	12%	2%
TV/radio programs	17%	5%	2%	16%	6%	5%	17%	5%	3%	13%	8%	4%	15%	7%	4%
Advertising (TV/radio/press)	15%	5%	2%	14%	7%	3%	14%	6%	3%	13%	7%	5%	14%	7%	4%
Magazine/newspaper articles	13%	4%	4%	10%	4%	4%	11%	4%	4%	11%	5%	5%	11%	5%	4%
Word of mouth/advice from friends/family	7%	2%	2%	5%	1%	2%	6%	2%	2%	4%	3%	2%	5%	3%	2%
Internet/web-sites	5%	-	n/c	18%	3%	n/c	11%	1%	n/c	37%	6%	n/c	27%	4%	n/c
Plumber/plumbing supplier	2%	1%	-	2%	1%	1%	2%	2%	*	3%	1%	1%	2%	1%	1%
Common sense	2%	n/c	n/c	2%	n/c	n/c	2%	n/c	n/c	0%	n/c	n/c	1%	n/c	n/c
Other	1%	5%	2%	2%	4%	2%	2%	5%	2%	4%	6%	5%	3%	5%	3%
<b>Total aware of information source</b>	<b>81%</b>	<b>76%</b>	<b>91%</b>	<b>79%</b>	<b>79%</b>	<b>92%</b>	<b>80%</b>	<b>77%</b>	<b>91%</b>	<b>90%</b>	<b>85%</b>	<b>96%</b>	<b>86%</b>	<b>82%</b>	<b>94%</b>
Not aware of any sources	9%	13%	9%	11%	12%	8%	10%	12%	9%	7%	9%	4%	8%	10%	6%
Can't say	10%	11%	-	10%	10%	-	10%	11%	-	3%	6%	-	6%	8%	-

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys.

Note: Respondents could give more than one answer to this question.

### 9.2.6 Renewable Energy

In recent times the use of renewable energy has become more prominent in Australia. To address the levels of awareness and utilisation of renewable energy, additional questions were added in the 2007 survey.

Almost three-quarters of households were aware that you can purchase electricity from renewable energy sources such as wind, solar and hydro (72%), with non-concession households having greater levels of awareness than concession households (79% compared with 61%). Home owners/buyers were notably more likely to be aware of renewable energy sources (74%) than private renters (65%) and public renters (55%). Geelong households had the lowest levels of awareness of all regions (69%), with Bendigo the highest (78%).

One-fifth of households claimed to purchase energy for their homes that came from a renewable energy source, such as Green Power (21%). More than one-quarter of non-concession households reported purchasing renewable energy (26%), whereas just 12% of aged concession households did so. Incidence of claimed renewable energy purchase was lowest in Ballarat (16%) and Geelong (17%) and highest in Shepparton (24%).

**Table 9.1.3: Awareness and Use of Renewable Energy by Sample Type**

Aware that one can buy electricity from renewable energy sources	Aged Concession HHs	Other Concession HHs	Total Concession HHs	Non-concession HHs	Total HHs
Yes	62%	61%	61%	79%	72%
No	33%	36%	35%	19%	26%
Can't say	5%	3%	4%	2%	3%
Claimed Purchase of some energy from renewable sources (e.g. Green Power)					
Yes	12%	18%	15%	26%	21%
No	70%	64%	67%	63%	65%
Can't say	17%	16%	17%	11%	13%
Don't understand the question	1%	1%	1%	*	1%

Base: Total respondents 2007 (n=2,061)

---

## **10 COUNCIL RATES AND EXPENDITURE**

NB. This section is based on billing data supplied by energy suppliers and linked to respondent survey data.

### **10.1 BILLING FOR COUNCIL RATES AND ASSOCIATED CONCESSIONS**

#### **10.1.1 Incidence of Being Billed for Council Rates**

In 2007, 77% of all households received Council rate bills, a proportion similar to that observed in 2001 (80%). Data for Council rates was not collected in the 1996 survey (see **Table 10.2.1**).

The proportion of households paying Council bills in 2007 was virtually identical in country Victoria and Melbourne (77% compared with 78%) - a trend that was also observed in 2001 (81% compared with 80%). However, incidence rates have fallen over the past six years in Bendigo (from 86% to 72%) and to a lesser extent in Geelong (from 75% to 70%). Nine in ten households in LPG areas paid Council rates (90%).

A greater proportion of non-concession households paid Council rates than concession households in 2007 (83% compared with 70%) as was the case in 2001. However, aged concession households, being predominantly home owners, had high proportions paying Council bills (2007 - 85%; 2001 - 88%). Not surprisingly, only 52% of other concession households paid Council rates in 2007 (58% in 2001), because of the high incidence of renters amongst this concession group.

Almost all 2007 council rates bills were paid in full (96%), with only rental households varying from the overall average (public - 57%, private 65%). The incidence of paying Council rate by instalment was 61%. However, this figure includes households that prefer to pay their council rates on a quarterly basis, rather than the full amount upon receipt of the first bill for the year. This is not technically defined as an instalment, as an instalment means that a set amount is paid at a set time for a set time period. Respondents to the survey were asked to exclude quarterly payments to Councils as instalments (but appeared to ignore the request), but Councils themselves did not do so when providing billing data.

Based on the *timing* of council bill payment, just 6% of council rate payers actually paid by instalment. The table below shows the incidence of paying by instalment as sourced from Councils themselves. Please note that data on payment by instalment and full payment of rate bills was not collected in 2001.

**Table 10.1.1a: Incidence of Council Rate Bills being Paid in Full**

<b>Council Rate Bill Paid in Full (of those paying council rates)</b>			
<b>By Region -</b>		<b>By Household Size -</b>	
Melbourne	96%	1 person	98%
Ballarat	97%	2 persons	98%
Bendigo	98%	3 persons	98%
Geelong	96%	4 or more persons	92%
Shepparton	92%	<b>By Housing Status -</b>	
LPG Areas	98%		
Country VIC	97%		
<b>By Sample Type -</b>		Owned/paid off 98%	
Aged Concession HHs	98%	Buying/paying off	94%
Other Concession HHs	95%	Renting – Private <sup>12</sup>	65%
Total Concession HHs	97%	Renting - Public <sup>12</sup>	57%
Non-Concession HHs	96%	<b>Total Households</b>	<b>96%</b>

**Table 10.1.1b: Incidence of Council Rate Bills Paid in Compulsory Instalments**

<b>Rate Bill Paid in Compulsory Instalments(of those paying council rates)</b>			
<b>By Region -</b>		<b>By Household Size -</b>	
Melbourne	56%	1 person	60%
Ballarat	60%	2 persons	58%
Bendigo	53%	3 persons	57%
Geelong	97%	4 or more persons	66%
Shepparton	50%	<b>By Housing Status -</b>	
LPG Areas	61%		
Country VIC	70%		
<b>By Sample Type -</b>		Owned/paid off 58%	
Aged Concession HHs	60%	Buying/paying off	66%
Other Concession HHs	61%	Renting - Private <sup>12</sup>	55%
Total Concession HHs	61%	Renting - Public <sup>12</sup>	57%
Non-Concession HHs	61%	<b>Total Households</b>	<b>61%</b>

1. Caution: Small sample size.

2. Whilst unlikely, some landlords may pass on their council rates bill to renters to pay. It is more likely that the respondent mis-interpreted the question.

Just six respondents were recorded as being on a hardship programme for their Council rate payments, representing 4,000 Victorian households.

### **10.1.2 Incidence of Receiving a DHS Concession on Council Rates**

Of those paying Council rates bills in 2007, 31% received a DHS concession on their rates bill (29% in 2001) (see **Table 10.2.2**). While 20% of Shepparton households received the DHS concession in 2007, 55% did so in LPG areas.

Three quarters of concession card holders paying Council rates received concessions in both 2007 and 2001 (77% and 75% respectively), with nine in ten aged concession households doing so (2007 – 91%; 2001 - 89%). Just over half of other concession households that paid Council bills received a DHS concession (2006-6 – 51%; 2001 - 53%), which is not surprising, as not all would be eligible for such a concession (i.e. only pensioner concession card holders and war widow and TPI Gold card holders are eligible, while Centrelink Health Care card holders are ineligible).

As was the case in 2001, the incidence of receiving concessions on Council rates bills decreased with household size in 2007. One-half of one person households paying Council bills received a concession (2007 - 50%; 2001; 51%), whilst only one in ten of households of four or more persons did so (2007 – 11%; 2001 – 10%). Four in ten households that owned or had paid off their house received a concession on their rates bill (2007 – 44%; 2001 - 40%), compared with just one in ten of those who were currently paying off their house (2007 – 11%; 2001 – 10%).



## 10.2 COUNCIL RATE CHARGES

**Table 10.2.1** shows the average yearly rate bill amount paid by households. Council rates averaged \$948<sup>1</sup> in 2007, a rise of 45.4%<sup>2</sup> on the 2001 amount (\$652). This increase would appear to be over and above the inflation rate experienced over this 6 year period, but more closely matches the increase in home property prices over the same period (69.9%).

Growth in council rate bills over the last 6 years had increased by 80.9% amongst Bendigo<sup>3</sup> ratepayers (from \$528 to \$955) and by 74.4% for Geelong ratepayers (from \$497 to 867). Council rate bill amounts had also increased markedly for aged concession households (54.7% - from \$486 to \$752), whilst the lowest proportional increase occurred amongst other concession ratepayers (35.0% - from \$572 to \$772).

For 2007, Council rate fees have been segmented by charge and discount type. Around one in ten households have their annual municipal rates charge calculated using the Net Asset Value (NAV) of the property (9%), exclusively used in Melbourne. Nine in ten households have their annual municipal rates charge calculated using the Capital Improved Value (CIV) of the property (91%). The average NAV estimate of a property in Victoria in 2007 was \$25,628, while the average CIV estimate was \$327,110. Not surprisingly, the highest average CIV value occurred amongst Melbourne properties (\$373,080), while the lowest occurred for households located in LPG areas (\$207,400). Both NAV and CIV values tended to be lower for other concession households (\$13,931 and \$261,160 respectively).

The average annual municipal rates charge allocated to properties in 2007 was \$863, compared with \$600 in 2001, an increase of 43.8%, a figure comparable to the overall Council rate bill growth rate (45.4%). The proportional increase in the average annual municipal rate charge was highest amongst Bendigo households (74.1 %, from \$495 to \$862) and lowest amongst Ballarat households (29.3%, from \$604 to \$781). The proportional increase was also relatively low amongst other concession households (28.8% from \$552 to \$711).

1. Refers to the actual bill paid by households, including any concessions or discounts applied.

2. The Victorian Grants Commission (VGC) estimates a rate rise of 34% over the same period.

3. The VGC estimates Bendigo rates (excluding waste charges) in 2001-2 to be \$657 and \$877 in 2006-7 – a rise of 33.4%, rather than the 80.9% reported. Whilst the growth in the waste management charge from billing data over this period was 142% (see table 10.2.1), it would appear that further investigation on rates growth should be investigated.

Eight in ten rate paying households were levied a waste management charge in 2007 (80%). Virtually all households in country Victoria had this charge imposed, but only 70% of Melbourne households did so. The average amount levied for waste management was \$145, up from \$96 in 2001, a growth rate of 51.0%. The highest proportional increases in this levy were observed amongst Bendigo, Geelong and Shepparton households (141.7%, 85.1% and 73.9% respectively).

For 2007, one-quarter of rate paying households had a special product charge imposed (25%). All ratepayers were levied this special product charge in Geelong. The average amount for the charge in 2007 was \$68 compared with \$57 in 2001 (an increase of 19.3%). In Geelong this special product charge amount increased from \$26 in 2001 to \$68 in 2007 (161.5% growth).

One in seven rate paying households in 2007 were levied other charges (14%). These charges are likely to have been an additional green waste collection charge, retrospective debits or reversal of rebates. The average amount charged was \$79.

The average DHS concession amount received by eligible households in 2001 was \$135. In 2007 this amount increased to \$168, an increase of 24.4%, which was lower than the average annual municipal rate increase of 43.8%. This means that households receiving concessions on their council rates bill in 2007 were proportionally worse off than was the case in 2001.

One in ten households paying Council rates also received other discounts off their 2007 rates bill (9%), with the proportion being particularly high in Shepparton and LPG areas (25% and 21% respectively). This discount was primarily an early payment discount if a ratepayer paid their rates bill in full on receipt of the first bill. In addition, some councils provide a full or partial waiver on rates for customers experiencing hardship, which would also be included in this discount category. The average discount applicable in 2007 was \$61.

**Table 10.2.1: Council Rate Charges for 2007 and 2001**

Sub-group	% Paying Council Rates		Valuation Method Used 2007		Valuation Amount 2007 (\$)		Annual Municipal Rates Charge (\$)		Waste Management Charge			Special Product Charge			Other Charges 2007	
	2007	2001	NAV	CIV	NAV	CIV	2007	2001	2007		2001	2007		2001	2007	
	n=2,061	n=2,006	n=1,579	n=1,579	n=138	n=1,436	n=1,574	n=1,545	%	\$	\$	%	\$	\$	%	\$
<b>By Region -</b>																
Melbourne	78%	80%	13%	87%	25,628	373,080	915	631	70%	129	98	19%	56	61	18%	53
Ballarat	81%	85%	-	100%	-	226,490	781	604	100%	125	82	-	-	-	-	-
Bendigo	72%	86%	-	100%	-	242,100	862	495	100%	145	60	-	-	75	-	-
Geelong	70%	75%	-	100%	-	275,200	677	427	100%	174	94	100%	68	26	6%	220
Shepparton	73%	76%	-	98%	-	240,960	860	543	98%	200	115	-	-	55	10%	51
LPG Areas	90%	n/a	-	100%	-	207,400	701	n/a	100%	212	n/a	23%	166	n/a	7%	512
Country VIC	77%	81%	-	100%	-	241,500	750	520	100%	170	94	37%	82	53	4%	298
<b>By Sample Type -</b>																
Aged Concession HHs	85%	88%	8%	92%	19,351	284,640	773	520	78%	150	94	27%	67	54	14%	48
Other Concession HHs	52%	58%	10%	90%	13,931	261,160	711	552	80%	147	99	28%	73	53	18%	112
Total Concession HHs	70%	73%	9%	91%	17,237	276,390	751	532	79%	149	96	27%	69	54	15%	75
Non-Concession HHs	83%	84%	9%	91%	30,483	356,420	927	636	80%	143	97	23%	68	59	13%	81
<b>By Household Size -</b>																
1 person	67%	74%	11%	89%	19,605	282,740	748	500	79%	146	99	28%	69	54	12%	45
2 persons	79%	81%	9%	91%	34,024	328,840	849	612	80%	145	96	24%	71	54	11%	61
3 persons	76%	77%	9%	91%	20,606	337,020	885	596	81%	153	97	21%	71	59	13%	146
4 or more persons	83%	84%	7%	93%	21,626	345,070	935	647	80%	141	95	27%	64	61	17%	81
<b>By Housing Status -</b>																
Owned/paid off	100%	100%	9%	91%	20,956	333,370	873	601	79%	150	98	24%	67	55	15%	57
Buying/paying off	99%	100%	8%	91%	34,616	318,750	850	601	82%	138	93	26%	70	60	12%	122
Renting – Private <sup>1</sup>	2%	2%	19%	56%	16,050	150,290	577	450	56%	167	97	29%	100	52	-	-
Renting – Public <sup>1</sup>	1%	*	-	57%	-	200,000	732	391	57%	145	105	-	-	-	-	-
<b>Total Households</b>	<b>77%</b>	<b>80%</b>	<b>9%</b>	<b>91%</b>	<b>25,628</b>	<b>327,110</b>	<b>863</b>	<b>600</b>	<b>80%</b>	<b>145</b>	<b>96</b>	<b>25%</b>	<b>68</b>	<b>57</b>	<b>14%</b>	<b>79</b>

1. Caution: Small sample size.

Table 10.2.2: Council Rate Concessions, Other Discounts and Annual Bill Amount for 2007 and 2001

Sub-group	DHS Concession				Other Discounts		Total Rates Amount		% Growth Since 2001
	%		\$		2007		(excl. GST) (\$)		
	2007 n=1,579	2001 n=1,545	2007 n=627	2001 n=576	% n=1,579	\$ n=178	2007 n=1,574	2001 n=1,545	
<b>By Region -</b>									
Melbourne	28%	24%	168	136	10%	50	973	681	42.9%
Ballarat	35%	43%	168	135	1%	164	846	627	34.9%
Bendigo	31%	43%	168	135	-	-	955	528	80.9%
Geelong	36%	37%	168	134	2%	279	867	497	74.4%
Shepparton	20%	37%	168	135	25%	136	996	662	50.5%
LPG Areas	55%	n/a	168	n/a	21%	43	887	n/a	n/a
Country VIC	38%	40%	168	135	8%	90	893	581	53.7%
<b>By Sample Type -</b>									
Aged Concession HHs	91%	89%	168	136	20%	45	752	486	54.7%
Other Concession HHs	51%	53%	168	135	11%	96	772	572	35.0%
Total Concession HHs	77%	75%	168	136	17%	57	759	519	46.2%
Non-Concession HHs	5%	4%	167	129	5%	68	1,057	724	46.0%
<b>By Household Size -</b>									
1 person	50%	51%	168	135	13%	63	796	525	51.6%
2 persons	43%	37%	168	135	13%	45	910	649	40.2%
3 persons	23%	22%	166	132	6%	93	998	660	51.2%
4 or more persons	11%	10%	168	138	4%	93	1,057	727	45.4%
<b>By Housing Status -</b>									
Owned/paid off	44%	40%	168	136	13%	53	935	637	46.8%
Buying/paying off	11%	10%	168	132	4%	108	973	681	42.9%
Renting – Private <sup>1</sup>	-	38%	-	135	-	-	741	486	52.5%
Renting - Public <sup>1</sup>	57%	-	168	-	-	-	709	496	42.9%
<b>Total Households</b>	<b>31%</b>	<b>29%</b>	<b>168</b>	<b>135</b>	<b>9%</b>	<b>61</b>	<b>948</b>	<b>652</b>	<b>45.4%</b>

1. Caution: Small sample size.

2. Whilst the person who pays the bills for the household may not hold a concession card, another person in the household may do so

---

## **11 KNOWLEDGE AND TAKE UP OF CONCESSIONS**

NB. This section is based on respondent survey data.

