

# **ENVIRONMENTAL ISSUES: PEOPLE'S VIEWS AND PRACTICES**

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For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Michael Vardon on Canberra (02) 6252 7348.

# NOTES

## ABOUT THIS PUBLICATION

This publication is the eleventh of its type and presents information on environmental behaviour and practices of Australian households and individuals collected in March 2005. Respondents were aged 18 years or older.

This edition focuses on "Energy use and conservation" and covers a range of issues including energy sources, energy use, and energy saving measures used in households.

Other areas covered include: dwelling characteristics that alter energy use consumption and behaviour, heaters and coolers, types of household appliances used in households and support to the green power scheme.

## ABOUT THE SURVEY

The data in this publication are derived from a supplement to the Monthly Population Survey. Please refer to the Explanatory Notes at the back of this publication for further details about the survey.

## DATA COMPARABILITY

A set of changing topics rotate over a period of three years. The topics contained in this publication are compared with data collected in 1994, 1999 and 2002. Where applicable those data have been included in this publication to enable comparisons.

Prior to 1997, environment topics were surveyed using 'personal interview' methodology. From 1997 onwards, the 'any responsible adult' methodology has been applied. When comparing post-1997 and pre-1997 data, readers should be aware that some differences in the data may be explained by the change in methodology rather than the real changes over time.

## ROUNDING

Where figures have been rounded, discrepancies may occur between sums of the component items and totals. Published percentages are calculated prior to rounding of the figures and therefore some discrepancy may occur between these percentages and those that could be calculated from the rounded figures.

Dennis Trewin  
Australian Statistician

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CHAPTER 5 HOUSEHOLD APPLIANCES

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INTRODUCTION

Household energy consumption accounts for nearly 12% of the final energy consumed in Australia. In 1974-75, residential energy consumption was recorded at 246 peta joules; in 2003-04, such consumption increased to 420 peta joules (ABARE 2005).

Home energy use (i.e. cooking, space and water heating) is the largest source of greenhouse emissions in Australian households. According to the Australian Greenhouse Office, the average household's energy use is responsible for about eight tonnes of carbon dioxide, the main greenhouse gas, per year (AGO 2005a). The greater the amount of energy consumed by households, the more greenhouse gases are emitted.

This publication presents the results of a household survey conducted in March 2005. The survey collected information on energy sources, aspects of dwelling materials and fixtures that impact on energy use, and energy using household appliances. These are some of the main determinants of energy use, which in turn has implications for greenhouse gas emissions, pollution and resource depletion.

MAIN FINDINGS

A major theme that emerged in this survey was energy consumption in households was driven mostly by lifestyle reasons and resources availability, rather than a desire to reduce energy use.

The majority of Australians continue to live in separate houses, most of them with three or more bedrooms. There was also an increased uptake of several appliances in households, mainly air conditioners, dishwashers, DVD players, games consoles etc. Conservation measures such as insulation, installation of heaters and window treatments were applied, but mainly to achieve comfort and convenience rather than the benefits from energy reduction and cost savings.

Main findings of the survey are presented below. Details are presented in the subsequent chapters.

- There has been a modest increase in the use of insulation, from 52% of dwellings in 1994 to 60% in 2005. The main reason given for having insulation was to improve comfort (given by 84% of people installing insulation), while the main obstacle was not being responsible for insulation (34% of people without insulation). Saving energy was low on the list of reasons for installing insulation.
- More than half (57%) of Australian dwellings had at least one room illuminated by standard fluorescent lights while one-third (33%) of dwellings used other energy saving lights. Nationally, there was a significant increase in the use of other energy saving lights from 23% in 2002 to 33% in 2005, particularly in New South Wales, South Australia and Tasmania.