### **11.1 AWARENESS OF CONCESSION AVAILABILITY ON UTILITIES AND COUNCIL RATES AND ASSOCIATED SOURCES**

#### **11.1.1 Awareness of Concession Availability on Utilities and Council Rates**

Awareness of concession availability to people holding concession cards on their gas, electricity and water bills and council rates has remained relatively constant since 1996, with awareness lowest for concessions on council rates (77%) and around 90% for other bill types.

Awareness of concessions for electricity bills was greater for concession households (95%) than non-concession households (89%) in 2007. Conversely, non-concession households were considerably more likely to be aware of concessions available for concession card holders for council rates payments (81% compared with 72%). This was due to the relatively low awareness of this type of concession by other concession holders (58%), who are (a) less likely to be home owners (and therefore less likely to pay council rates) and (b) more likely to be Health Care Card holders, who are not eligible to receive this concession (see Table 11.1.1.1).

Awareness levels for concessions on utility bills has risen in Melbourne and Shepparton since 2001, while falling in Ballarat. Awareness of council rate concessions has fallen considerably in Bendigo (93% to 83% in 2007) and Ballarat (88% in 2001 to 77% in 2007), but was still higher than any other region (see Table 11.1.1.2).

Awareness levels for concessions on utility bills has continued to increase for public rental households, particularly in relation to water bills (81% in 2007 up from 67% in 2001 and 51% in 1996). Private renters also displayed an increase in awareness levels for concessions on water bills (81% in 2007, 72% in 2001, and 70% in 1996). Awareness levels for concessions on all utilities were relatively stable for respondents owning or buying their homes (between 90% and 91% for all utilities). Awareness levels of concessions on council rates remained relatively unchanged in 2007 compared with 2001 by home ownership status (Public renters - 33% in 2007, 31% in 2001; Private renters – 47% in 2007, 52% in 2001; Home owner/buyers – 87% in 2007, 86% in 2001) (see Table 11.1.1.3).

---

**Table 11.1.1.1: Awareness of concessions availability on utilities and council rates and Sample Type**

Awareness of concessions available to concession card holders	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
For payment of gas bills	91%	94%	88%	90%	93%	86%	90%	93%	87%	88%	85%	89%	89%	88%	88%
For payment of electricity bills	96%	95%	96%	94%	94%	93%	95%	95%	95%	89%	86%	90%	91%	89%	92%
For payment of water bills	90%	92%	87%	88%	85%	75%	89%	89%	81%	88%	83%	86%	88%	85%	84%
For payment of council rates	84%	87%	n/c	58%	68%	n/c	72%	78%	n/c	81%	78%	n/c	77%	78%	n/c

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys.

**Table 11.1.1.2: Awareness of concessions availability on utilities and council rates and Region**

Awareness of concessions available to concession card holders	For Payment of Gas Bills			For Payment of Electricity Bills			For Payment of Water Bills			For Payment of Council Rates		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Ballarat	90%	95%	95%	90%	95%	96%	88%	94%	86%	77%	88%	n/c
Bendigo	93%	96%	92%	94%	99%	95%	92%	96%	80%	83%	93%	n/c
Geelong	93%	91%	92%	95%	94%	94%	90%	90%	94%	78%	79%	n/c
Shepparton	94%	86%	89%	95%	90%	92%	92%	84%	86%	77%	75%	n/c
LPG Areas	72%	n/a	n/a	89%	n/a	n/a	85%	n/a	n/a	80%	n/a	n/a
<i>Total VIC Country</i>	<b>88%</b>	<b>92%</b>	<b>92%</b>	<b>93%</b>	<b>94%</b>	<b>94%</b>	<b>89%</b>	<b>91%</b>	<b>86%</b>	<b>79%</b>	<b>93%</b>	<b>n/c</b>
Melbourne	89%	86%	87%	91%	87%	91%	88%	83%	83%	76%	76%	n/c
<b>Total</b>	<b>89%</b>	<b>88%</b>	<b>88%</b>	<b>91%</b>	<b>89%</b>	<b>92%</b>	<b>88%</b>	<b>85%</b>	<b>84%</b>	<b>77%</b>	<b>78%</b>	n/c

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) Surveys

**Table 11.1.1.3: Awareness of concessions availability on utilities and council rates by household size and ownership status, 2007**

Awareness of concessions available to concession card holders	1 person	2 person	3 person	4+ person	Owner/ buyer	Private Renter	Public Renter
For payment of gas bills	90%	88%	86%	91%	90%	86%	91%
For payment of electricity bills	93%	91%	89%	92%	91%	91%	93%
For payment of water bills	86%	89%	86%	91%	90%	82%	81%
For payment of council rates	75%	79%	78%	76%	87%	47%	33%

Base: Total respondents 2007 (n=2,061)

### 11.1.2 Awareness sources on Concessions for Utilities and Council Rates

Of the households aware that DHS concessions were available to concession card households for payment of utility and council rate bills, almost one-half claimed that they were made aware of this via information provided with their bill as an information leaflet or as text on concession eligibility on the back of the bill (48% for gas, electricity and water concessions, 45% for council rates). The proportions citing this source were similar to those reported in 1996, and up slightly from 2001. The three next most common DHS concession awareness sources were friends and family (14%-15% for each bill type), Centrelink (17%-19% for each bill type) and seeing it on the bill (i.e. seeing the concession amount on the bill - 12%-13% for each bill type). In 2007, there was approximately 7-8 point reduction in citing friends and family from the previous surveys for all utilities and council rates (see Table 11.1.2.1).

When results were analysed by sample type similar trends were evident across all bill types. As would be expected, far fewer non-concession households obtained information on DHS concessions from Centrelink compared with concession households (approximately 10% and 32% respectively across all bill types). Conversely, far greater proportions of non-concession households than concession households obtained this information by seeing it on the bill (approximately 16% and 8% respectively across all bill types) or from friends and family (approximately 18% and 9% respectively).

Awareness of sources of DHS concessions on bills was analysed by region for each utility bill type and council rates (see Tables 11.1.2.2 to 11.1.2.5). Respondents in Ballarat and Melbourne were more likely than other regions to cite ‘seeing it on the bill’ as the information source for DHS concession awareness across all bills (approximately 18% and 16% respectively). Respondents from Bendigo and Geelong were more likely to nominate the information with the bill as the source for DHS concession awareness (57%-60% and 55%-58% respectively), whereas almost three-in-ten LGA region respondents nominated Centrelink (25%-31%). Over time, respondents in Geelong, Shepparton and Bendigo show increases in the proportions nominating that information came with the bill as the information source for DHS concession awareness across all bills. Conversely, Geelong and Shepparton respondents showed declines in citing family and friends and Centrelink as the information source. Melbourne respondents experienced a decrease in reporting family and friends as the information source for DHS concession awareness over time.

**Table 11.1.2.1: Awareness of sources on concessions on bills and Sample Type**

Awareness sources for concessions	For Payment of Gas Bills			For Payment of Electricity Bills			For Payment of Water Bills			For Payment of Council Rates		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Information came with bill	48%	42%	50%	48%	42%	50%	48%	42%	49%	45%	40%	n/c
Friends/family	15%	22%	21%	14%	21%	21%	15%	21%	21%	15%	23%	n/c
Centrelink	19%	20%	19%	19%	21%	20%	18%	20%	19%	17%	18%	n/c
Saw it on bill	13%	10%	n/c	13%	10%	n/c	13%	11%	n/c	12%	10%	n/c
Dept. Human Services	1%	1%	n/c	1%	1%	n/c	1%	1%	n/c	1%	1%	n/c
Dept. Veterans Affairs	2%	3%	2%	2%	3%	3%	2%	3%	3%	2%	3%	n/c
Asked supplier	1%	1%	1%	1%	1%	1%	1%	1%	-	1%	1%	n/c
Internet	1%	*	n/c	*	*	n/c	*	-	n/c	1%	-	n/c
Other source	5%	4%	7%	5%	4%	7%	5%	4%	8%	5%	4%	n/c
Can't say/recall	5%	5%	7%	4%	4%	4%	5%	5%	4%	7%	7%	n/c

Base: Total respondents 2007, 2001 and 1996 Surveys who are aware of concessions on gas/electricity/water and council rate bills



**Table 11.1.2.2: Awareness of sources on concessions on Gas Bills by Region**

Awareness sources concessions on gas bills	Ballarat			Bendigo			Geelong			Shepparton			LPG Areas		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Information came with bill	40%	36%	56%	60%	46%	54%	58%	44%	35%	52%	41%	43%	46%	n/c	n/c
Friends/family	19%	16%	23%	10%	10%	40%	16%	23%	27%	17%	20%	15%	13%	n/c	n/c
Centrelink	22%	19%	17%	19%	30%	16%	12%	28%	24%	14%	22%	27%	29%	n/c	n/c
Saw it on bill	18%	21%	n/c	3%	6%	n/c	2%	4%	n/c	5%	3%	n/c	3%	n/c	n/c
Dept. Human Services	1%	1%	n/c		1%	n/c	1%	3%	n/c	*	4%	n/c	1%	n/c	n/c
Dept. Veterans Affairs	2%	1%	3%	3%	4%	1%	*	6%	1%	2%	5%	4%	1%	n/c	n/c
Asked supplier	2%	2%	3%	4%	1%	5%	3%	1%	1%	1%	*	-	3%	n/c	n/c
Internet	*	-	n/c	*	-	n/c	*	-	n/c	*	*	n/c	1%	n/c	n/c
Other source	2%	4%	5%	6%	5%	8%	6%	2%	4%	2%	5%	7%	6%	n/c	n/c
can't say/recall	1%	n/c	n/c	4%	n/c	n/c	4%	n/c	n/c	14%	n/c	n/c	1%	n/c	n/c

Awareness sources concessions on gas bills	Total VIC Country			Melbourne			Total		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Information came with bill	52%	42%	47%	45%	42%	51%	48%	42%	51%
Friends/family	15%	18%	26%	15%	23%	19%	15%	21%	21%
Centrelink	18%	25%	21%	19%	19%	19%	19%	20%	19%
Saw it on bill	6%	9%	n/c	16%	11%	n/c	13%	10%	n/c
Dept. Human Services	1%	2%	n/c	1%	1%	n/c	1%	1%	n/c
Dept. Veterans Affairs	1%	4%	2%	2%	2%	2%	2%	3%	2%
Asked supplier	3%	1%	2%	1%	1%	1%	1%	1%	1%
Internet	*	*	n/c	1%	-	n/c	1%	*	n/c
Other source	5%	4%	6%	6%	4%	8%	5%	4%	7%
can't say/recall	4%			5%			5%		

Base: Total respondents 2007 (n=1,825), 2001(n=1,781) and 1996 (n=1,767) Surveys who are aware of concessions on gas bills

**Table 11.1.2.3: Awareness of sources on concessions on Electricity Bills by Region**

Awareness sources concessions on electricity bills	Ballarat			Bendigo			Geelong			Shepparton			LPG Areas		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Information came with bill	40%	37%	56%	60%	47%	54%	58%	43%	36%	50%	38%	45%	45%	n/c	n/c
Friends/family	19%	14%	22%	9%	10%	39%	13%	23%	27%	17%	18%	15%	11%	n/c	n/c
Centrelink	22%	19%	18%	20%	30%	16%	14%	28%	24%	16%	21%	28%	31%	n/c	n/c
Saw it on bill	18%	21%	n/c	3%	5%	n/c	2%	4%	n/c	4%	4%	n/c	4%	n/c	n/c
Dept. Human Services	1%	1%	n/c	*	1%	n/c	1%	2%	n/c	*	4%	n/c	1%	n/c	n/c
Dept. Veterans Affairs	2%	4%	4%	3%	3%	2%	*	5%	2%	2%	5%	5%	2%	n/c	n/c
Asked supplier	2%	2%	3%	4%	1%	5%	3%	1%	1%	1%	1%	-	2%	n/c	n/c
Internet	*	-	n/c	*	-	n/c	*	-	n/c	*	1%	n/c	1%	n/c	n/c
Other source	*	4%	5%	1%	5%	6%	6%	3%	4%	*	3%	6%	4%	n/c	n/c
can't say/recall	1%	n/c	n/c	4%	n/c	n/c	4%	n/c	n/c	14%	n/c	n/c	3%	n/c	n/c

Awareness sources concessions on electricity bills	Total VIC Country			Melbourne			Total		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Information came with bill	52%	41%	48%	46%	43%	51%	48%	42%	50%
Friends/family	14%	17%	26%	14%	22%	18%	14%	21%	21%
Centrelink	20%	25%	21%	19%	19%	19%	19%	21%	20%
Saw it on bill	6%	9%	n/c	16%	12%	n/c	13%	10%	n/c
Dept. Human Services	1%	2%	n/c	1%	1%	n/c	1%	1%	n/c
Dept. Veterans Affairs	1%	5%	3%	2%	3%	2%	2%	3%	3%
Asked supplier	3%	1%	2%	1%	1%	1%	1%	1%	1%
Internet	*	*	n/c	1%	-	n/c	*	*	n/c
Other source	4%	4%	5%	6%	4%	7%	5%	4%	7%
can't say/recall	4%	n/c	n/c	5%	n/c	n/c	4%	n/c	n/c

Base: Total respondents 2007 (n=1,890), 2001 (n=1,806) and 1996 (n=1,849) Surveys who are aware of concessions on electricity bills

**Table 11.1.2.4: Awareness of sources on concessions on Water Bills by Region**

Awareness sources concessions on water bills	Ballarat			Bendigo			Geelong			Shepparton			LPG Areas		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Information came with bill	39%	35%	50%	59%	43%	47%	55%	43%	34%	50%	37%	46%	50%	n/c	n/c
Friends/family	19%	14%	24%	10%	11%	41%	15%	23%	26%	16%	23%	14%	10%	n/c	n/c
Centrelink	21%	18%	18%	19%	32%	15%	11%	25%	24%	15%	21%	26%	28%	n/c	n/c
Saw it on bill	18%	22%	n/c	3%	6%	n/c	1%	4%	n/c	4%	4%	n/c	4%	n/c	n/c
Dept. Human Services	1%	1%	n/c	*	-	n/c	1%	2%	n/c	*	4%	n/c	1%	n/c	n/c
Dept. Veterans Affairs	2%	4%	4%	3%	4%	2%	*	6%	2%	2%	6%	5%	2%	n/c	n/c
Asked supplier	2%	3%	-	4%	1%	-	1%	3%	-	1%	-	-	3%	n/c	n/c
Internet	*	-	n/c	*	-	n/c	*	-	n/c	*	-	n/c	1%	n/c	n/c
Other source	3%	3%	-	4%	5%	-	7%	3%	-	2%	3%	-	4%	n/c	n/c
can't say/recall	2%	n/c	n/c	5%	n/c	n/c	10%	n/c	n/c	14%	n/c	n/c	1%	n/c	n/c

Awareness sources concessions on water bills	Total VIC Country			Melbourne			Total		
	2007	2001	1996	2007	2001	1996	2007	2001	1996
Information came with bill	51%	40%	44%	46%	43%	51%	48%	42%	49%
Friends/family	14%	18%	26%	15%	23%	19%	15%	21%	21%
Centrelink	18%	24%	21%	19%	19%	18%	18%	20%	19%
Saw it on bill	6%	9%	n/c	16%	11%	n/c	13%	11%	n/c
Dept. Human Services	1%	2%	n/c	1%	1%	n/c	1%	1%	n/c
Dept. Veterans Affairs	1%	5%	3%	2%	3%	2%	2%	3%	3%
Asked supplier	2%	2%	-	1%	1%	-	1%	1%	-
Internet	*	-	n/c	1%	-	n/c	*	-	n/c
Other source	4%	4%	-	5%	4%	-	5%	4%	-
can't say/recall	6%	n/c	n/c	5%	n/c	n/c	5%	n/c	n/c

Base: Total respondents 2007 (n=1,816), 2001 (n=1,699) and 1996 (n=1,685) Surveys who are aware of concessions on water bills.

**Table 11.1.2.5: Awareness of sources on concessions on Council Rates by Region**

Awareness sources concessions on council rates	Ballarat		Bendigo		Geelong		Shepparton		LPG Areas		Total VIC Country		Melbourne		Total	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
Information came with bill	35%	36%	57%	41%	55%	37%	44%	36%	47%	n/c	49%	37%	43%	42%	45%	40%
Friends/family	19%	16%	13%	11%	14%	23%	15%	21%	11%	n/c	14%	18%	15%	25%	15%	23%
Centrelink	22%	16%	19%	30%	10%	24%	14%	18%	25%	n/c	17%	22%	17%	17%	17%	18%
Saw it on bill	19%	25%	3%	3%	2%	6%	5%	4%	6%	n/c	6%	10%	14%	9%	12%	10%
Dept. Human Services	1%	1%	*	-	*	3%	*	3%	1%	n/c	1%	2%	1%	1%	1%	1%
Dept. Veterans Affairs	2%	1%	2%	4%	1%	8%	2%	6%	2%	n/c	2%	4%	2%	3%	2%	3%
Asked supplier	2%	2%	3%	2%	1%	-	*	1%	3%	n/c	2%	1%	1%	1%	1%	1%
Internet	*	-	*	-	*	-	*	-	1%	n/c	*	-	1%	-	1%	-
Other source	2%	2%	2%	5%	8%	4%	2%	4%	3%	n/c	4%	4%	5%	4%	5%	4%
can't say/recall	4%	n/c	7%	n/c	9%	n/c	18%	n/c	2%	n/c	7%	n/c	7%	n/c	7%	n/c

Base: Total respondents 2007 (n=1,583) and 2001 (n=1,553) Surveys who are aware of concessions on council rates.

## **11.2 REPORTED INCIDENCE OF CLAIMING CONCESSIONS**

Reported incidence of claiming concessions for utility bills has not varied much since 1996. One third of households claimed concessions on gas bills (34% in 2007; 32% in 2001; 33% in 1996), electricity bills (38%; 35%; 38%) and water bills (34%; 31%; 30%).

More than a quarter of households claimed they receive concessions on their Council rate bills in 2007 (28%), up from 23% in 2001. However, this result should be considered in the light that not all households pay Council rates. Furthermore, not all concession card holders are eligible for DHS concessions on their Council rates (i.e. only pensioner concession card holders and war widow and TPI Gold card holders are eligible), which would also explain the lower proportion of concession card holders claiming DHS concessions on their Council rates.

Interestingly, the proportions claiming to receive DHS concessions (across all three utility bill types) in Ballarat and Bendigo fell to levels similar to those observed in 1996, from peaks of around 50% in 2001 (perhaps a special concession was applicable in these provincial cities in 2001). All other sub-groups remained relatively stable over time in relation to the proportion of households claiming to receive concessions, with the exception of Shepparton households, which appear to be experiencing a decline in the proportions claiming to receive each type of concession over time (see **Table 11.2.1 for more detail**).

Please note that whilst other members of the household may hold concessions cards, these persons were not defined as being the person responsible for payment of the household bills. Therefore in some instances a Non-concession household may in fact receive concessions on some bills because another member in their household may hold a concession card.

Table 11.2.1: Reported Incidence of Claiming Concessions by Year

Sub-group	For Gas			For Electricity			For Water			For Council rates	
	2007 n=2,060	2001 n=2,006	1996 n=2,000	2007 n=2,060	2001 n=2,006	1996 n=2,000	2007 n=2,060	2001 n=2,006	1996 n=2,000	2007 n=2,060	2001 n=2,006
<b>By Region -</b>											
Melbourne	33%	27%	30%	35%	30%	35%	31%	26%	28%	25%	19%
Ballarat	39%	55%	37%	39%	55%	40%	37%	53%	29%	39%	41%
Bendigo	38%	51%	35%	39%	56%	39%	34%	49%	27%	28%	36%
Geelong	40%	36%	41%	41%	40%	45%	35%	37%	41%	30%	27%
Shepparton	31%	42%	48%	33%	46%	52%	29%	40%	46%	19%	32%
LPG Areas	33%	n/c	n/c	58%	n/c	n/c	55%	n/c	n/c	47%	n/c
<b>By Sample Type -</b>											
Aged Concession HHs	82%	83%	78%	90%	91%	91%	83%	83%	78%	76%	76%
Other Concession HHs	73%	77%	73%	83%	82%	82%	71%	69%	57%	36%	39%
Total Concession HHs	78%	80%	76%	86%	87%	87%	77%	77%	69%	57%	58%
Non-Concession HHs	4%	3%	3%	4%	3%	3%	4%	3%	3%	7%	2%
<b>By Household Size -</b>											
1 person	44%	50%	46%	49%	50%	61%	40%	47%	43%	35%	38%
2 persons	40%	36%	38%	44%	36%	42%	41%	36%	35%	34%	29%
3 persons	24%	26%	30%	28%	26%	32%	25%	24%	27%	23%	18%
4 or more persons	24%	20%	22%	26%	20%	22%	24%	19%	19%	16%	9%
<b>By Housing Status -</b>											
Owned/buying	32%	30%	31%	35%	30%	33%	34%	32%	32%	35%	29%
Renting - Private	32%	30%	32%	38%	30%	39%	27%	21%	20%	1%	1%
Renting - Public	73%	73%	52%	83%	73%	72%	60%	50%	29%	1%	-
<b>Total Households</b>	<b>34%</b>	<b>32%</b>	<b>33%</b>	<b>38%</b>	<b>35%</b>	<b>38%</b>	<b>34%</b>	<b>31%</b>	<b>30%</b>	<b>28%</b>	<b>23%</b>

Whilst the time periods are at most one year apart, analysis by those claiming to receive concessions in 2007 by those that actually did receive a concession on their bill in 2006 (for gas electricity and water bills) and 2007 (for council rate bills) has been undertaken. Only 58% of those claiming to receive a concession on their gas bill actually did so in 2006, while 9% of those believing they did not receive a concession on their gas bill in fact did so in 2006. Discrepancies are even wider for electricity and water bills, with Council rate bills being most in line with what actually occurred in 2007.

It should also be noted that for energy and water bills, a household can be entitled to a DHS concession on one or more of the bills they pay within a 12 month period and not be entitled to a DHS concession on the rest of the bills they pay in the same period. In terms of billing data, a respondent receiving a DHS concession on just one bill in a 12 month period would be classified as receiving a DHS concession. Therefore, it is possible that significant discrepancies can occur when comparing respondent survey information with supplier provided billing information. However, while a household can gain or lose entitlements to concessions over a 12 month period, the amount of discrepancy evident in Table 11.2.2 below clearly shows that a large proportion of households do not actually know whether they receive DHS concessions on their bills or not.

**Table 11.2.2: Comparison of Claimed DHS Concession Receipt with Actual DHS Concession Receipt**

Bill payers 2006 or 2007 <sup>1</sup>	Gas bill payers 2007 n=1,735		Electricity bill payers 2007 n=2,060		Water bill payers 2007 n=1897		Council rate bill payers 2007 n=1,579	
	Claimed Received Concession	Claimed Did not receive Concession	Claimed Received Concession	Claimed Did not receive Concession	Claimed Received Concession	Claimed Did not receive Concession	Claimed Received Concession	Claimed Did not receive Concession
Received concession	58%	9%	78%	13%	82%	20%	76%	5%
Did not receive concession	42%	91%	22%	87%	18%	80%	24%	95%

1 For energy and water bills 2006. For council rate bills 2007

---

### **11.3 PERCEIVED EFFECT OF CLAIMING CONCESSIONS ON CONSUMPTION**

In the 2001 survey a new question was introduced, asking those who claim concessions on their utility bills whether people's energy or water consumption had changed as a result of being able to claim such concessions.

The perceived effect of claiming a gas concession on consumption appears relatively small. In 2007, three quarters of households claimed that their gas consumption stayed the same even with being able to claim a concession on their bill (77%). Four percent claimed that their gas consumption had increased, but only slightly, while one in ten indicated that their gas consumption had decreased slightly as a result of receiving a concession. Since 2001, the proportions of respondents claiming increases in gas consumption have diminished markedly (from 11% to 4%), while the proportions claiming decreases in gas consumption slightly increased (from 8% to 11%). Overall decreases in gas consumption were claimed by greater proportions in Melbourne, Ballarat and in LPG Areas. Ninety-four percent of Bendigo respondents and 87% of Geelong respondents indicated their gas consumption had stayed the same, despite claiming the concession (see Table 11.3.1).

Five percent of households claiming electricity concessions in 2007 indicated that their electricity consumption had increased as a result of receiving a concession on their energy bill, down from 13% in 2001. There was a slight increase in the proportion of respondents indicating that their electricity consumption had fallen due to the concession obtained (11%, up from 8%). Greater proportions of households in Ballarat and Melbourne stated that their electricity consumption had decreased as a result of receiving billing concessions (see Table 11.3.2).

A similar trend was observed for those obtaining a concession on their water bill as was observed for gas and electricity in 2007. No Geelong respondents indicated an increase in water consumption as a result of receiving concessions. In 2001, Bendigo households were more likely to indicate either increases (15%) or decreases (11%) in their water consumption (70% no change); however in 2007 the vast majority reported no change (93%) (see Table 11.3.3).



Decreases in utility consumption as a result of receiving concessions are now more likely than increases. This is a reversal of the trend seen in 2001. Respondents in general could now be more accountable and responsible for their energy and water consumption, and as such take action to conserve these resources. The actions to conserve energy and water may have been encouraged by various state government campaigns. Alternatively, the concessions that are provided may not be sufficient to make a significant impact on their own financial circumstances to warrant increasing their consumption (and as a result their bill). Almost all respondents claiming concessions were from concession households (95%), who would be less financially robust and more inclined to make modifications to reduce their payments. In the case of water consumption, the implemented and enforced water restrictions reducing consumption may outweigh the potential enticement from concessions being made available to increase consumption. However, this does not explain the trend for energy consumption (i.e. gas and electricity).

**Table 11.3.1: Perceived Effect of claiming concession on Gas Consumption by Region**

Effect on Gas Consumption of Claiming a Concession	Ballarat		Bendigo		Geelong		Shepparton		LPG Areas		Total VIC Country		Melbourne		Total	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
Increased greatly	1%	6%	*	1%	*	4%	*	-	*	n/c	*	3%	1%	1%	1%	2%
Increased slightly	3%	9%	1%	12%	*	6%	7%	9%	3%	n/c	2%	9%	4%	10%	4%	10%
<b>TOTAL INCREASED</b>	<b>4%</b>	<b>15%</b>	<b>1%</b>	<b>13%</b>	<b>*</b>	<b>10%</b>	<b>7%</b>	<b>9%</b>	<b>3%</b>	<b>n/c</b>	<b>2%</b>	<b>12%</b>	<b>5%</b>	<b>11%</b>	<b>4%</b>	<b>11%</b>
Stayed same	74%	77%	94%	76%	87%	74%	79%	72%	78%	n/c	84%	75%	74%	76%	77%	76%
Decreased slightly	9%	6%	3%	6%	4%	4%	9%	-	11%	n/c	7%	4%	11%	9%	10%	7%
Decreased greatly	4%	-	*	-	*	3%	*	-	2%	n/c	1%	1%	2%	*	2%	*
<b>TOTAL DECREASED</b>	<b>13%</b>	<b>6%</b>	<b>3%</b>	<b>6%</b>	<b>4%</b>	<b>7%</b>	<b>9%</b>	<b>-</b>	<b>12%</b>	<b>n/c</b>	<b>8%</b>	<b>5%</b>	<b>13%</b>	<b>10%</b>	<b>11%</b>	<b>8%</b>
Can't say	9%	2%	1%	5%	9%	9%	5%	19%	6%	n/c	7%	8%	8%	3%	7%	5%

Base: Total respondents 2007 (n=841) and 2001 (n=834) who claim gas concessions.

**Table 11.3.2: Perceived Effect of claiming concession on Electricity Consumption by Region**

Effect on Electricity Consumption of Claiming a Concession	Ballarat		Bendigo		Geelong		Shepparton		LPG Areas		Total VIC Country		Melbourne		Total	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
Increased greatly	3%	7%	*	-	*	4%	*	-	*	n/c	*	3%	1%	2%	1%	2%
Increased slightly	2%	8%	1%	16%	*	7%	7%	10%	3%	n/c	2%	10%	5%	11%	4%	10%
<b>TOTAL INCREASED</b>	<b>5%</b>	<b>15%</b>	<b>1%</b>	<b>16%</b>	<b>*</b>	<b>11%</b>	<b>7%</b>	<b>10%</b>	<b>3%</b>	<b>n/c</b>	<b>2%</b>	<b>13%</b>	<b>6%</b>	<b>12%</b>	<b>5%</b>	<b>13%</b>
Stayed same	72%	76%	94%	74%	87%	75%	78%	71%	78%	n/c	83%	75%	73%	75%	76%	75%
Decreased slightly	11%	6%	3%	7%	4%	4%	8%	2%	8%	n/c	7%	5%	12%	9%	10%	7%
Decreased greatly	4%	-	*	-	*	2%	2%	-	1%	n/c	1%	1%	2%	1%	2%	1%
<b>TOTAL DECREASED</b>	<b>15%</b>	<b>6%</b>	<b>3%</b>	<b>7%</b>	<b>4%</b>	<b>6%</b>	<b>10%</b>	<b>2%</b>	<b>9%</b>	<b>n/c</b>	<b>7%</b>	<b>5%</b>	<b>14%</b>	<b>9%</b>	<b>11%</b>	<b>8%</b>
Can't say	9%	2%	1%	4%	9%	8%	6%	18%	10%	n/c	8%	8%	8%	3%	8%	5%

Base: Total respondents 2007 (n=951) and 2001 (n=908) who claim electricity concessions

**Table 11.3.3: Perceived Effect of claiming concession on Water Consumption by Region**

Effect on Water Consumption of Claiming a Concession	Ballarat		Bendigo		Geelong		Shepparton		LPG Areas		Total VIC Country		Melbourne		Total	
	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001
Increased greatly	1%	3%	*	3%	*	4%	*	-	*	n/c	*	3%	1%	1%	1%	2%
Increased slightly	2%	8%	2%	13%	*	9%	7%	7%	2%	n/c	2%	9%	4%	9%	3%	9%
<b>TOTAL INCREASED</b>	<b>3%</b>	<b>11%</b>	<b>2%</b>	<b>15%</b>	<b>*</b>	<b>13%</b>	<b>7%</b>	<b>7%</b>	<b>2%</b>	<b>n/c</b>	<b>2%</b>	<b>12%</b>	<b>5%</b>	<b>10%</b>	<b>4%</b>	<b>11%</b>
Stayed same	73%	79%	93%	70%	88%	69%	76%	75%	79%	n/c	83%	74%	72%	77%	76%	76%
Decreased slightly	11%	6%	4%	11%	5%	4%	9%	2%	9%	n/c	8%	6%	12%	9%	11%	7%
Decreased greatly	3%	-	*	-	*	4%	2%	-	1%	n/c	1%	1%	3%	1%	2%	1%
<b>TOTAL DECREASED</b>	<b>15%</b>	<b>6%</b>	<b>4%</b>	<b>11%</b>	<b>5%</b>	<b>8%</b>	<b>11%</b>	<b>2%</b>	<b>10%</b>	<b>n/c</b>	<b>8%</b>	<b>7%</b>	<b>15%</b>	<b>9%</b>	<b>13%</b>	<b>8%</b>
Can't say	3%	4%	1%	4%	7%	9%	5%	16%	9%	n/c	7%	8%	8%	4%	7%	5%

Base: Total respondents 2007 (n=842) and 2001 (n=776) who claim water concessions.

## **12 BILL PAYING**

NB. This section is based on respondent survey data.

### **12.1 PROMPTNESS OF BILL PAYMENT**

In 2007, approximately two-thirds of households reported paying their utilities bills and council rates by the due date, with around one-in-eight paying bills as soon as they arrived (Table 12.1). Between 6% and 10% of all households indicated that they paid utilities bills and council rates by instalment, with similar proportions reporting paying these bills automatically via direct debit. The introduction of these new payment options most likely contributed to the reduction in households (from previous surveys) claiming they paid their bills before due date or as soon as they arrived. In comparison to previous years, smaller proportions of households paid their bills when they received a reminder letter, possibly due to pre-arranged instalment payments becoming a payment option.

In 2007, concession households were more likely to pay their utilities bills as agreed by instalment or as soon as they arrive, in comparison with non-concession households. Conversely, non-concession households were more likely to pay their bills by the due date. Among concession households, non-aged concession households were more likely to pay their bills by pre-arranged instalments than aged concession households, while aged concession households were more likely to pay bills as they arrive.

Between 6% and 8% of other concession cardholders paid their utilities bills or council rates when they received a reminder letter, which was marginally higher than non-concession households (3% to 5%).

Table 12.1: Promptness of Paying Utilities Bills and Council Rates 2001 and 1996

Promptness of bill payment	For Payment of Gas Bills			For Payment of Electricity Bills			For Payment of Water Bills			For Payment of Council Rates		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
	n=1944	n=1854	n=1832	n=2060	n=2006	n=1999	n=1897	n=1817	n=1791	n=1587	n=1545	n/c
As agreed by instalment	9%	n/c	n/c	10%	n/c	n/c	6%	n/c	n/c	6%	n/c	n/c
Automatically via direct debit	9%	n/c	n/c	9%	n/c	n/c	7%	n/c	n/c	4%	n/c	n/c
As soon as they arrive	13%	18%	21%	13%	18%	22%	13%	18%	19%	14%	16%	n/c
By the due date	64%	73%	68%	63%	73%	67%	68%	74%	70%	74%	79%	n/c
On reminder letter	4%	7%	9%	5%	7%	9%	4%	7%	7%	3%	3%	n/c
On disconnection warning	*	*	1%	1%	*	1%	*	*	1%	n/c	n/c	n/c
On legal action notification	-	-	n/c	-	-	n/c	-	-	n/c	*	*	n/c
Can't say/not used	-	2%	1%	*	2%	1%	-	2%	3%	-	2%	n/c

Base: Total respondents 2007, 2001 and 1996 surveys that have electricity/gas/water/rates bill.

\* Less than 0.5% response

## **12.2 HOW BILLS ARE PAID**

### **12.2.1 Means of Bill Payment**

#### **12.2.1.1 Means of Electricity Payment**

In 2007, just under one-third (32%) of households usually paid their electricity bills in cash with 28% by electronic funds transfer, 21% paying by credit/debit card and 11% by direct debit. The proportion of households paying by cash continued to decline, down from 60% in 1996 and 41% in 2001. Additionally, just 7% paid by cheque, which is considerably lower than 28% recorded in 1996. Electronic funds transfer and direct debit continue to become more common methods of payment over time (see Chart 12.2.1.1).