## MAIN FINDINGS

*continued*

- Close to half of Australian dwellings (48%) applied at least one measure to regulate heat through windows. Outside awnings and/or shutters were the principal form of window protection and were used by over 30% of households.
- Electricity was still the main source of energy for Australians, being used by almost every household (99%) in 2005. Electricity was the main energy source for cooking (54%) and hot water systems (51%), but gas remains the main source of energy for space heating (34%).
- Solar energy was utilised by 5% of households nationally, primarily for heating water (4%). In the Northern Territory and South Australia, however, 42% and 16% of households used solar energy to heat water.
- The use of off-peak electricity in hot water systems increased significantly from 30% in 2002 to 34% in 2005. Queensland recorded the highest proportion of households using off-peak electricity for hot water systems (50%) and had the most significant increase (13%).
- There has been a significant increase in the number of households with air conditioners from 33% of dwellings in 1994 to 60% in 2005. Reverse cycle/heat pump has been the most popular system of cooling since 1994.
- Almost all dwellings in Australia have at least a refrigerator, washing machine, television and vacuum cleaner (over 95% of dwellings). More than three-quarters (78%) have heaters, three-fifths (60%) have coolers and more than half (55%) have clothes dryers. Computers were present in 68% of Australian dwellings, increasing significantly from 45% in 1999.
- Energy rating efficiency and cost were the two main factors considered by households when buying or replacing a white good. Environmental considerations were not a main factor in choosing appliances (11%), yet were becoming more of a factor when choosing washing machines (19%).
- More Australian households used cold water (69%) than warm water (19%) in washing machines (the remainder used hot water or varied the temperature).
- More than a quarter (29%) of households were aware of green power schemes in 2005, an increase from 19% in 1999 and from 24% in 2002. However, only 23% of these households were willing to support the scheme, a slight decrease from 26% in 2002. Most of these respondents (53%) were willing to pay less than \$100 extra per year for green power.

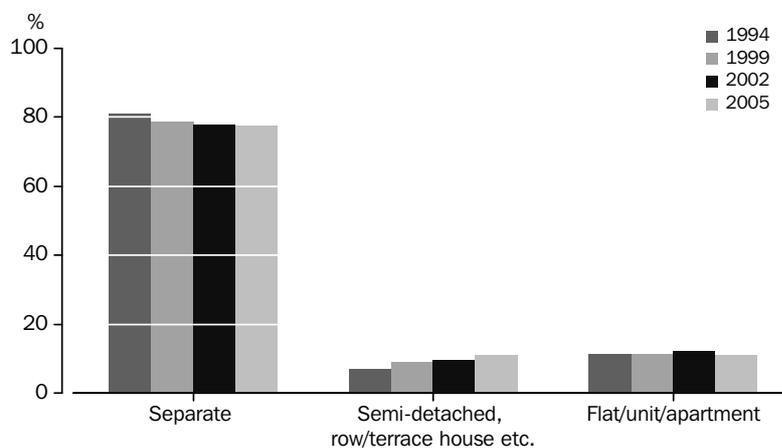
INTRODUCTION

This chapter looks into the practices and measures undertaken by Australian households to reduce energy consumption. The design and characteristics of individual dwellings have a dramatic effect on energy use. For example, the amount of floor space in a dwelling has significant implications on the demand for heating or cooling. The choice of building materials can make a significant difference to the performance and comfort of the dwelling. For example, the degree of insulation of the dwelling influences energy consumption and greenhouse emissions.

DWELLING TYPE

The majority of Australians live in separate houses. In March 2005, 77% of households occupied separate houses, down slightly from 81% in 1994 (graph 2.1). Separate houses were more common outside of capital cities (86%) than within them (73%) (table 2.6). Of the states and territories, Tasmania (89%) and Western Australia (83%) had the highest proportion of separate dwellings, whereas New South Wales had the highest proportion of flats or units (18%).

**2.1** DWELLING TYPE—1994:2005



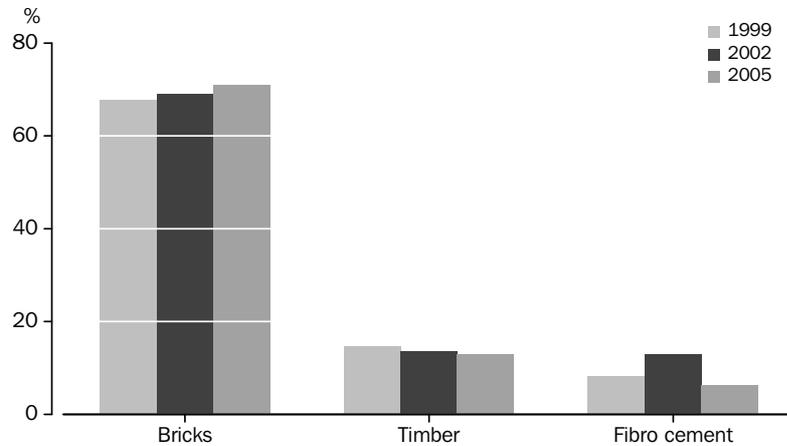
The majority (53%) of separate houses had three bedrooms while a further 35% had four or more bedrooms. In contrast, 50% of semi-detached homes and 86% of flats/units had only one or two bedrooms (table 2.8).