Cash was the preferred means of payment for electricity bills across Melbourne, LPG regions and country Victoria, with the exception being Ballarat, where electronic funds transfer was the most preferred means of payment (38%). In Melbourne, electronic funds transfer was only marginally less commonly used than cash (30% compared with 31%). Country Victorian households reported double the incidence of paying via cheque in comparison with Melbourne households (10% compared with 5%)

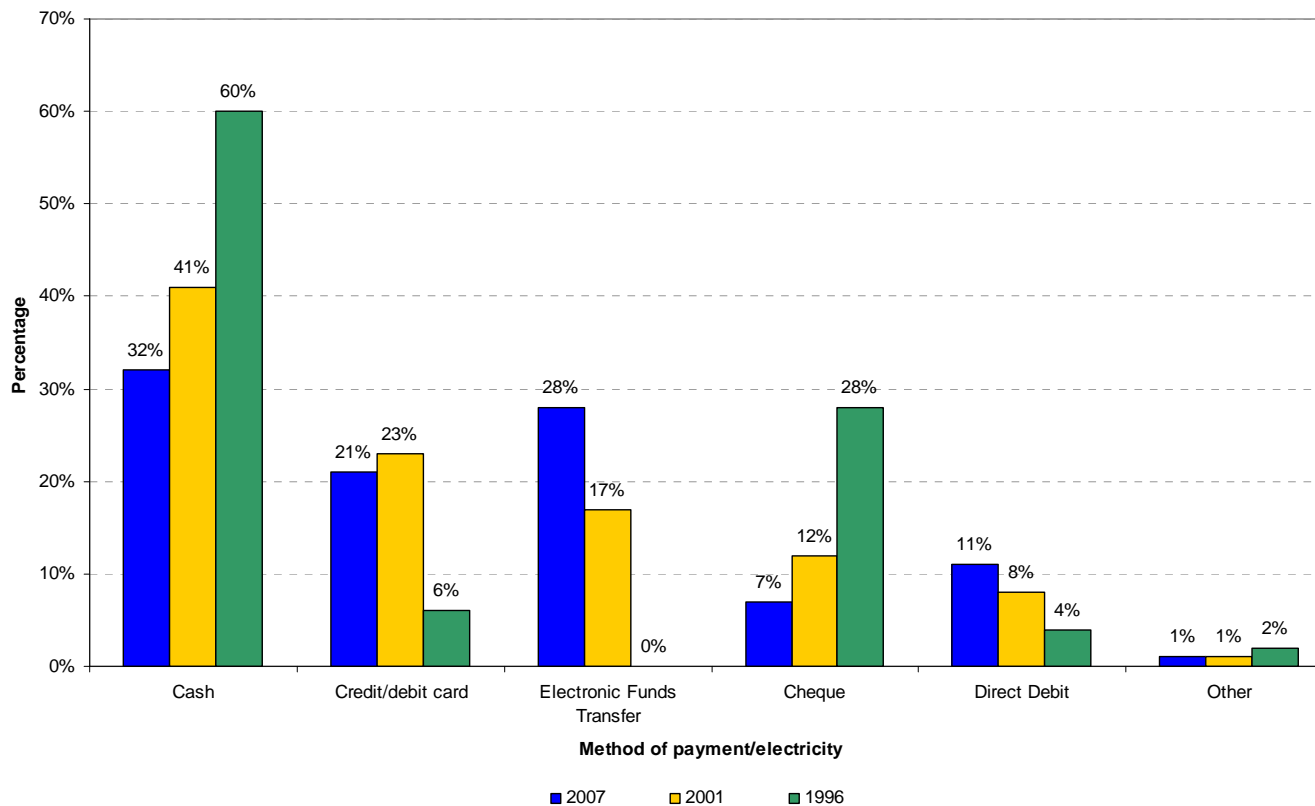
A higher proportion of households in public rental housing paid their electricity bills in cash in 2007 (59%) compared to households in other housing sectors. This was also the case in 2001 (75%) and 1996 (93%). Home owners/buyers (25%) were more likely than public (5%) or private renters (11%) to pay using credit cards. A higher proportion of private renters (38%) paid their electricity bills with electronic funds transfer compared with owner/buyers (26%) and public renters (8%).

Concession households were more than twice as likely as non-concession households to pay for their electricity bills in cash in 2007 (51% compared with 19%). Aged concession households were twice as likely as other concession households to pay electricity bills using electronic funds transfer (21% compared with 11%), while a higher proportion of aged concession holders paid using cheques than did other concession holders (13% compared with 3%). The trend towards electronic funds transfer and credit/debit cards for non-concession households that was witnessed in 2001 continued in

---

2007. Electronic funds transfer was the most common means of payment of electricity bills for non-concession households (36%), followed by credit/debit card (28%). In fact, non-concession households were more than twice as likely as concession households to pay their electricity bill via electronic funds transfer (36% compared with 16%).

**Chart 12.2.1.1: Means of Payment of Electricity Bills 2007, 2001 and 1996**



Base: Total respondents receiving electricity bills 2007 (n=2,060), 2001 (n=2,006) and 1996 (n=1,999) surveys.

### **12.2.1.2 Means of Gas Bill Payment**

Similarly to the payment of electricity bills, one-third of households who received gas bills in 2007 usually paid them in cash. Electronic funds transfer was the next most common method (27%), followed by credit/debit card (22%), direct debit (11%) and cheques (7%) (see Chart 12.2.1.2). Trends across time indicate that cash and cheques are becoming less preferred forms of payment, being replaced by electronic funds transfer and credit/debit cards.

In Melbourne (30%) and Ballarat (35%), electronic funds transfer was the main means of payment of gas bills. In all other parts of country Victoria and LPG regions, cash remained the preferred main means of payment. In comparison with country Victorian households, Melbourne households were less likely to pay by cash (29% compared with 39%), but were more likely to use credit/debit cards (24% compared with 16%) and electronic funds transfer (30% compared with 22%). Shepparton respondents were three times more likely than the Victorian average to pay gas bills using cheques (21% compared with 7%). Almost one-half of respondents in LPG regions paid their gas bills using cash (48%), with a further 19% using cheques.

In 2007, more than one-half (56%) of households in the public rental sector used cash to pay gas bills, compared to 41% of private renters and 30% of owner/buyers. Owner/buyers were more likely to pay using credit/debit card (25%) than private renters (10%) or public renters (6%), while private renters were considerably more likely to pay using electronic funds transfer (37%) in comparison to public renters (10%) and owner/buyers (26%). The proportions of respondents from all household types using cash continued to decline, most notably among public renters (89% in 1996, 73% in 2001, and 56% in 2007).

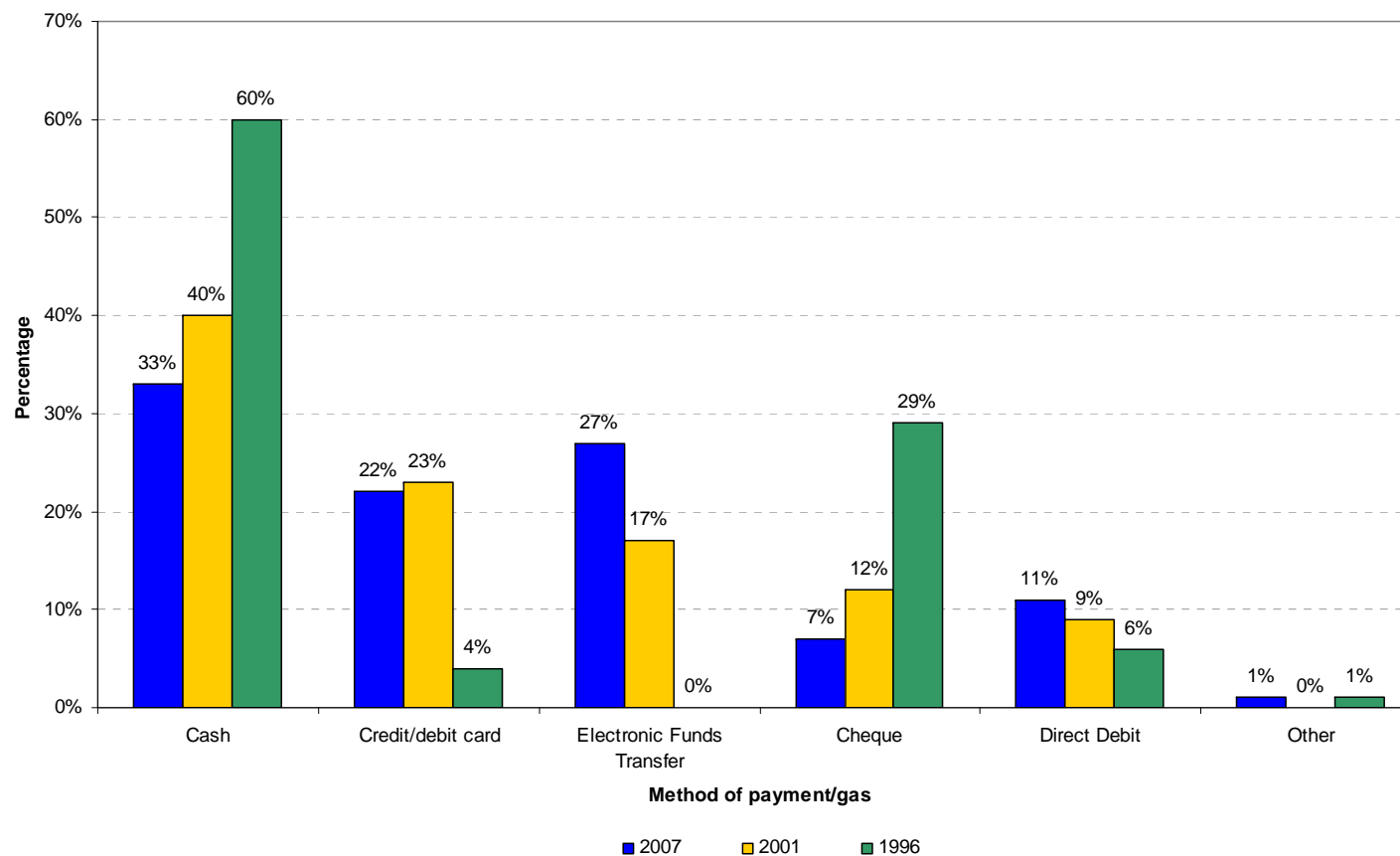
The likelihood of using electronic funds transfer or credit/debit card to pay gas bills increased with household size. Conversely, smaller households were more likely to pay with cash or cheque.

As was the case with payment of electricity bills, the proportion of concession cardholders that paid with cash was twice that of non-concession households (52% compared with 19%). Aged concession households were more likely than non-aged concession holder households to pay with cash

---

(56% and 48% respectively). Credit/debit card payment was used by 28% of non-concession households to pay gas bills, while 35% used electronic funds transfer, which was more than double the proportion of concession households who used this method.

**Chart 12.2.1.2: Means of Payment for Gas Bills 2007, 2001 and 1996**



Base: Total respondents receiving gas bills 2007 (n=1,941), 2001 (n=1,854) and 1996 (n=1,832) surveys.



### **12.2.1.3 Means of Water Bill Payment**

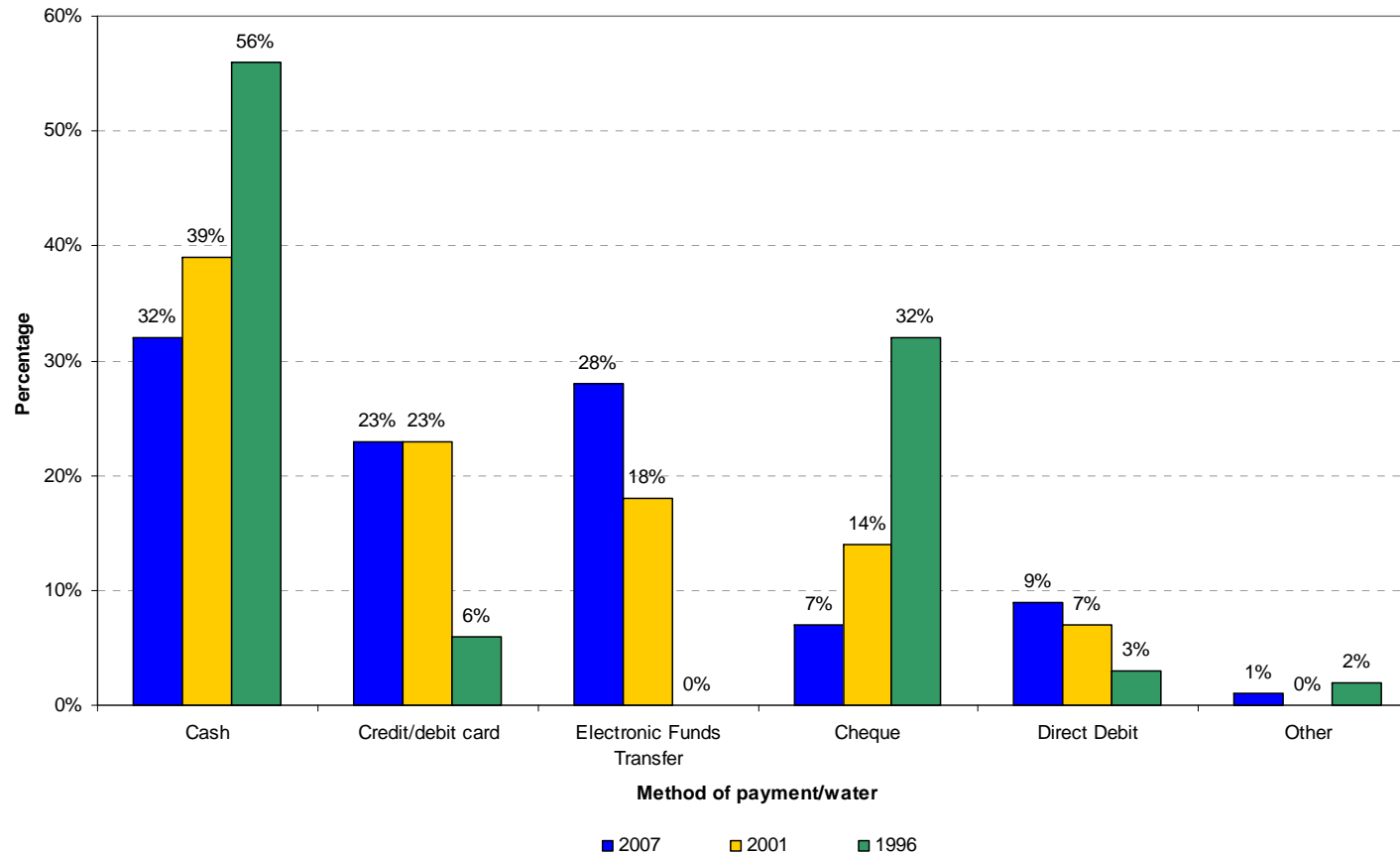
Cash was again the most commonly used means of paying water bills in 2007 (32%), followed by electronic funds transfer (28%), credit/debit card (23%), direct debit (9%) and cheque (7%) (see Chart 12.2.1.3). The use of cash has declined from over one-half of all water bill payments in 1996, to less than one-third in 2007 (32%). Electronic funds transfer has gained as a method of water bills payment, with credit/debit cards plateauing at 23%, and cheques and cash options becoming less commonplace.

Country Victorian households were more likely than Melbourne households to use cash to pay water bills (38% compared with 29%). In contrast, Melbourne households were more likely to use credit/debit cards (25% compared with 19%) and electronic funds transfer (31% compared with 23%). As has been seen in all three surveys, a higher proportion of households in country Victoria used cheques to pay water bills than did Melbourne households, however the incidence of this payment option continues to decline (37% compared with 30% in 1996, 18% compared with 12% in 2001, 11% compared with 5% in 2007).

Cash was used to pay water bills by 53% of concession households compared with 19% of non-concession households in 2007. Both aged concession households (56%) and non-aged concession households (50%) were twice as likely to use cash as were non-concession households (19%). Non-concession households were more likely than concession households to use credit/debit cards to make payments (29% compared with 14%) and electronic funds transfer (37% compared with 16%). Electronic funds transfer was also used by a higher proportion of other concession households compared with aged concession households (21% compared with 11%).

Households in public rental accommodation were much more likely to use cash to pay water bills than were other households in 2007, as was the case in previous surveys. Almost two-thirds (64%) paid their water bills with cash compared with 39% of households in private rental and 30% of households where the home was owned or being paid off (30%). Home owners/buyers were more likely to use credit/debit cards as their main means of payment (26%), in comparison with private renters (12%) and public renters (2%). Private renters utilised electronic funds transfers (40%) to a larger extent than owner/buyers (27%) and public renters (11%). Cheques were used by 8% of owners/buyers, with only negligible utilisation of this payment option from private renters (1%) and none at all from public renters (less than 0.5%).

**Chart 12.2.1.3: Means of Payment of Water Bills 2007, 2001 and 1996**



Base: Total respondents receiving water bills 2007 (n=1,897), 2001 (n=1,817) and 1996 (n=1,791) surveys.

#### **12.2.1.4 Means of Council Rate Payment**

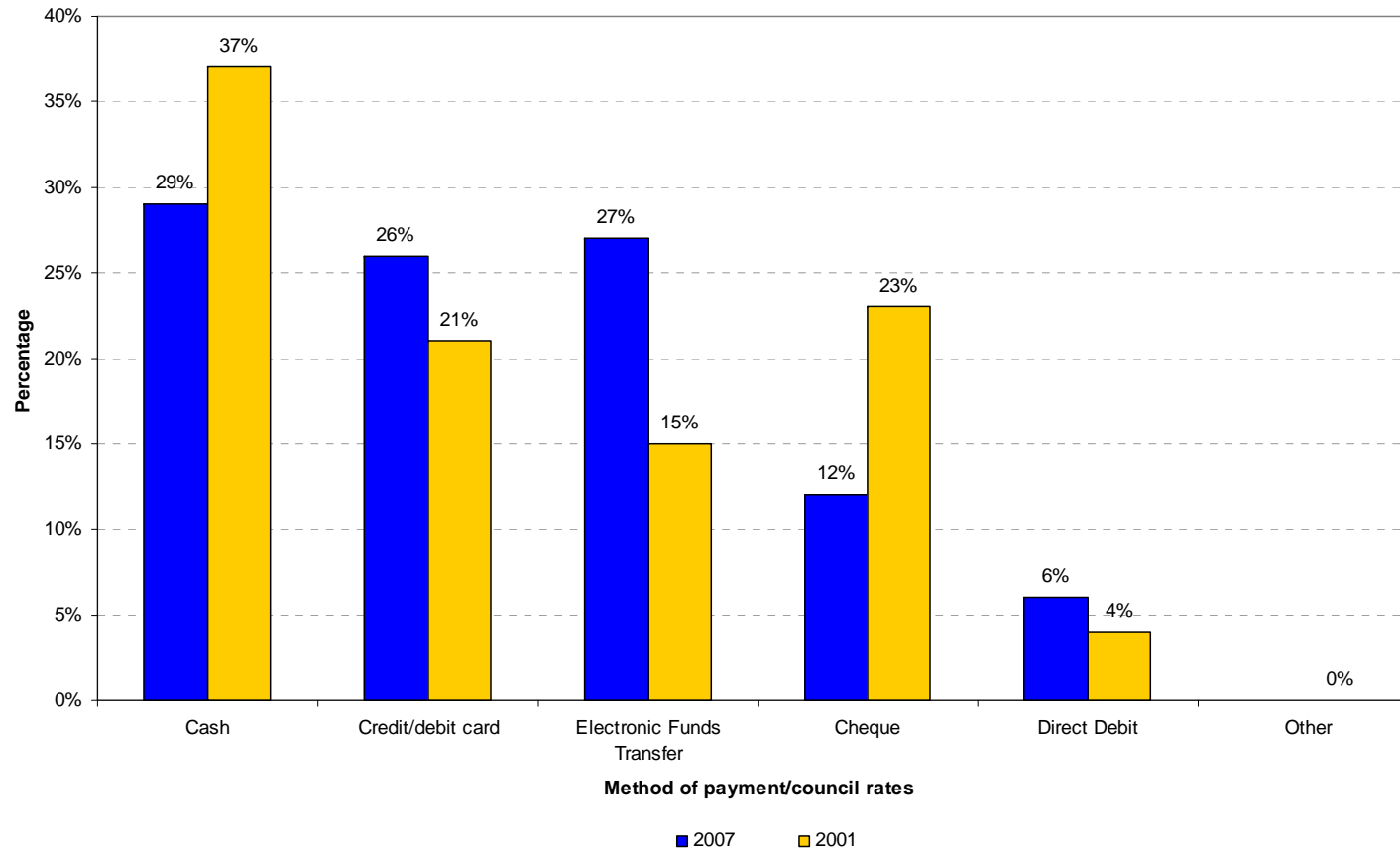
The most frequently used means of payment for council rates in 2007 was cash (29%), followed closely by electronic funds transfers (27%) and credit/debit cards (26%). Cheques were used by one-in-eight households (12%), while direct debit was the primary method of payment by only 6% of respondents. From 2001, there was a considerable decline in the use of cash and cheques, which has been replaced by comparable increases in electronic funds transfers and credit/debit cards. Information about council rate payment was not collected in 1996 (see Chart 12.2.1.4).

Cash was used as the main means of payment of council rates for country Victoria and LPG region households (34% and 37% respectively) in 2007. In Melbourne, electronic funds transfer and credit/debit cards were the joint the main means of payment (29% each). A high proportion of Ballarat respondents indicated using electronic funds transfer (33%), while 29% of Shepparton respondents usually paid their council rates by cheque. Households in country Victoria were more likely to use cash to pay council rates than Melbourne households (34% compared with 27%), with Melbourne households being more likely to have paid with electronic funds transfer (35% compared with 29%) or credit/debit card (29% compared with 21%).

Cash was marginally the most commonly used means of payment (29%), edging electronic funds transfer (27%) and credit/debit cards (26%).

Just under half (49%) of concession cardholders paid their council rates in cash compared to less than one-fifth (18%) of non-concession households. Both aged (51%) and non-aged concession households (45%) were more likely to use cash as a council rate payment option than were non-concession households (18%). However, non-concession households were more likely than concession households to pay using credit/debit card (31% compared with 18%) or by electronic funds transfer (35% compared with 14%). Other concession households were markedly more likely to use electronic funds transfer (22%) than were aged concession pensioners (10%) to pay their council rates in 2007.

**Chart 12.2.1.4: Means of Payment of Council Rates 2007 and 2001**



Base: Total respondents receiving water bills 2007 (n=1,587) and 2001 (n=1,403) surveys

### **12.2.2 Bill Payment Medium**

In 2007 and 2001 respondents were asked what *medium* they used to pay bills. As discussed previously, cash was the *means* used by most households to pay utilities bills and council rates in both 2001 and 2007, with electronic funds transfer growing over time, now rivalling cash as a preferred means.

#### *Electricity Bills*

For electricity bill payment, almost half paid the bill at the post office in 2007 (46%), down from 57% in 2001. The internet is now the second most commonly used by households (19%), taking over from payment over the telephone (16%). Of households that paid in cash for electricity bills in 2007, 96% made payments at a post office. Most payments by cheque were also likely to be paid at a post office (77%) (see Table 12.2.2).

The majority of credit/debit card payments for electricity bills were made by telephone (54%), with 20% at a post office and 16% via internet. More than half (53%) of electronic funds transfers were performed via internet with one-sixth done by telephone (17%) and by customer initiated direct debit (B-Pay) (16%).

Just under one-third (31%) of non-concession households made electricity bill payments at a post office, while the majority of aged concession households (73%) and other concession households (61%) did so. Non-concession households were much more likely than aged concession households or non-aged concession households to pay electricity bills via telephone (23% vs. 6% and 8%, respectively) and the internet (27% vs. 4% and 12%, respectively).

#### *Gas Bills*

Similar to electricity bills, gas bills payment at the post office remains the main medium to pay in 2007 (44%), down from 56% in 2001. The internet (19%) has taken over second place from payment by telephone (17%) in 2007. Cash payments made for gas bills were almost always made at a post office (95%). The majority of payments by cheque were also made at a post office (74%), while most of the other gas bill payments made by cheque were sent by mail (19%).

Just over half (54%) of payments by credit/debit card for gas bills were made by telephone, while a similar proportion paying gas bills by electronic funds transfer paid via the Internet (53%). Three in ten non-concession households paid their gas bill at a post office, while the majority of aged concession households (71%) and other concession households (60%) did so. Non-concession households were much more likely than aged concession households or other concession households to pay gas bills by telephone (23% vs. 6% and 9%, respectively) and the internet (27% vs. 3% and 13%, respectively).

#### *Water Bills*

Medium of payment for water bills were similar to those for electricity and gas payments. Four in ten used the post office (45%) in 2007, down from 55% in 2001, while the internet (22%) has replaced the telephone (18%) as the second most used payment medium for water bills. Most (97%) households who paid water bills by cash did so at a post office, and nearly three-quarters (73%) of households that paid water bills by cheque also did so.

The majority of credit/debit card water bills payments were made by telephone (54%), with a similar proportion paying via electronic funds transfer using the internet to do so (53%).

The majority of aged concession households (72%) and other concession holders (63%) paid their water bills at a post office, but non-concession households were less likely with less than one-third (30%) doing so. They were more likely than concession cardholders to pay water bills by the internet (30% compared with 9%) or telephone (24% compared with 8%).

#### *Council Rate Bills*

While payment at the post office remained the most commonly used payment medium for council rates bills in 2007, static at 2001 levels (each 39%), payment at Council offices declined from 20% in 2001 to 7% in 2007. Both the telephone (18%) and the internet (20%) have surpassed Council offices as preferred payment media, with growth pronounced for the internet (4% in 2001). Cash payments for council rates were usually paid at a post office (82%) or council offices (14%). Payments made by cheque were usually made at a post office (57%), Council offices (11%) or by mail (26%).

---

Half of council rate payments made by credit/debit card were made by telephone (50%), whilst the internet was used to pay council rates by over half (53%) of those using electronic funds transference, 18% of those using credit or debit cards and 13% of those paying via direct debit.

The main medium used by non-concession households to pay their council rates was at the post office (28%), followed by via the internet (28%) and by telephone (24%). The majority of concession card households paid their rates at the post office (57%) or council offices (13%). Aged concession households were more likely than non-aged concession households to pay using these methods; however non-aged concession holders were more likely to pay by telephone (14% compared with 6%).

Table 12.2.2: Bill Payment Medium 2007 and 2001

Bill Type/Payment Medium	Means of Bill Payment 2007						Means of Bill Payment 2001					
	Total	Cash	Credit/ Debit card	Cheque	Direct Debit	Electronic Funds Transfer	Total	Cash	Credit/ Debit card	Cheque	Direct Debit	Electronic Funds Transfer
<b>Electricity -</b>												
At the Post Office	46	96	20	77	8	12	57	98	17	82	10	21
At the Bank	1	1	-	-	1	-	2	2	2	2	8	*
By Mail	2	-	1	18	-	1	2	*	1	16	1	1
By Telephone	16	1	54	-	4	17	23	1	72	3	9	32
Via Internet	19	1	16	1	9	53	4	1	6	*	*	19
Automated Direct Debit	11	1	8	3	71	2	7	*	6	1	71	2
Customer Initiated Direct Debit (B-Pay)	6	1	2	1	5	16	6	*	4	*	5	28
Other	-	-	-	-	1	-	n/c	n/c	n/c	n/c	n/c	n/c
<b>Gas -</b>												
At the Post Office	44	95	19	74	8	12	56	98	17	80	5	22
At the Bank	1	1	1	1	1	-	2	1	1	2	7	*
At Gasmart Outlets	-	1	-	-	-	-	*	*	-	*	*	*
By Mail	2	-	1	19	-	1	2	*	1	18	1	1
By Telephone	17	-	54	-	4	17	23	1	71	3	8	34
Via Internet	19	1	16	1	8	53	5	1	6	*	*	20
Automated Direct Debit	11	1	9	-	75	2	8	*	6	1	74	2
Customer Initiated Direct Debit (B-Pay)	5	-	2	-	4	16	6	*	5	*	7	26
Other	2	2	-	5	1	-	n/c	n/c	n/c	n/c	n/c	n/c



Table 12.2.2: Bill Payment Medium 2007 and 2001 (continued)

	Method of Bill Payment 2007						Method of Bill Payment 2001					
	Total	Cash	Credit/Debit card	Cheque	Direct Debit	Electronic Funds Transfer	Total	Cash	Credit/Debit card	Cheque	Direct Debit	Electronic Funds Transfer
<b>Water -</b>												
At their Office (s)	1	1	1	3	-	-	2	4	2	3	*	*
At the Post Office	45	97	21	73	8	11	55	94	16	77	8	22
At the Bank	1	1	-	1	1	-	2	2	2	3	7	*
By Mail	2	-	-	22	-	-	3	*	1	17	1	*
By Telephone	18	-	54	-	4	16	23	1	71	4	10	32
Via Internet	22	-	19	1	12	57	5	1	7	*	*	19
Automated Direct Debit	8	1	5	-	72	2	6	*	5	1	69	2
Customer Initiated Direct Debit (B-Pay)	5	-	1	-	4	15	6	*	4	*	9	28
Other	1	-	-	1	1	-	n/c	n/c	n/c	n/c	n/c	n/c
<b>Council Rates -</b>												
At their Office (s)	7	14	6	11	-	2	20	25	12	26	1	6
At the Post Office	39	82	20	57	8	10	39	64	14	43	8	16
At the Bank	1	2	-	2	-	-	5	8	4	6	3	1
By Mail	3	-	-	26	-	-	6	*	2	25	2	1
By Telephone	18	1	50	-	11	15	18	*	60	2	9	31
Via Internet	20	-	18	-	13	53	4	1	6	*	*	17
Automated Direct Debit	6	1	4	1	60	2	5	*	5	1	78	1
Customer Initiated Direct Debit (B-Pay)	6	1	2	-	6	18	5	*	4	*	4	29
Other	-	-	-	2	1	-	n/c	n/c	n/c	n/c	n/c	n/c

Base: Total respondents with electricity/gas/water bills and Council rates in 2007 and 2001.

### **12.2.3 Payment via Instalment**

#### **12.2.3.1 Awareness of Easy Way or Easy Pay Method**

In 2007, household awareness of Easy Way or Easy Pay method of paying bills by instalment was relatively high for electricity (74%), gas (71%) and water (68%), which were remarkably similar to the proportions reported in 2001 (73%, 73% and 67% respectively) and 1996 (76%, 79% and 67% respectively). There was a considerable decrease in awareness of Easy Way or Easy Pay method in terms of council rates in 2007, down from 75% in 2001 to 59%.

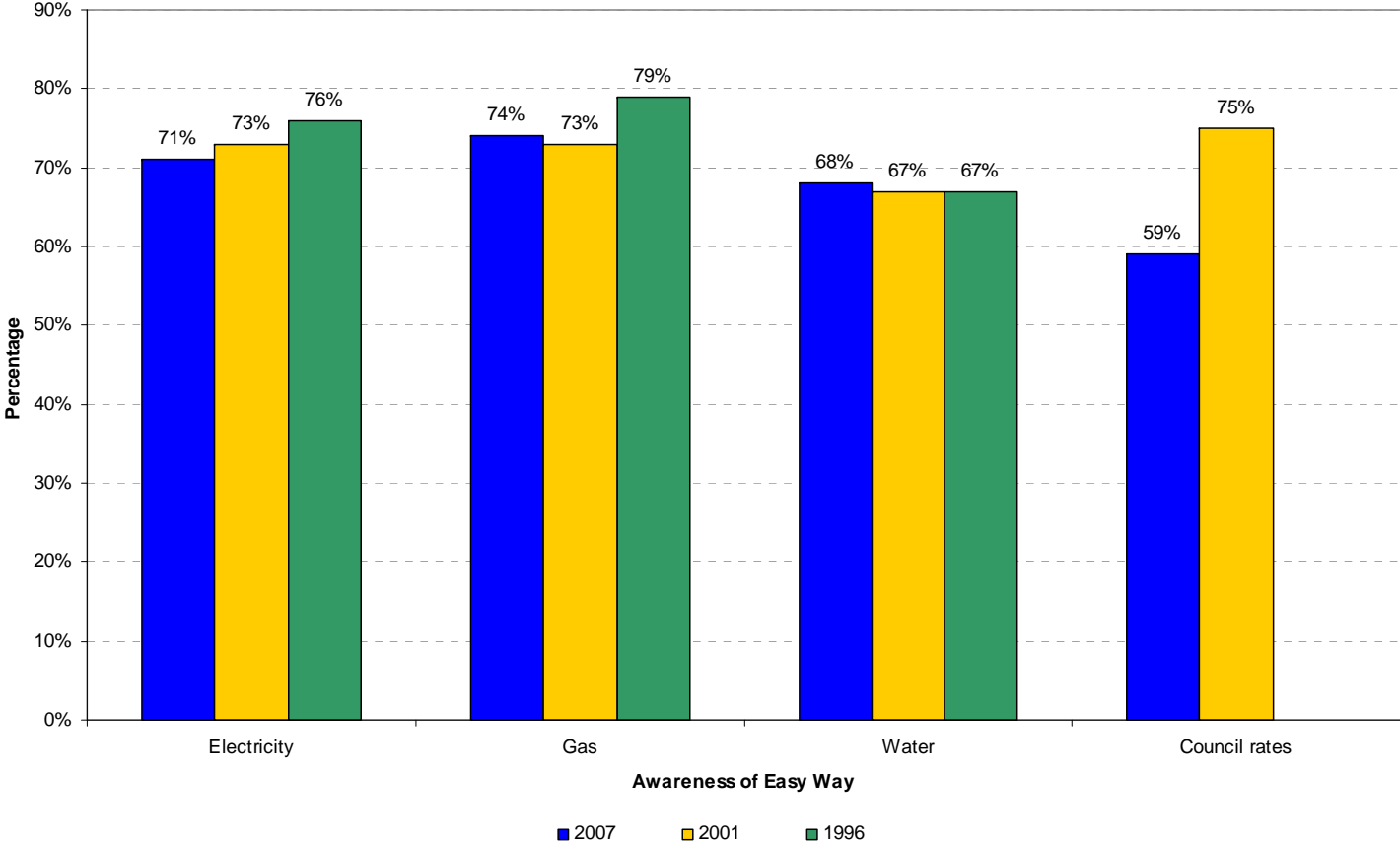
Awareness of the Easy Way/Easy Pay method was higher in country Victoria than in Melbourne (Gas 77% c.f. 69%; Electricity 80% c.f. 71%; Water 73% c.f. 66%; Council rates 64% c.f. 57%), with awareness in provincial locations falling between surveys (by at least 10 points across bill types), while remaining relatively static in Melbourne.

Awareness for Easy Way/Easy Pay was higher for other concession households compared with aged concession households and non-concession households for electricity bills in 2007 (77% c.f. 72%), but not for council rates, for which the opposite trend was witnessed (i.e. non-concession households were more likely to be aware of Easy Way/Easy Pay – 64% c.f. 52%). Other concession households had low levels of awareness of Easy Way for council rates compared with aged and non-concession households (43%, 60% and 64% respectively).

Awareness of Easy Way/Easy Pay payments in 2007 was highest for households in public rentals across all utilities and council rates (82%-89%), despite representing the smallest sub-group within the home-ownership status profile. Home owner/buyers tended to have higher awareness of Easy Way payments than private renters, as they were generally more likely to be responsible for paying these rates bills.

There was a tendency for larger households to be more aware of Easy Way/Easy Pay payments for both gas and electricity, and to smaller extent water and council rates.

Chart 12.2.3.1: Awareness of Easy Way/Easy Pay 2001 and 1996



Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) surveys.

### 12.2.3.2 Frequency of Paying by Instalments

Comparisons of 2007 results against the 1996 survey for this section could not be strictly undertaken since in 1996 there was no distinction made as to the frequency of paying in instalments (e.g. always, sometimes, etc.). Respondents in 1996 were asked to give a 'yes' or 'no' response to the question 'do you pay your (electricity/gas/water) bill in instalments?' The data collected in 1996 therefore collected information only those households that paid in instalments at the time of the survey.

The 2007 show results show that people either always pay bills in instalments (8%-12%) or they don't at all (82%-88%), with only small proportions paying via this method sometimes (2%-4%) or hardly ever (1%-2%), depending on bill type. Unless there is evidence that bill payment habits have changed considerably since 1996 (which does not appear to be the case), it does look as if comparisons can be made between those saying 'yes' in 1996 and those saying 'always' in 2001 and 2007. Hence, it can be seen in Table 12.2.3.2 that frequency of ever paying gas bills has levelled at 15% in 2007 (16% in 2001 and 11% in 1996), as has been the case for electricity bills (18% - 2007; 18% - 2001; 14% - 1996) and water bills (12% - 2007; 14% - 2001; 7% - 1996).