DWELLING MATERIAL -  
OUTSIDE WALLS

Bricks (double brick or veneer), timber and fibro cement were the most commonly used outside wall materials for the construction or renovation of dwellings in Australia. In March 2005, around 71% of dwellings across Australia had their outside walls constructed in bricks and 13% in timber.

DWELLING MATERIAL -  
OUTSIDE WALLS  
*continued*

**2.2** TOP THREE MAIN DWELLING MATERIALS, Outside walls—1999:2005



Brick veneer (45%) remained the most popular choice of brick wall over double brick (26%). Brick veneer was more often used in the cooler states of the Australian Capital Territory (77%) and Victoria (61%).

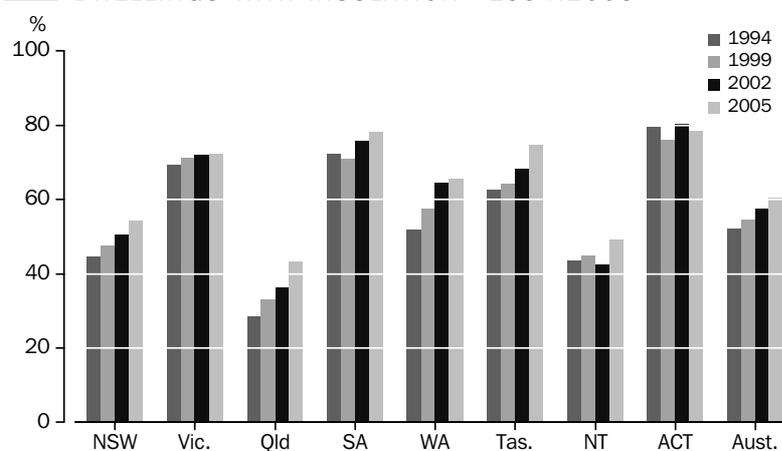
The use of timber was most pronounced in the states of Tasmania (30%) and Queensland (22%). Use of timber by Tasmanian households for outside walls of dwellings has slightly increased from 26% in 2002 to 30% in 2005. Fibro cement was reported highest in New South Wales (9%). A reduction in wood usage over the same period was noted in Queensland (26% to 22%).

INSULATION

A properly insulated home - that is insulation in ceiling, walls and floors - will contribute to the comfort of a home all year round, as well as energy use and greenhouse emissions.

The proportion of insulated dwellings in Australia has substantially increased since 1994 (graph 2.3 and table 2.12), and this may be attributed to certain government policies and industry initiatives directed to increase energy efficiency in new homes (i.e. Building Code of Australia). In 1994, over half of Australian dwellings had insulation (52%), and this proportion had risen to 60% in 2005.

In 2005 nearly one-fifth (20%) of households did not know if their dwelling had insulation, up from 15% in 1994.

INSULATION *continued***2.3** DWELLINGS WITH INSULATION—1994:2005

Of the dwellings with insulation, 98% had it in the roof or ceiling (table 2.14). Most of the winter heat loss and summer heat gain occurs in the roof or ceiling. Roof insulation can save up to 45% on energy consumption for heating and cooling (AGO 2005b).

Most Australians (83%) insulated their homes mainly to achieve comfort (table 2.18). Cost and energy saving benefits were relatively minor factors (10% and 4%, respectively). In the Australian Capital Territory, cost savings benefits from insulation were valued by 16% of households, and energy savings by 8% of households.

Among households with no insulation, not being a home owner or responsible to insulate the home was cited as the main reason for not having insulation (34%), followed by cost (16%) and not getting around to do it (12%) (table 2.19).