Whilst there appears to be a fall off in the proportion paying council rates by instalment since 2001, from 30% to 12% in 2007, the 2007 result is more likely to be the result of a more precise definition of the term 'instalment' for council rates in 2007 than was the case in 2001. In 2001, respondents were allowed to consider payment of council rates on a *voluntary* quarterly basis as an instalment, whilst in 2007 these quarterly payments were excluded from the instalment definition. As a consequence, incidence of ever paying council rates fell more in line with utility bill payment by instalment (at 12%).

Concession households were considerably more likely than non-concession households to ever pay their *utility* bills by instalments, however there were similar proportions of concession and non-concession households who regularly paid their *council rates* by instalments. Among concession households, aged concession households were less likely than other concession households to ever pay by instalments for gas (12% compared with 31%), electricity (14% compared with 39%), and water (9% compared with 24%).

Table 12.2.3.2: Frequency of Payment of Utility Bills and Council Rates by Instalment by Sample Type

Frequency of Paying by Instalments	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
<b>Gas Bills -</b>															
Always	11%	9%	n/c	21%	20%	n/c	16%	14%	n/c	7%	7%	n/c	11%	10%	n/c
Sometimes/hardly ever	*	3%	n/c	10%	8%	n/c	5%	5%	n/c	5%	6%	n/c	5%	6%	n/c
<b>Total</b>	<b>12%</b>	<b>12%</b>	<b>9%</b>	<b>31%</b>	<b>28%</b>	<b>23%</b>	<b>21%</b>	<b>19%</b>	<b>15%</b>	<b>12%</b>	<b>13%</b>	<b>7%</b>	<b>15%</b>	<b>16%</b>	<b>11%</b>
<b>Electricity Bills -</b>															
Always	13	10%	n/c	25%	22%	n/c	19%	16%	n/c	8%	8%	n/c	12%	11%	n/c
Sometimes/hardly ever	1	4%	n/c	13%	12%	n/c	7%	8%	n/c	5%	6%	n/c	6%	7%	n/c
<b>Total</b>	<b>14</b>	<b>14%</b>	<b>11%</b>	<b>39%</b>	<b>34%</b>	<b>30%</b>	<b>26%</b>	<b>24%</b>	<b>20%</b>	<b>13%</b>	<b>14%</b>	<b>8%</b>	<b>18%</b>	<b>18%</b>	<b>14%</b>
<b>Water Bills -</b>															
Always	8	8%	n/c	15%	13%	n/c	11%	10%	n/c	5%	7%	n/c	8%	9%	n/c
Sometimes/hardly ever	1	3%	n/c	8%	9%	n/c	4%	6%	n/c	4%	4%	n/c	4%	5%	n/c
<b>Total</b>	<b>9</b>	<b>11%</b>	<b>7%</b>	<b>24%</b>	<b>22%</b>	<b>11%</b>	<b>16%</b>	<b>16%</b>	<b>9%</b>	<b>9%</b>	<b>11%</b>	<b>6%</b>	<b>12%</b>	<b>14%</b>	<b>7%</b>
<b>Council Rate Bills -</b>															
Always	11	23%	n/c	7%	19%	n/c	9%	21%	n/c	10%	24%	n/c	9%	23%	n/c
Sometimes/hardly ever	1	5%	n/c	4%	7%	n/c	2%	6%	n/c	3%	10%	n/c	3%	7%	n/c
<b>Total</b>	<b>12</b>	<b>28%</b>	<b>n/c</b>	<b>10%</b>	<b>26%</b>	<b>n/c</b>	<b>11%</b>	<b>27%</b>	<b>n/c</b>	<b>13%</b>	<b>34%</b>	<b>n/c</b>	<b>12%</b>	<b>30%</b>	<b>n/c</b>

Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) surveys

---

*Electricity*

Almost three-quarters (71%) of households that *received electricity bills* in 2007 and *were aware of Easy Way/Easy Pay* never paid their electricity bill in instalments while 17% always did, 5% sometimes did and 3% hardly ever did.

Melbourne households were substantially more likely than country Victoria households to have *never* paid their electricity bill in instalments (76% compared with 61%). Shepparton respondents had the highest proportion who always paid by instalments (28%). Concession households were more likely than non-concession households to always pay their electricity bills in instalments (25% compared with 12%). This was mainly due to the proportion of other concession households who always paid by instalment (33%) relative to other sample types. Three quarters of non-concession households (77%) never paid in instalments compared with 62% of concession households.

This difference was also reflected in household's housing status where 50% of renters of public sector housing always paid electricity bills in instalments compared with 25% of households in private rental, and 13% of home owners/buyers.

*Gas*

Results were similar for gas bill payments as were observed for electricity bill payments. In 2007, 73% of households *who paid gas bills* and *were aware of Easy Way/Easy Pay* never paid their gas bill by instalments, 16% always paid in instalments, 4% sometimes did and 3% hardly ever did. Greater proportions of Ballarat households ever paid their gas bill by instalment (47%) than households in other provincial centres (28%-30%) or Melbourne (19%).

Almost one-quarter (22%) of concession cardholders *always* paid their gas bills by instalments compared with 11% of non-concession households. Again, this was mostly due to the relatively high proportion of non-aged concession households that always paid in instalments (30% c.f. 16% for aged concession households). Seventy-seven percent of non-concession households *never* paid in instalments compared with 65% of concession holders.

---

More than one-half (52%) of public renters, 23% of private renters, and 12% of owners/buyers *always* paid their gas bills in instalments. Most (77%) home owners/buyers, almost two-thirds (63%) of private sector renters and 38% of public sector renters *never* paid their gas bills in instalments.

#### *Water*

More than three-quarters (76%) of households that *received water bills* and were aware of *Easy Way/Easy Pay* had *never* paid their water bill in instalments, while 13% always did, 4% sometimes did and 3% hardly ever did. Melbourne households were far more likely than country Victoria households to never pay in instalments (81% compared with 67%), with 44% of Ballarat respondents indicating that they used instalments to pay their water bills at least once.

A higher proportion of non-concession households had *never* used instalments compared with concession households (80% compared with 71%); however, a high proportion of aged concession households never paid by instalment relative to other concession households (81% and 59% respectively). About one-fifth (18%) of concession households *always* paid their water bills by instalments compared with 9% of non-concession households. Aged concession households were less likely to always pay their water bills by instalments (13%) than other concession households (24%).

A high proportion of renters in the public sector (45%) always paid their water bills by instalment, in comparison with 15% of private renters and 11% of home owner/buyers.

#### *Council Rates*

In 2007 there were similar incidences of paying council rates by instalments as for utility bills (due to the change in definition of an instalment as detailed previously). In 2007, about one-fifth (18%) of households who paid Council rates *always* paid in instalments, 4% sometimes did and 2% hardly ever did. Almost three-quarters (71%) *never* paid Council rates in instalments.

---

High proportions of Ballarat (38%) and Shepparton (29%) respondents always paid their council rates by instalment, particularly in comparison with Melbourne households (17%).

In terms of concession status, there was little variation between concession and non-concession households in terms of the frequency of paying council rates by instalments. Very few households who were renting (public or private) indicated paying council rates at all. For home owners/buyers, 71% reported never paying their council rates by instalments, with 18% doing so always.

### **12.2.3.3 Instalment Type Used**

Households that always, sometimes or hardly ever used instalments to pay utility bills or Council rates were asked what type of instalment method they used. Analysis by sub-group is not presented in this section due to small sample sizes.

In respect of electricity bills, in 2007 43% of households that used instalments paid with the *Easy Way fixed amount* including an amount toward an outstanding bill, 36% used the *Easy Way fixed amount estimate* and 15% used *Flexi Way*, with 6% not being able to say. There appears to be a trend away from *Flexi Way* (15% in 2001) towards *Easy Way fixed amount* including an amount towards an outstanding bill (up from 35%).

Similarly with gas in 2007, 42% of households that used instalments paid with the *Easy Way fixed amount* including an amount toward an outstanding bill, 37% used the *Easy Way fixed amount estimate*, 14% used *Flexi Way* and 7% could not say.

The most frequently used instalment payment plan used by households for water bills was the Easy Way fixed amount estimate including an amount toward an outstanding bill (44%), followed by the *Easy Way fixed amount* (31%) and *Flexi Way* (14%), while 11% could not say. There has been a reversal from 2001 for instalment payment plans for water bills, with *Easy Way fixed including an amount towards outstanding bills* surpassing *Easy Way fixed amount* as the most common plan used.



---

A comparison with the 1996 data could not strictly be conducted because incidence of payment by instalment was asked differently in the 2001 and 2007 surveys. However, across the three utility bills (i.e. gas, electricity and water) there appears to be a continuing trend away from the use of the *Flexi Way plan* toward one of the *Easy Way plans*.

For Council rates, almost one-half of households that had ever paid their Council rates by instalment used the *Easy Way fixed amount estimate* (41%), with almost one-third using the *Easy Way fixed amount* including an amount toward an outstanding bill (31%). More than one-quarter could not say which instalment payment plan they used (28%). There was a sharp reduction in reporting *Easy Way fixed amount estimate* (from 72% in 2001), which could be accounted for by the dramatic increase in households not knowing which plan they were on (up from 9% in 2001).

#### **12.2.3.4 How Instalment Is Set**

Households that paid their utilities bills and Council rates by instalment were asked how these instalment amounts were set.

In 2007, two-fifths of households who paid their electricity bills by instalment discussed and agreed the amount with their supplier (40%), with over one-quarter deciding the amount themselves (28%) and having the instalment amount set by the supplier without discussion (26%). Six percent could not answer.

For gas instalments, 39% of households that paid their gas bills by instalments discussed and agreed the amount with the supplier, 28% had the amount set by the supplier without discussion with the household, and 25% decided upon the amount themselves (7% could not answer).

Water bill instalments were more evenly spread in terms of how the instalment amount was determined. Just over one-third of households paying water bills by instalment had the amount set by the supplier without discussion (34%), while 29% discussed and agreed the amount with the supplier and 27% decided the amount themselves (11% could not answer).

---

For council rates, households paying in instalments did not have the option of deciding the amount themselves. In 2007, two-thirds of households had the amount set by the Council without discussion (65%), while 15% discussed and agreed on an amount with the Council and 20% could not answer.

Across all bill types, there was little variation in how the amount was set between concession and non-concession households; however aged concession households were more likely to have the amount set by the supplier/council without consultation than other sample types.

Compared to previous surveys, the proportions of households deciding the instalment rates themselves has fallen for gas and electricity bills, while there appears to be an increasing trend for negotiation between the household and the supplier/council to determine the appropriate amount to be set.

#### **12.2.3.5 Perceived Effect of Paying Instalments on Consumption**

In 2007, the majority of households that paid their utilities bills by instalments reported that their consumption of electricity, gas and water had stayed the same as a result of being able to pay bills in instalments. This follows the trend observed in 2001, however the proportions reporting using the same levels has declined across the board since 2001 (from 78% - 79% to 59% - 67%). This question was not asked in the 1996 survey.

In 2007, two-thirds of households that paid their electricity bills by instalment reported that their consumption of electricity had stayed the same as a result of being able to pay the bill in instalments (67%). Eight percent claimed their consumption had increased, while 15% reported overall decreases in their consumption of electricity (4% could not say).

For households who paid their gas bills by instalments, 65% reported no change in their gas consumption as a result of paying by instalments, with seven percent reporting an increase in consumption, and 17% a decrease (4% could not say).

Similarly for households who paid their water bills by instalment, 59% reported no change in their water consumption as a result of paying by instalments, eight percent reported an increase in their consumption, while 18% reported a decrease in water consumption, with 4% unable to say. The proportion reporting decreases in water consumption may have considered the water restrictions that have been implemented and enforced in Victoria in recent times.

There has been a change in trend in the proportions of households who indicated a change in their energy and water consumption due to paying by instalments from what was observed in 2001. Instead of households slightly increasing their consumption of gas, electricity and water as a result of being able to pay in instalments (as was evidenced in 2001), there was a shift in reported consumption behaviour such that instalment paying households had decreased their consumption. This may be associated with households being more accountable and responsible as a result of public education campaigns through government or media. Alternatively it could be related to instalments making the households more cognisant of the magnitude of their consumption and resultant financial burden on a more regular basis, and as such allowing more opportunities to modify their consumption behaviour accordingly.

**Table 12.2.3.5 Perceived Effect of Paying Instalments on Consumption, 2007 and 2001**

	Electricity		Gas		Water	
	n=403	n=316	n=328	n=275	n=253	n=230
	2007	2001	2007	2001	2007	2001
Total increased	8	11	7	12	8	12
Stayed the same	67	79	65	78	59	79
Total decreased	15	4	17	5	18	4
Can't say	4	6	4	5	4	5

Base: Total respondents paying utilities bills by instalments 2007 and 2001

---

## **12.3 DIFFICULTIES IN MEETING BILL PAYMENTS**

### **12.3.1 Incidence and Frequency of Having Difficulties in Meeting Bill Payments**

These two questions were modified slightly from the 2001 and 1996 versions. Instead of asking about ever having difficulties in paying utility or council rate bills, a time period of “in the last 5 years” was specified so as to determine the level and frequency of payment difficulties between survey periods.

For all bill types the incidence of having difficulties with bill payments has declined over time. Even with the change to the time period for the question in 2007, this trend does appear likely. This is an interesting result, given that utility and council rate bills have been increasing over and above the inflation rate over time. The trend to pay bills by electronic funds transfer, credit/debit card and direct debit away from cash and cheque, may be allowing households to more readily clear their bills (which may be creating difficulties in paying off credit cards instead).

#### **12.3.1.1 Electricity**

In 2007, one-eighth of all households that received electricity bills claimed they had financial problems in paying their electricity bill over the last five years (12%). This continued the downward trend in incidence of payment difficulty since 1996 (14% in 2001, 16% in 1996).

Melbourne and country Victoria had similar proportions of households who had experienced financial problems in paying their electricity bill in the past five years (12% c.f. 13%), which varied from 2001 (12% c.f. 17%) and 1996 (16% c.f. 20%). Ballarat households were more likely than average to have reported financial problems in 2007 (20%).

As would be expected, a higher proportion of concession households had experienced problems with payment of electricity bills compared with non-concession households (16% c.f. 10%). Specifically, other concession households were six-times more likely to have had financial problems than aged concession households (30% c.f. 5%). These trends were evident in both previous surveys.

---

Like previous surveys, the incidence of financial problems in paying electricity bills tended to increase with household size (10% for 1 person, 9% for 2 people, 14% for 3 people, and 18% for 4 or more people).

More than one-third of households in the public rental sector had experienced problems paying electricity bills (35%), with over one-quarter of those renting privately also having done so (29%). Just seven percent of owner/buyers had experienced financial difficulties in paying their electricity bills. The proportion of public renters facing financial difficulties has increased in this survey period, to similar levels seen in 1996 (25% in 2001, 32% in 1996).

Of households that had ever had difficulty paying their electricity bills, almost two-thirds (61%) *sometimes* had difficulty paying, 25% *hardly ever* had difficulty paying, and 13% *always* had difficulty paying. This trend is similar to that which was observed in 2001 (50%, 34%, and 16%, respectively), however the proportions *sometimes* having problems has increased, while the incidence of people *hardly ever* having problems has decreased. This suggests that respondents may be having a harder time meeting their electricity bill obligations in 2007. In 1996, this item only assessed whether respondents *regularly* had difficulty paying these bills, of which 34% of households indicated they *regularly* had difficulty.

#### **12.3.1.2 Gas**

One in ten households that paid gas bills had difficulty paying them at some time in the past five years (10%). This proportion continues to decline from the levels seen in 1996 (16%) and 2001 (12%).

Melbourne and country Victoria had similar proportions of households who had experienced financial problems in paying their gas bill in the past five years (10% c.f. 11%), which varied from 2001 (10% c.f. 16%) and 1996 (15% c.f. 18%). Ballarat households were more likely than average to have reported financial problems (19%) whereas LPG region households were less likely (6%). In 2001, Geelong had the greatest proportion of households who had problems paying gas bills (22%).

---

As would be expected, a higher proportion of concession households had experienced problems with payment of gas bills compared with non-concession households (14% c.f. 8%). Specifically, other concession households were nine-times more likely to have had financial problems than aged concession households (27% c.f. 3%). These trends have been witnessed in both previous surveys.

Like previous surveys, the incidence of financial problems in paying gas bills tended to increase with household size (9% for 1 person, 7% for 2 people, 13% for 3 people, and 15% for 4 or more people).

More than one-third of households in the public rental sector had experienced problems paying gas bills (36%), with over one-quarter of those renting privately also having done so (26%). Just six percent of owner/buyers had experienced financial difficulties in paying their gas bills. The proportion of public renters facing financial difficulties has increased in this survey period, to similar levels seen in 1996 (22% in 2001, 38% in 1996).

Of households that had ever had difficulty paying their electricity bills, more than one-half (54%) *sometimes* had difficulty paying, 30% *hardly ever* had difficulty paying, and 15% *always* had difficulty paying. The figures reported in 2007 are remarkably similar to those evidenced in 2001 (50%, 35% and 15%, respectively). In 1996, 27% of households that had had problems paying gas bills had problems *regularly*.

### **12.3.1.3 Water**

In 2007, 9% of all households who received water bills reported that they had experienced difficulty paying them in the past five years. The proportion experiencing financial problems in paying their water bill continues to decline gradually (13% in 1996, 11% in 2001).

There were no marked differences in the proportions of households in Melbourne and country Victoria who had experienced difficulties in paying their water bills (8% c.f. 10%), although Ballarat had the highest proportions of households that reported problems (16%). Historically, there hasn't been

---

any major difference between country Victoria and Melbourne in terms of proportions reporting difficulties paying water bills. Geelong had the highest proportion of households that reported problems in 2001 (17%) whereas Shepparton (18%) had the greatest proportion in 1996.

A higher proportion of concession households (12%) than non-concession households (7%) had problems paying water bills over the past 5 years in 2007. This was most notable amongst other concession households where almost one-quarter (22%) reported having difficulty paying their water bills, compared with just three percent of aged concession households. As expected, this trend has featured previously in 2001 (23% c.f. 5%) and 1996 (30% c.f. 5%).

Households with four or more people were more likely than smaller households to report difficulty paying their water bill in the past five years (15% 4+ person households, 8% 3 person households, 6% 2 person households and 5% one person households). Similar trends were apparent in both 2001 (15% 4+ person households, 11% 3 person households, 8% 2 person households and 6% one person households) and 1996 (18% 4+ person households, 17% 3 person households, 8% 2 person and single person households).

More than one-third of households in the public rental sector reported problems paying their water bills in the past 5 years (35%), considerably greater than private renters (19%) and owner/buyers (6%). The proportion of public renters facing difficulties has increased from 2001 (25%) and 1996 (27%), whereas for other sub-groups the proportions have been relatively stable over time.

In 2007, more than one-half of households who had reported problems paying their water bills in the past five years had had problems *sometimes* (58%), 29% *hardly ever* and 12% *always*. In 2001, half (49%) had had problems *sometimes*, 36% *hardly ever* and 15% *always*, whereas in 1996, 27% of households that had financial difficulties had problems *regularly*.

#### **12.3.1.4 Council Rates**

The proportion of households who paid council rates and who had difficulty paying them in the last 5 years was 6% in 2007 – considerably lower than for utilities bills. In 2001, this proportion was 9% and the question was not asked in 1996.

There was no noticeable difference between country Victoria (7%) and Melbourne (6%) households in terms of proportions who had difficulty paying their council rates. Ballarat experienced the highest proportion of households who had experienced difficulties in paying their council rates in the past 5 years (15%), after sharing the distinction in 2001 with Geelong (14% each).

There was essentially no difference between the proportion of non-concession households and concession households that had difficulty paying council rates for the 2007 survey (6% c.f. 7%, respectively) and in 2001 (9% and 10%, respectively). The proportion of other concession households that had difficulty was however greater than aged concession households (13% c.f. 3%), as in 2001 (20% c.f. 4%).

Households with four or more persons were more likely than smaller households to report having difficulty paying council rates in the past five years (11% 4+ people, 5% 3 people, 5% 2 people, 3% 1 person). As 98% of council rate payers were home owners or buyers, investigation by home ownership status was not conducted.

Of households that had problems paying their council rates, 58% had problems *sometimes*, 25% *hardly ever*, and 17% *always* had problems. In 2001, the proportions were - 47% had problems only *sometimes*, 37% *hardly ever* and 16% *always* had problems.



### **12.3.2 Assistance with Meeting Payments**

In general, there were higher proportions of households discussing their bill paying problems with the respective suppliers/council over the past 12 months, compared to 2001 results. There were increases in the incidence of assistance provided by suppliers for households seeking help for meeting payments for electricity and water bills, and for council rates. Due to small sample sizes, analysis by sub-groups was not possible.

#### *Electricity*

Almost one-half of households that had difficulty paying their electricity bills had discussed the problem with their supplier in the last 12 months (48%). More than three-quarters (78%) of the households that asked for assistance from the supplier received help. The form of assistance received by these households included being allowed to pay the bill off in instalments (58%), extension of the due date (54%), provide information given about the Utility Relief Grants Scheme (URGS) (4%), and refer you to an emergency relief agency (1%). Respondents could provide multiple responses for this question.

A considerably higher proportion of households who had difficulty with their electricity bills discussed the problem with their supplier in 2007 than in 2001 (38%). The proportion of assistance provided (72%), and the forms of assistance this was manifested by were similar across surveys. In 1996, two thirds (64%) of households that regularly had difficulty paying their electricity bills had discussed the problem with the supplier in the last 12 months. Most (84%) households that had discussed the problems said that the supplier had offered assistance. Of those households that were offered assistance, half (49%) were allowed to pay the bill off in instalments, 41% were offered an extension on the due date, 4% were given information on URGS and the remainder (6%) were given other (unspecified) forms of assistance.

#### *Gas*

Almost one-half (44%) of households that had had difficulty meeting payments for gas bills in 2007 had discussed the problem with their gas supplier in the last 12 months, of which three-quarters (75%) received assistance. The form of assistance received included: an extension of the due date on the

---

relevant bill/s (64%), allowed to pay off the bill in instalments (56%), information about the Utility Relief Grants Scheme (8%) or referral to an emergency relief agency (2%) (Multiple responses were permitted for this question).

In comparison, in 2001 a little over a third (34%) of households that had ever had difficulty meeting payments for gas bills had discussed the problem with the gas supplier in the last 12 months, and 70% of those households received assistance. The form of assistance received was extension of the due date of the bill (50%), allowed to pay off the bill in instalments (45%), information given about the Utility Relief Grants Scheme (URGS) (7%) or other unspecified assistance (2%). In 1996, 58% of households that regularly had difficulties paying their gas bills had spoken to the supplier about them in the last 12 months. Most (89%) households that discussed their problems were offered assistance. Of the households offered assistance, half (51%) were allowed to pay the bill off in instalments, 43% were offered an extension on the due date and the remainder were given other (unspecified) forms of assistance (6%).

#### *Water*

Over one-third of households that had difficulty paying their water bills had discussed the problem with their water supplier (36%), with 80% of those that asked for assistance receiving some sort of assistance from the water supplier. This assistance took the form of: extension of the due date of the bill (62%), allowed to pay off the bill in instalments (54%) and information about the Utility Relief Grants Scheme (URGS) (8%).

In 2001 29% of households that had difficulty paying had discussed the problem with the supplier, and six in ten (61%) of those that asked for assistance received assistance from the water supplier. In half of cases (54%) the assistance was in the form of payment of the bill in instalments. Other assistance offered to those households was an extension of the due date for the bill (31%), information on URGS (18%) and other unspecified assistance (2%). Four in 10 (43%) households that regularly had difficulties paying their water bills had discussed the problem with the supplier in 1996. Most (81%) of the households that had discussed the problem received assistance from the supplier and of those, 53% were given an extension on the due date of the bill and 43% were allowed to pay the bill off in instalments.

*Council Rates*

One-third of households that had difficulty in paying their council rates bills had discussed their problem with their relevant Council (33%). Two-thirds of those that had discussed their problems with their Council office received assistance (66%), which came in the form of allowing the payment of the bill in instalments (45%), an extension of the due date on the bill (43%) or other reasons (16%). In 2001, 30% of households that had difficulty paying had discussed the difficulties with the relevant Council. Only half (50%) of households that had discussed their problems with local Council received assistance. The assistance received by households that were offered assistance were one or more of the following; payment of the bill in instalments (59%), extension of the due date (27%), referral to a financial counsellor (11%) and other unspecified forms of assistance (10%). This question was not asked in 1996.

**12.4 DISCONNECTION AND RECONNECTION***Electricity*

Analysis by sub-group is not presented in this section due to small sample sizes. Two percent of households that had difficulty paying their electricity bills actually had their electricity disconnected in the last 12 months, which represented 0.2% of households with electricity bills (5 respondents). Of those, 4 households had the electricity disconnected once in the last 12 months and one household had been disconnected three times. One respondent had difficulties getting the electricity reconnected and that was due to not being able to afford the reconnection fee.

In 2001, 2% of households that had ever had difficulty paying their electricity bills actually had their electricity disconnected in the last 12 months (0.2% of households with electricity bills – 5 respondents). Of those, 4 households had the electricity disconnected once in the last 12 months and one household had been disconnected four or more times. One household had problems getting electricity reconnected for a reason other than being able to afford the reconnection fee. In 1996, a similar proportion of households that had ever had difficulty paying their electricity bills had actually had the electricity disconnected in the last 12 months (3% - 0.5% of all households that receive electricity bills). Of those 12 respondents, 6 had had the electricity disconnected more than once and half of those (3 respondents) had had problems in getting it reconnected. One of those respondents could not afford the reconnection fee and the remaining two respondents gave other reasons for having had problems with reconnection.

*Gas*

Four percent of households who had difficulty paying their gas bill had their gas disconnected in the last 12 months (0.4% of households with gas bills – 5 respondents). Of those five respondents, four had the gas disconnected once and one had it disconnected three times. Three of the five respondents had difficulties getting the gas reconnected – all of whom could not afford the reconnection fee.

In 2001 5% (0.5% of households with gas bills – 10 respondents) who had difficulty paying their gas bill had their gas disconnected in the last 12 months. Of those 10 households, 9 only had their gas disconnected once. The remaining household had it disconnected 4 or more times. Three of the 10 households that had gas disconnected had problems getting it reconnected. One of these households had problems because they could not afford the reconnection fee and the remaining two households gave other reasons for the problems. In 1996, 3% of households had had their gas disconnected in the last 12 months (0.5% of households that received a gas bill), and all of those households had had the gas disconnected more than once in that time (9 households). Less than half (4 households) of households that had their gas disconnected had had problems getting it reconnected. For all of them the reason was that they could not afford the reconnection fee.

*Water*

One percent of households that had ever had problems with water bills had their water restricted in 2007 (two respondents, 0.1% of households with water bills). One household had their water restricted two times, and the other had it restricted four or more times. Neither respondent who had their water restricted experienced difficulties having the restrictions lifted. In 2001, 2% of households that had ever had problems with water bills had their water restricted (0.3% of households with water bills – 5 respondents). Four households had water restricted once in this time and 1 household had had it restricted 4 or more times. One respondent had had problems getting the water restored for a reason other than being able to afford the reconnection fee. In 1996, only one respondent had had the water restricted and it had not happened more than once to that household (0.1% of all households that receive water bills).

*Council Rates*

In 2007, no households who had difficulty paying their council rates had legal action taken against them. In 2001, 2% of households who had difficulty paying their Council rates had legal action taken against them (0.2% of households with Council rates – 3 respondents). These three households had legal action taken against them by the Council only once in the last 12 months. This question was not asked in 1996.

**12.5 EMERGENCY ASSISTANCE****12.5.1 Awareness of the Utility Relief Grants Scheme (URGS)**

On 2007, one-sixth of households (17%) were aware of the Utility Relief Grants Scheme (URGS), a state Government scheme “to assist customers in an emergency situation with payment of electricity, gas or water bills” (as detailed in the survey question). In 2001 16% were aware of URGS and in 1996 the figure was 19%.

Awareness of URGS was virtually the same amongst both Melbourne and country Victorian households (16% and 19%, respectively), with Ballarat households having considerably higher proportions than households in other locations (28%). In 2001, there was little variation between Melbourne and country Victorian households (15% and 18% respectively), but awareness levels were slightly higher for Bendigo households relative to households in other locations (20%). In 1996, there was almost no difference in awareness levels between Melbourne households and country Victorian households (19% compared with 20%) and little difference between locations in country Victoria.

Concession households had greater awareness of URGS than non-concession households (22% compared with 13%), similar to 2001 (20% compared with 13%) and 1996 (24% compared with 15%). Other concession households were more likely than aged concession households to be aware of URGS (27% compared with 17%). In previous surveys, there had been little difference between other concession households and aged concession households (21% compared with 19% in 2001, 23% compared with 21% in 1996).

---

A higher proportion of households in the public rental sector were aware of URGS (40%) than private renters (17%) and owner/buyers (15%). Similarly, in 2001, a higher proportion of households that were in the public rental sector were aware of URGS (29%) than private renters (16%), home owners (17%) or home buyers (12%). In 1996, those figures were 26% of public renters, 21% of home owners, 16% of private renters and 16% of home buyers.

### **12.5.2 Use of the Utility Relief Grants Scheme (URGS)**

Those aware of the URGS scheme were asked if they had ever been assisted through the scheme to pay electricity, gas or water bills. In 2007 18% of those households had been assisted by URGS, compared with 11% in 2001 and 7% in 1996.

There were a considerably higher proportion of concession households aware of the scheme that had been assisted, compared with non-concession households<sup>1</sup> (27% compared with 8%). Two-fifths of other concession households aware of URGS reported receiving assistance (41%), in comparison to just 9% of aged concession households. The variation between concession households and non-concession households was more pronounced in 2007 than in 2001 (13% compared with 5%) and 1996 (13% compared with 2%).

Almost one-half of public sector renters who were aware of URGS reported using the services (49%), as had 36% of private renters and 9% of home owner/buyers. The proportions of public and private renters utilising the URGS has increased considerably from 2001 (19% and 20% respectively) and 1996 (33% and 13%).

---

<sup>1</sup> Non-concession households can claim URGS because another household member holds a concession card.

### **12.5.3 Other Emergency Relief**

Three percent of all households reported receiving emergency relief other than URGS to help with utility bills or council rates in 2007, essentially the same as the proportions reported in 2001 and 1996 (both 2%).

Similar proportions of households in Melbourne and country Victoria received emergency help (3% compared with 4%), which was apparent also in 2001 and 1996 (2% compared with 3%, both surveys). In 2007, nine percent of Ballarat households reported receiving emergency relief other than URGS.

Concession households were more likely than non-concession households to have received non-URGS emergency help (5% compared with 1%), of which 10% of other concession households reported relief, in comparison with 1% of aged concession households. The same trend was witnessed in 2001 (5% of concession households compared with 1% of non-concession households, 8% of other concession households compared with 2% of aged concession households) and 1996 (5% concession households compared with 1% non-concession households, 9% other concession compared with 1% aged concession).

One-fifth of households in the public rental sector (20%) had used emergency relief to pay utilities bills or council rates, which was higher than 2001 and 1996 (both 13%). Five percent of private renters in 2007 utilised emergency relief, compared with 4% in 2001 and 1996. In 2007, 2% of home owners/buyers utilised these services, compared with approximately 1% in 2001 and 1996.

---

## **13 HOUSEHOLD EXPENDITURE PRIORITIES**

NB. This section is based on respondent survey data.

### **13.1 GREATEST EXPENDITURE ITEMS**

#### **13.1.1 Perceived Expenditure Items Spent Most Money on During One Year**

As can be seen in Chart 13.1.1, on average, households perceived that they spend the most during the year on food and groceries (47%), which was also the case for both 2001 and 1996 (45% and 47% respectively). Rents and mortgages followed this, which was considered the highest expenditure item by 33% of households in 2007. Note that 1996 figures cannot be compared directly since in 1996 the questionnaire asked about 'rent/mortgage/rates' whilst in 2001 council rates stood alone as a separate item. However, it is clear from these results that rent/mortgage was considered to be a significant expense by about one-third of households.

All sample types ranked food and groceries first in 2007 but a higher proportion of aged concession households ranked this item first (65%) relative to other concession households (43%) or non-concession households (42%). However, only 7% of aged concession households ranked rent/mortgage first compared to 43% of non-concession households and 37% of other concession households. This is a reflection of the higher proportion of aged concession households that own or have paid off their home (81%). Aged concession households were more likely (9%) than other card holders (3%) or non-concession households (3%) to rank council rates first.

In 2001, 56% of aged concession households, 45% of other concession households and 41% of non-concession households ranked food and groceries first. Rent/mortgage was ranked as the main expense by 38% of non-concession households and 32% of non-aged card holders, and only 6% of aged concession households. In 1996, 56% of aged concession households and 45% of non-concession households and 41% of other concession households ranked food and groceries first. Rent/mortgage/rates was ranked as the main expense by 40% of non-concession households, 38% of other concession



households and 12% of aged concession households. Aged concession households were more likely (14%) than non-card householders (2%) or other cardholders (5%) to rank electricity as their main expense.

In 2007, a higher proportion of LPG region households ranked food and groceries (64%) first than did households from any other region. There was little variation in the proportions of Melbourne (46%) and country Victoria (49%) households who ranked food and groceries as the item that spent most money on. In contrast, a higher proportion of country Victoria households ranked food and groceries first than did Melbourne households for both 2001 (53% compared with 42%) and 1996 (51% compared with 45%). A higher proportion of Melbourne households ranked car expenses first than did country Victorian households (9% compared with 5%).

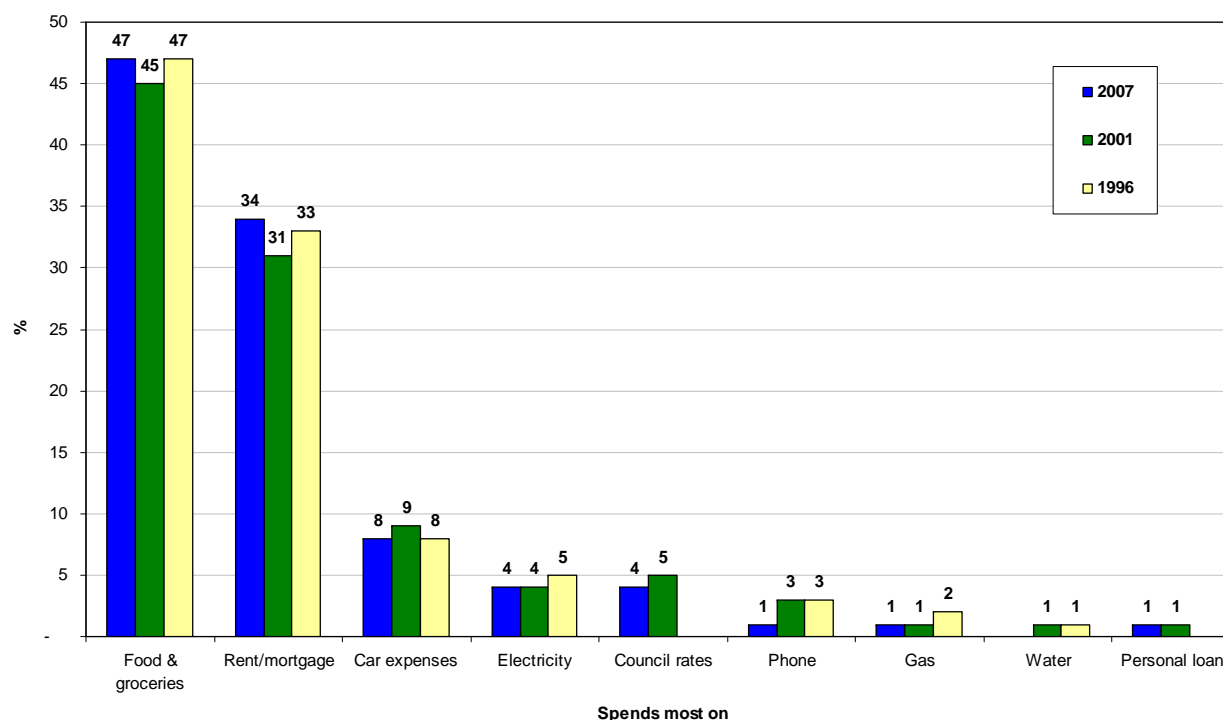
There was no noticeable difference between Melbourne and country Victoria households in ranking rent/mortgage as the item households spent most on (34% compared with 36%). While the proportion of Melbourne households ranking this item first has remained somewhat constant across the 2001 (33%) and 1996 (36%) surveys, there has been a substantial increase in the incidence of country Victorian households nominating this item (23% in 2001, 26% in 1996). One-fifth of LPG households ranked rent/mortgage as the item households spent most on (20%).