## LIGHTING

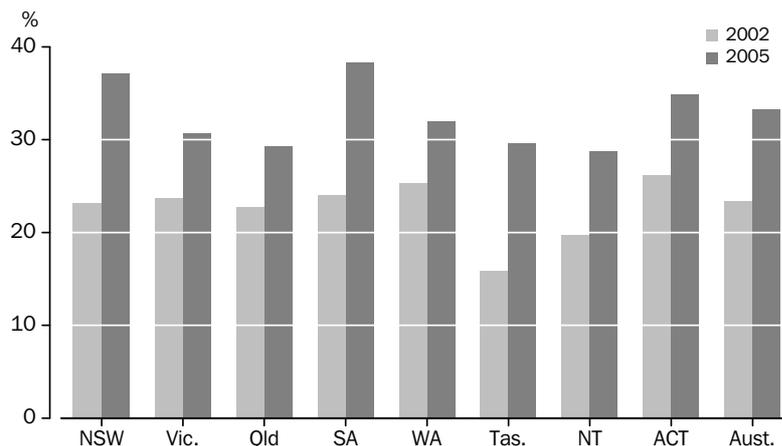
The type of lights chosen by a household determines the amount of electricity used and subsequent lighting costs. One means of conserving energy is through the use of fluorescent lights and energy saving lights. An energy saving light is an innovative light based on the standard fluorescent lamp and is designed to fit into a conventional light socket. Although more expensive to purchase, fluorescent lights and other energy saving lights are considered the most energy efficient form of lighting, as they use less energy, cheaper to operate and last longer (between 8,000 – 16,000 hours) than conventional lights (DEUS 2005a).

In March 2005, more than half of dwellings (57%) in Australia had at least one room illuminated by standard fluorescent lights and one-third (33%) dwellings by other energy saving lights (table 2.20). In the Northern Territory, fluorescent lights were used in 84% of dwellings and in Queensland it was 75% of dwellings. Use of fluorescent lights in homes was more common in rural areas than in urban areas (67% to 51%, respectively) while use of other energy savings was slightly higher in urban areas than in rural areas (35% to 31%, respectively). Nationally, one in ten dwellings (10%) had illuminated their entire house with fluorescent or energy saving lights, while in the Northern Territory it was two in ten dwellings (21%) (table 2.22).

LIGHTING *continued*

While the use of fluorescent lights remained more or less static between 2002 and 2005 (table 2.21), there was a significant increase in usage of other energy saving lights over the same period (from 23% to 33%), particularly in South Australia (from 24% to 38%), New South Wales (23% to 37%) and Tasmania (16% to 30%) (graph 2.4).

**2.4** OTHER ENERGY SAVING LIGHTS, Use in dwellings—2002 and 2005



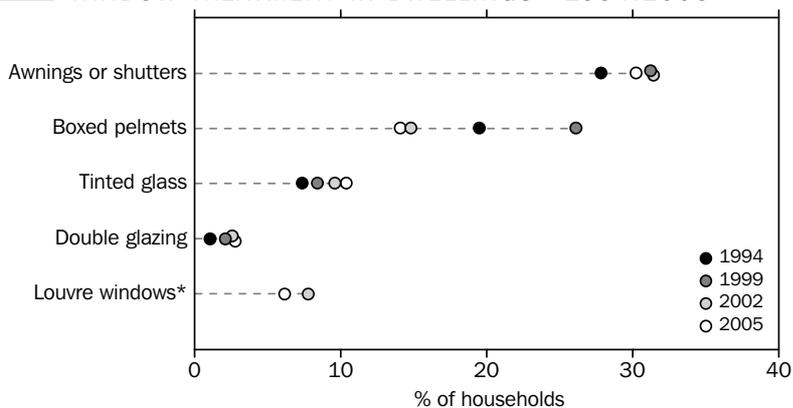
WINDOW  
TREATMENT/APPLICATION

Window protection and shading reduces the amount of heat loss or gain by a dwelling during winter or summer by up to 70% and may save a household around \$200 each year in reduced energy costs (DEUS 2005b). The amount of heat lost or gained through windows is relative to their location, size and to the nature and extent of applied window treatments.