In 2007, two-thirds (67%) of private renters indicated rent/mortgage was the greatest expenditure item in comparison to 28% of owner/buyers and 32% of public sector renters. This replicated the trend seen in 2001 and 1996.

Food and groceries was ranked as the greatest expenditure item for households with one person (40%), 2 people (55%) and 3 people (44%); however for households with four or more people, rent/mortgage was ranked first over food and groceries by slightly more respondents (45% compared with 44%). The proportion of single person households ranking food and groceries as the number one expense (40%) has increased from previous surveys (35% in 2001, 34% in 1996). In 2001, almost half of households with 4 or more persons (48%) or 2 more persons (48%) and 4 in 10 households with 3 persons (42%) ranked food and groceries as their major expense. In 1996, the same trend was apparent with about one-half of households with 4 or more people (52%), 3 people (49%) and 2 people (48%) ranking food and groceries as the biggest expense.

Rent/mortgage was ranked as the main expense by almost one-half (45%) of households with 4 or more people, which is an increase from 2001 (37%) and 1996 (36%). The proportions of 2 person (27%) and 3 person (36%) remained consistent with figures reported in 2001 (25% and 38%, respectively) and 1996 (30% and 36%, respectively); however there was some fluctuation in one-person households. In 2007, almost one-third of single-person households ranked rent/mortgage as the main expenditure item (32%), which was considerably more than 2001 (23%), but compatible with 1996 (32%). It is important to remember when comparing these results that the 1996 questionnaire included rates with rent/mortgage.

**Chart 13.1.1: Perceived Items Households Spend Most On in 2007, 2001 and 1996**



Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) surveys.

Note: The 1996 questionnaire did not ask respondents to rank Council rates or personal loans, but did combine rates with rent and mortgage.

### **13.1.2 Mean Perceived Expenditure Ranking on Items during a Year**

To calculate the mean expenditure ranking, the proportion of respondents ranking an item first was multiplied by 1. The proportion of respondents ranking an item second was multiplied by two etc. until the proportion of respondents ranking an item last was multiplied by 9 (in 2001 it was multiplied by 10, as ten items were ranked, not nine, while in 1996 it was multiplied by 8 - i.e. 8 items were ranked). These tallies were then summed and divided by the total number of respondents to obtain the mean.

In terms of expenditure outlays, analysis has been able to be undertaken by mean ranking in 2007, 2001 and 1996. However, it must be stressed that the mean ranking in 2007 is out of nine (i.e. nine expenditure items ranked), 2001 is out of ten (i.e. ten expenditure items ranked), whilst in 1996 the mean ranking is out of eight (i.e. eight expenditure items ranked). It must also be noted that outlays on rent/mortgage and council rates were combined in 1996, so mean rankings are not strictly comparable.

Please note that the lower the mean score achieved, the higher the item was ranked in terms of expenditure outlaid (i.e. the lowest mean score obtains a ranking of one).

Table 13.1.2 highlights the mean rankings for expenditure items. Food and groceries, which was ranked first by 47% of households, was also ranked first in terms of mean ranking, marginally ahead of rent/mortgage. In 2001, rent/mortgage was ranked first in terms of mean ranking, despite only being named as the greatest expenditure item by 31% of respondents.

Aged concession households gave a mean ranking of fifth for rent/mortgage as most aged concession households would not be paying for their accommodation at this stage in their lives. Otherwise, the pattern of mean rankings was quite similar between concession and non-concession households for 2007.

Analysis by sample type is also provided in Table 13.1.2.

Table 13.1.2 – Mean Perceived Expenditure Rankings on Items During a Year by Sample Type

Frequency of Paying by Instalments	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Rent/mortgage	3.82 (5)	3.42 (3)	3.75 (4)	2.49 (2)	2.09 (1)	2.76 (2)	2.82 (2)	2.38 (2)	3.31 (3)	1.87 (1)	1.85 (1)	2.80 (2)	2.18 (2)	2.00 (1)	3.00 (2)
Food & groceries	1.85 (1)	2.03 (1)	2.07 (1)	2.14 (1)	2.13 (2)	2.05 (1)	1.99 (1)	2.08 (1)	2.06 (1)	2.04 (2)	2.15 (2)	1.94 (1)	2.02 (1)	2.12 (2)	1.99 (1)
Car expenses	3.38 (3)	3.46 (4)	3.72 (3)	3.72 (3)	3.87 (3)	4.04 (4)	3.55 (4)	3.68 (4)	3.87 (4)	3.40 (3)	3.46 (3)	3.55 (3)	3.46 (3)	3.53 (3)	3.66 (3)
Electricity	3.24 (2)	3.30 (2)	3.03 (2)	3.82 (4)	3.90 (4)	3.59 (3)	3.51 (3)	3.60 (3)	3.28 (2)	4.18 (4)	4.37 (4)	4.12 (4)	3.91 (4)	4.08 (4)	3.77 (4)
Council rates	3.43 (4)	3.53 (5)	#	4.54 (5)	4.64 (5)	#	3.84 (5)	3.97 (5)	4.47 (#)	4.70 (5)	4.70 (#)	4.23 (5)	4.44 (5)	4.44 (#)	#
Phone	5.29 (7)	4.91 (7)	4.46 (6)	5.08 (7)	4.69 (6)	4.23 (5)	5.19 (7)	4.81 (7)	4.36 (5)	5.44 (6)	5.04 (7)	4.75 (5)	5.34 (7)	4.95 (6)	4.59 (5)
Personal loans	7.3 (9)	8.24 (9)	n/c	5.63 (8)	5.28 (8)	n/c	6.11 (9)	5.69 (9)	n/c	5.68 (8)	4.94 (6)	n/c	5.82 (8)	5.10 (7)	n/c
Gas	4.54 (6)	4.39 (6)	4.45 (5)	5.03 (6)	5.10 (7)	4.75 (6)	4.76 (6)	4.74 (6)	4.58 (6)	5.45 (7)	5.78 (8)	5.18 (6)	5.17 (6)	5.39 (8)	4.95 (6)
Water	5.71 (8)	5.26 (8)	4.72 (7)	6.20 (9)	6.02 (9)	5.66 (7)	5.94 (8)	5.62 (8)	5.11 (7)	6.49 (9)	6.18 (9)	5.49 (7)	6.27 (9)	5.97 (9)	5.34 (7)
Hire purchase	n/c	8.66 (10)	7.38 (8)	n/c	7.71 (10)	5.97 (8)	n/c	7.48 (10)	6.45 (8)	n/c	7.18 (10)	5.89 (8)	n/c	7.26 (10)	6.05 (8)

Total Respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000).

Ranking is in parentheses

#: Collected as Rent/mortgage and council rates in 1996.

## 13.2 PRIORITY OF BILL PAYING

### 13.2.1 First Priority for Bill Paying

Respondents were asked to rank a number of items in response to a hypothetical question about which order they would pay bills if the bills were all due at the same time and all of the a similar size. The results for the bills that they would pay first are shown in Chart 13.2.1.

The most important items in 2007, 2001 and 1996 were rent/mortgage (42%, 40% and 50%, respectively), followed by electricity bills (21%, 19% and 23%, respectively). As with the previous section, the 1996 results cannot be compared directly with the 2007 and 2001 results for rent/mortgage since council rates were grouped with rent/mortgage in 1996 but as a separate item in 2001 and 2007.

Non-concession households were more likely than concession households to pay rent/mortgage first (48% compared with 33%), whereas concession households were more likely to rank electricity as the priority (27% compared with 16%). Among concession households, aged concession households were more likely than other concession households to rank electricity (37% compared with 15%), council rates (14% compared with 7%) and credit cards (13% compared with 5%), while being less likely to rank rent/mortgage (12% compared with 57%).

LPG region households differed from other regions in that almost one-half (46%) reported they would pay electricity as a priority, while the other locations reported rent/mortgage as the highest priority (40%-52%).

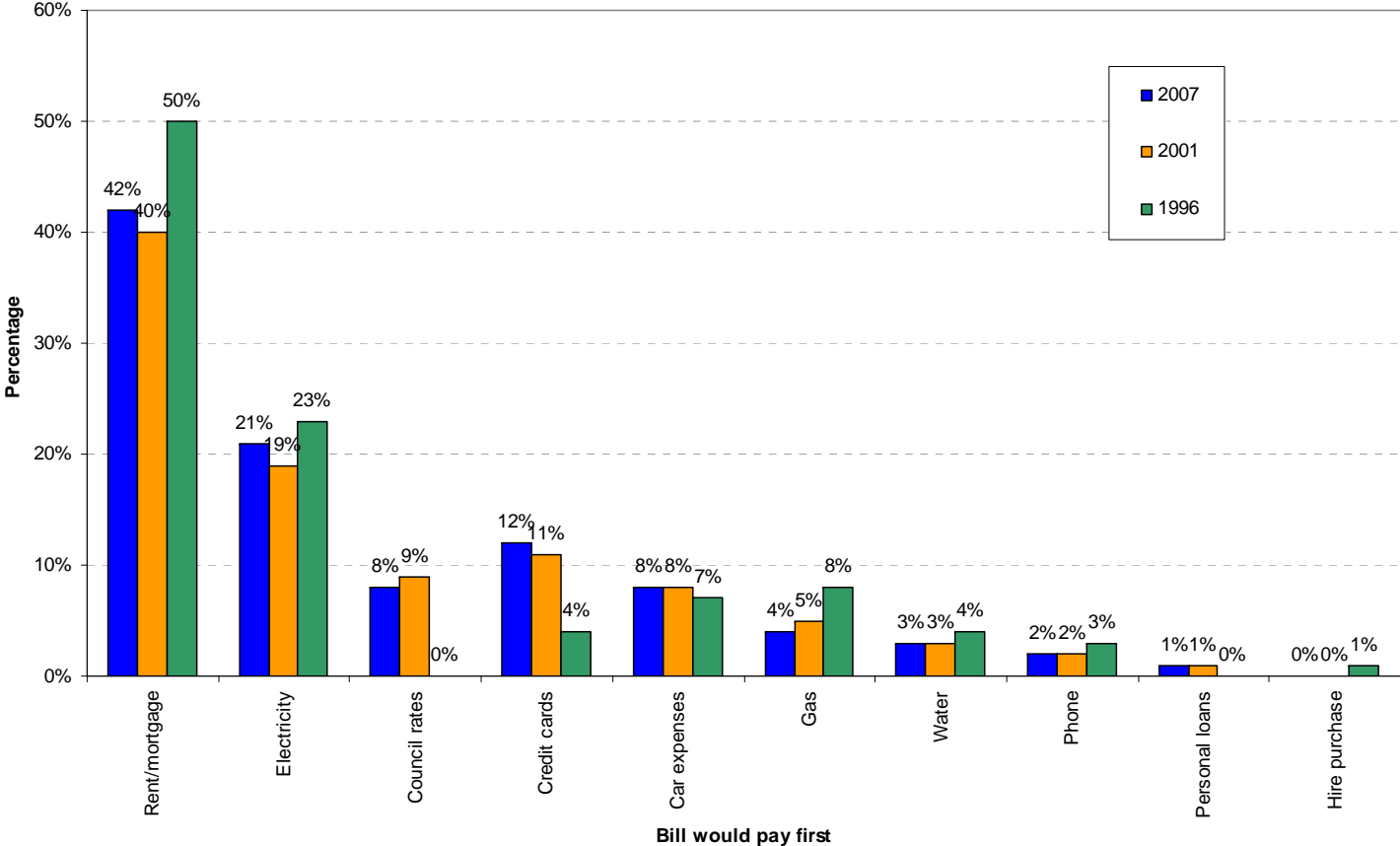
Respondents were asked to provide the reason why they chose that particular bill to pay as a priority. Overall, the results from 2007 were very similar to those revealed in 2001 and 1996.

The main reason given in 2007 by households that put rent/mortgage bills first was *need a place to live/roof over head/don't want to be evicted* (84%). This was also the main reason given in both 2001 (88%) and 1996 (58%).

Reasons given in 2007 for putting electricity bills first were *need for power/light* (76%), *need for cooking/heating* (33%), and *to heat the house/keep warm* (17%), which were the same top three reasons reported in 2001 (80%, 37% and 17%, respectively). In 1996 the main reason given was *need for power/light* (42%).

The main reasons given for paying council rates first were *high interest/penalty for late payment* (65%) and *need a place to live/roof over head/don't want to be evicted* (16%). One-in-eight (12%) respondents indicated they would pay credit cards first, with the main reasons being *high interest/penalty for late payment* (70%) and *can use credit card to pay off other bills* (29%).

Chart 13.2.1: Items Households Would Pay First 2007, 2001 and 1996



Base: Total respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000) surveys.  
Note: The 1996 questionnaire did not ask respondents to rank Council rates or personal loans.

### **13.2.2 Mean Ranking for Bill Payment**

To calculate the mean ranking for bill payment, the proportion of respondents ranking an item first was multiplied by 1. The proportion of respondents ranking an item second was multiplied by two etc. until the proportion of respondents ranking an item last was multiplied by 9 (in 2001 it was multiplied by 10, as ten items were ranked, not nine, while in 1996 it was multiplied by 8 - i.e. 8 items were ranked). These tallies were then summed and divided by the total number of respondents to obtain the mean. These tallies were then summed and divided by the total number of respondents to obtain the mean.

Mean ranking for priority of bill paying has been provided for all three surveys (2007, 2001 and 1996). The lower the mean score, the higher the ranking (i.e. the lowest mean score gives that item a ranking of one). Strict comparison between surveys was not possible, as in 1996 there were eight items ranked, in 2001 there were ten, and in 2007 there were nine items ranked. Furthermore, the items of rent/mortgage and council rates were combined in 1996, thereby making assessment of these items more difficult.

Table 13.2.2 shows that rent/mortgage achieved the ranking of one for 2007, as it did in 2001. This was the case for all sample types with the exception of aged concession households who were less likely to have a mortgage or rent than other groups. Council rates was more important for concession householders (ranking of four) than non-concession households (ranking of six). Notably, the mean ranking of water rates has moved from four to seven since 1996, while credit cards have become more important (five in 2007 and 2001, compared with seven in 1996).



Table 13.2.2 Mean Ranking for Bill Payment by Sample Type.

Frequency of Paying by Instalments	Aged Concession HHs			Other Concession HHs			Total Concession HHs			Non-Concession HHs			Total HHs		
	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996	2007	2001	1996
Rent/mortgage	3.15 (2)	2.87 (2)	3.26 (3)	1.82 (1)	1.79 (1)	2.17 (1)	2.15 (1)	2.05 (1)	2.78 (2)	1.78 (1)	1.96 (1)	2.50 (1)	1.9 (1)	1.99 (1)	2.61 (2)
Electricity	2.11 (1)	2.23 (1)	2.06 (1)	2.94 (2)	2.88 (2)	2.52 (2)	2.50 (2)	2.54 (2)	2.26 (1)	3.11 (2)	3.25 (2)	2.79 (2)	2.86 (2)	2.98 (92)	2.57 (1)
Gas	3.25 (3)	3.02 (3)	2.98 (2)	3.79 (3)	3.52 (3)	3.19 (3)	3.50 (3)	3.26 (3)	3.07 (3)	4.10 (3)	4.23 (3)	3.63 (3)	3.85 (3)	3.87 (3)	3.41 (3)
Car expenses	4.31 (6)	4.38 (7)	4.53 (6)	4.11 (4)	4.46 (4)	4.45 (5)	4.21 (5)	4.42 (5)	4.49 (6)	4.17 (4)	4.26 (4)	4.24 (4)	4.19 (4)	4.32 (4)	4.33 (5)
Credit cards	3.99 (5)	3.92 (5)	5.70 (7)	4.77 (6)	4.74 (6)	5.74 (8)	4.35 (6)	4.53 (=6)	5.72 (7)	4.19 (5)	4.58 (5)	5.34 (8)	4.24 (5)	4.53 (5)	5.44 (7)
Council rates	3.75 (4)	3.61 (4)	#	4.36 (5)	4.58 (5)	#	3.98 (4)	3.99 (4)	4.78 (#)	4.90 (6)	4.90 (6)	#	4.49 (6)	4.58 (6)	#
Water	4.42 (7)	4.28 (6)	3.63 (4)	4.93 (8)	4.82 (7)	4.32 (4)	4.66 (8)	4.53 (=6)	3.92 (4)	5.23 (7)	5.20 (8)	4.32 (5)	5.00 (7)	4.95 (7)	4.17 (4)
Phone	4.44 (8)	4.39 (8)	4.24 (5)	4.81 (7)	4.85 (8)	4.53 (6)	4.61 (7)	4.61 (8)	4.36 (5)	5.27 (8)	5.26 (9)	4.84 (6)	5.01 (8)	5.02 (8)	4.65 (6)
Personal loans	7.05 (9)	7.16 (10)	n/c	5.57 (9)	5.08 (9)	n/c	5.99 (9)	5.48 (9)	n/c	5.35 (9)	5.14 (7)	n/c	5.56 (9)	5.22 (9)	n/c
Hire purchase	n/c	6.51 (9)	5.94 (8)	n/c	6.51 (10)	5.68 (7)	n/c	6.48 (10)	5.79 (8)	n/c	6.22 (10)	5.33 (7)	n/c	6.29 (10)	5.49 (8)

Total Respondents 2007 (n=2,061), 2001 (n=2,006) and 1996 (n=2,000).

#: Collected as Rent/mortgage and council rates in 1996.

*Victorian Utility Consumption Survey*

---