Close to half of Australian households (48% in 2005) had applied one type of measure to reduce heat loss through windows. Graph 2.5 and table 2.23 indicates that outside awnings and/or shutters were the principal form of window protection applied in over 30% of dwellings in Australia, mainly in South Australia (43% of dwellings) and Victoria (38% of dwellings). Boxed pelmets were applied most in Victoria (23%) and Tasmania (20%), while tinted glasses and/or solar guardings were more popular in the hot climate states of Queensland (21%) and Western Australia (17%). Louvre windows were more common in the Northern Territory (26%) despite a reduction from 50% in 2002.

WINDOW  
TREATMENT/APPLICATION  
*continued*

**2.5** WINDOW TREATMENT IN DWELLINGS—1994:2005



\* Data not collected in 1994 and 1999

## 2.6 DWELLING STRUCTURE, Type of dwelling—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
CAPITAL CITY									
<b>Estimate ('000)</b>									
Separate house	985.5	1 069.2	536.9	371.8	475.1	69.3	..	..	3 641.5
Semi-detached, row/terrace house etc.	209.5	161.8	64.5	85.6	72.7	6.7	..	..	628.9
Flat/unit/apartment	396.0	134.6	94.1	22.6	32.2	5.8	..	..	703.1
Other types(b)	*15.6	*4.3	*4.4	*0.4	*5.8	—	..	..	30.6
<b>Total households</b>	<b>1 606.5</b>	<b>1 370.0</b>	<b>699.9</b>	<b>480.3</b>	<b>585.8</b>	<b>81.8</b>	..	..	<b>5 004.2</b>
<b>Proportion (%)</b>									
Separate house	61.3	78.0	76.7	77.4	81.1	84.8	..	..	72.8
Semi-detached, row/terrace house etc.	13.0	11.8	9.2	17.8	12.4	8.2	..	..	12.6
Flat/unit/apartment	24.6	9.8	13.4	4.7	5.5	7.0	..	..	14.1
Other types(b)	*1.0	*0.3	*0.6	*0.1	*1.0	—	..	..	0.6
BALANCE OF STATE / TERRITORY									
<b>Estimate ('000)</b>									
Separate house	822.7	503.3	685.3	140.8	177.9	105.1	..	..	2 435.0
Semi-detached, row/terrace house etc.	71.7	28.6	82.4	17.8	18.6	*6.1	..	..	225.2
Flat/unit/apartment	70.4	*11.7	58.2	*3.7	*2.3	*2.3	..	..	148.5
Other types(b)	19.0	*2.9	*6.3	*0.8	*4.4	*0.6	..	..	34.0
<b>Total households</b>	<b>983.9</b>	<b>546.4</b>	<b>832.3</b>	<b>163.1</b>	<b>203.1</b>	<b>114.1</b>	..	..	<b>2 842.8</b>
<b>Proportion (%)</b>									
Separate house	83.6	92.1	82.3	86.3	87.6	92.0	..	..	85.7
Semi-detached, row/terrace house etc.	7.3	5.2	9.9	10.9	9.1	*5.4	..	..	7.9
Flat/unit/apartment	7.2	*2.1	7.0	*2.3	*1.1	*2.0	..	..	5.2
Other types(b)	1.9	*0.5	*0.8	*0.5	*2.1	*0.6	..	..	1.2
TOTAL STATE / TERRITORY									
<b>Estimate ('000)</b>									
Separate house	1 808.2	1 572.5	1 222.2	512.6	653.0	174.4	34.1	99.6	6 076.6
Semi-detached, row/terrace house etc.	281.2	190.4	147.0	103.4	91.3	12.8	11.2	16.8	854.1
Flat/unit/apartment	466.4	146.3	152.2	26.3	34.4	*8.1	9.4	8.6	851.7
Other types(b)	34.6	*7.3	*10.7	*1.1	*10.1	*0.6	—	*0.2	64.7
<b>Total households</b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 847.0</b>
<b>Proportion (%)</b>									
Separate house	69.8	82.1	79.8	79.7	82.8	89.0	62.3	79.6	77.4
Semi-detached, row/terrace house etc.	10.9	9.9	9.6	16.1	11.6	6.6	20.6	13.4	10.9
Flat/unit/apartment	18.0	7.6	9.9	4.1	4.4	*4.1	17.2	6.9	10.9
Other types(b)	1.3	*0.4	*0.7	*0.2	*1.3	*0.3	—	*0.2	0.8

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) Refers to caravans, houseboats and other improvised homes.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

## 2.7 DWELLING STRUCTURE, Type of dwelling—1994:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Separate house	69.8	82.1	79.8	79.7	82.8	89.0	62.3	79.6	77.4
Semi-detached, row/terrace house etc.	10.9	9.9	9.6	16.1	11.6	6.6	20.6	13.4	10.9
Flat/unit/apartment	18.0	7.6	9.9	4.1	4.4	*4.1	17.2	6.9	10.9
Other types(b)	1.3	*0.4	*0.7	*0.2	*1.3	*0.3	—	*0.2	0.8
MARCH 2002									
Separate house	70.7	81.9	80.1	79.6	81.9	86.9	73.9	75.5	77.6
Semi-detached, row/terrace house etc.	9.6	8.3	7.0	14.8	12.5	5.8	12.3	16.1	9.6
Flat/unit/apartment	18.8	9.5	11.9	5.2	5.5	6.9	12.2	8.1	12.2
Other types(b)	0.8	0.2	1.1	0.3	—	0.4	1.6	0.4	0.6
MARCH 1999									
Separate house	74.0	82.7	82.2	77.2	78.4	88.9	72.6	77.4	78.8
Semi-detached, row/terrace house etc.	8.9	8.2	6.7	13.1	13.2	4.8	10.5	15.2	9.1
Flat/unit/apartment	15.9	8.6	9.9	9.2	8.3	5.6	15.3	7.5	11.3
Other types(b)	1.1	0.4	1.2	0.5	0.2	0.7	1.6	—	0.8
JUNE 1994									
Separate house	76.6	84.0	83.7	77.4	83.0	88.9	64.1	84.9	80.8
Semi-detached, row/terrace house etc.	7.1	4.9	5.0	13.1	11.1	5.0	4.2	10.3	7.1
Flat/unit/apartment	15.4	10.8	10.5	9.0	4.8	5.7	16.8	4.8	11.4
Other types(b)	0.8	0.3	0.9	0.5	1.1	0.4	14.9	—	0.8

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) Refers to caravans, houseboats and other improvised homes.

## 2.8 DWELLING STRUCTURE, Number of bedrooms per type of dwelling—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
<b>Separate house</b>									
One	*0.6	*0.8	*0.9	*0.6	*0.6	*0.6	*3.1	*0.7	*0.8
Two	10.3	11.6	9.9	13.9	7.5	16.0	*8.2	6.4	10.7
Three	50.7	59.9	50.9	61.0	44.5	57.1	66.3	52.8	53.6
Four or more	38.3	27.6	38.2	24.4	47.3	26.2	22.4	40.2	34.9
None/bedsitter	—	*0.1	*—	—	—	—	—	—	*—
<b>Semi-detached, row/terrace house etc.</b>									
One	5.9	8.1	*6.3	*8.9	*9.4	*33.5	*16.6	*6.6	7.8
Two	34.4	48.8	48.5	47.8	31.8	35.7	*54.7	*26.5	41.5
Three	47.6	33.0	39.8	38.4	48.2	*22.3	*28.7	62.2	41.6
Four or more	11.7	10.1	5.4	*4.5	*10.5	*8.4	—	*4.7	8.9
None/bedsitter	0.3	—	*—	*0.4	—	—	—	—	*0.2
<b>Flat/unit/apartment</b>									
One	22.0	29.6	20.6	*20.7	*22.2	*13.8	*9.7	*50.7	23.1
Two	62.9	56.0	70.1	72.0	59.9	70.6	*74.7	*44.1	63.2
Three	11.3	12.6	*8.4	*5.8	*17.9	*8.2	*2.7	—	10.9
Four or more	*0.4	*0.4	*0.4	—	—	*2.5	—	—	*0.4
None/bedsitter	*3.4	*1.3	*0.5	*1.5	—	*4.8	*12.9	*5.1	2.5
<b>Other types(b)</b>									
One	*21.1	*8.6	*32.7	—	*4.0	*33.3	—	—	*18.6
Two	49.1	*33.2	*39.9	*33.5	*71.6	—	—	—	48.4
Three	*27.5	*49.8	*9.8	*33.2	*24.4	*33.4	—	*100.0	27.0
Four or more	2.2	—	*17.6	*33.2	—	—	—	—	*4.7
None/bedsitter	—	*8.4	—	—	—	*33.3	—	—	*1.3

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) Refers to caravans, houseboats and other improvised homes.

**2.9**

## DWELLING STRUCTURE, Main material of outside walls—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
CAPITAL CITY									
Brick									
Brick veneer	43.9	67.3	49.6	40.3	4.6	41.8	..	..	46.6
Double brick	39.4	12.7	11.5	48.0	88.0	18.5	..	..	33.7
Total	83.3	80.0	61.0	88.3	92.6	60.3	..	..	80.3
Stone	*0.1	*0.3	—	4.9	*0.7	*1.4	..	..	0.7
Timber	3.7	13.7	26.0	*1.0	*1.3	26.8	..	..	9.3
Fibro cement	6.8	1.0	4.8	2.1	2.2	*1.1	..	..	3.7
Concrete/besser block	1.9	2.9	3.1	1.9	*1.4	6.5	..	..	2.8
Steel/aluminium	*0.4	*0.5	*0.4	*0.1	—	*1.0	..	..	0.5
Aerated concrete	*0.1	*—	*0.4	*0.1	*0.1	*0.7	..	..	*0.1
Other	2.4	1.0	3.3	*0.3	*1.0	*—	..	..	1.7
Not known	1.3	*0.4	*0.9	*1.3	*0.7	—	..	..	0.9
BALANCE OF STATE / TERRITORY									
Brick									
Brick veneer	44.6	46.4	43.3	38.3	23.2	40.5	..	..	42.5
Double brick	11.6	6.7	6.8	17.6	40.9	10.5	..	..	11.7
Total	56.2	53.2	50.2	55.8	64.1	51.0	..	..	54.2
Stone	*0.5	*1.1	*0.1	16.4	*0.7	*1.9	..	..	1.5
Timber	20.2	26.8	19.0	*2.9	*5.1	32.0	..	..	19.5
Fibro cement	12.2	9.5	9.4	15.3	20.3	*3.0	..	..	11.3
Concrete/besser block	2.6	*1.6	14.1	*3.5	*1.9	*3.4	..	..	5.8
Steel/aluminium	2.8	3.6	2.3	*0.7	*3.9	*2.4	..	..	2.8
Aerated concrete	*0.2	*0.5	*0.2	*0.2	—	—	..	..	*0.2
Other	4.6	3.4	4.0	*4.4	*2.3	6.3	..	..	4.1
Not known	*0.7	*0.2	*0.7	*0.7	*1.8	—	..	..	0.7
TOTAL STATE / TERRITORY									
Brick									
Brick veneer	44.2	61.3	46.2	39.8	9.4	41.0	14.9	76.8	45.1
Double brick	28.8	11.0	9.0	40.3	75.9	13.8	27.5	18.3	25.7
Total	73.0	72.4	55.1	80.1	85.3	54.9	42.4	95.1	70.9
Stone	*0.2	*0.5	*0.1	7.9	*0.7	*1.7	—	—	1.0
Timber	10.0	17.5	22.2	1.5	2.3	29.9	*2.0	*0.8	13.0
Fibro cement	8.9	3.5	7.3	5.5	6.8	*2.2	*5.2	*0.5	6.4
Concrete/besser block	2.2	2.5	9.1	2.3	1.5	4.7	37.5	*2.1	3.9
Steel/aluminium	1.3	1.4	1.4	*0.2	*1.0	*1.8	*10.3	—	1.3
Aerated concrete	*0.1	*0.2	*0.3	*0.1	*—	*0.3	—	—	*0.2
Other	3.2	1.7	3.7	1.3	1.4	4.6	*2.1	*0.7	2.6
Not known	1.1	*0.4	*0.8	*1.2	*1.0	—	*0.5	*0.8	0.8

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**2.10**

## DWELLING STRUCTURE, Main material of outside walls—1999:2005 .....

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Brick									
Brick veneer	44.2	61.3	46.2	39.8	9.4	41.0	14.9	76.8	45.1
Double brick	28.8	11.0	9.0	40.3	75.9	13.8	27.5	18.3	25.7
Total	73.0	72.4	55.1	80.1	85.3	54.9	42.4	95.1	70.9
Stone	*0.2	*0.5	*0.1	7.9	*0.7	*1.7	—	—	1.0
Timber	10.0	17.5	22.2	1.5	2.3	29.9	*2.0	*0.8	13.0
Fibro cement	8.9	3.5	7.3	5.5	6.8	2.2	*5.2	*0.5	6.4
Concrete/besser block	2.2	2.5	9.1	2.3	1.5	4.7	37.5	*2.1	3.9
Steel/aluminium	1.3	1.4	1.4	*0.2	*1.0	*1.8	*10.3	—	1.3
Aerated concrete	*0.1	*0.2	*0.3	*0.1	—	*0.3	—	—	*0.2
Other	3.2	1.7	3.7	1.3	1.4	4.6	*2.1	*0.7	2.6
Not known	1.1	*0.4	0.8	*1.2	*1.0	—	*0.5	0.8	0.8

## MARCH 2002

Brick									
Brick veneer	40.6	59.0	44.6	35.6	7.0	45.0	9.5	74.5	42.5
Double brick	29.6	11.8	6.8	43.7	79.4	15.5	30.1	19.2	26.5
Total	70.2	70.8	51.4	79.4	86.4	60.5	39.6	93.7	69.1
Stone	0.3	0.3	—	6.4	0.7	1.1	—	—	0.8
Timber	9.5	18.3	25.5	1.9	2.8	26.2	0.7	2.1	13.7
Fibro cement	11.6	4.1	8.9	5.5	6.8	3.1	7.5	1.0	7.8
Concrete/besser block	2.1	3.2	8.7	2.4	0.8	4.6	31.8	1.2	3.8
Steel/aluminium	2.1	1.1	2.9	0.5	0.4	1.7	16.7	—	1.8
Aerated concrete	0.1	0.1	0.2	0.2	—	0.2	—	0.2	0.1
Other	3.4	1.8	2.2	2.7	1.3	2.6	2.5	0.9	2.4
Not known	0.7	0.4	0.3	1.1	0.7	—	1.1	0.9	0.6

## MARCH 1999

Brick									
Brick veneer	38.2	58.3	41.0	33.3	8.8	38.7	10.6	72.3	40.6
Double brick	30.7	13.3	7.3	44.9	75.6	17.6	24.9	21.1	27.2
Total	68.9	71.5	48.3	78.2	84.4	56.2	35.5	93.4	67.9
Stone	0.2	0.2	0.2	7.8	0.5	1.1	—	—	0.9
Timber	10.5	18.6	28.3	2.5	3.2	32.1	0.7	1.6	14.7
Fibro Cement	13.0	3.5	9.5	4.2	8.6	2.0	8.4	1.1	8.3
Concrete/besser block	1.1	2.0	7.7	4.1	0.9	3.9	40.0	2.3	3.2
Steel/aluminium	2.8	1.3	2.5	0.8	0.4	1.9	12.4	0.5	2.0
Aerated concrete	0.1	0.2	0.3	—	0.1	0.1	0.4	0.2	0.2
Other	2.9	2.1	2.6	1.5	1.7	2.6	1.8	0.3	2.3
Not known	0.4	0.5	0.5	0.8	0.3	—	0.7	0.5	0.5

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

## 2.11 DWELLING CHARACTERISTICS, Whether has insulation—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
CAPITAL CITY									
<b>Estimate ('000)</b>									
With insulation	788.0	978.8	290.5	372.6	391.1	60.2	..	..	3 006.3
Without insulation	442.9	125.4	255.5	41.6	111.5	8.8	..	..	999.3
Don't know	375.6	265.8	153.9	66.2	83.1	12.7	..	..	998.6
<b>Total households</b>	<b>1 606.5</b>	<b>1 370.0</b>	<b>699.9</b>	<b>480.3</b>	<b>585.8</b>	<b>81.8</b>	..	..	<b>5 004.2</b>
<b>Proportion (%)</b>									
With insulation	49.1	71.4	41.5	77.6	66.8	73.6	..	..	60.1
Without insulation	27.6	9.2	36.5	8.7	19.0	10.8	..	..	20.0
Don't know	23.4	19.4	22.0	13.8	14.2	15.6	..	..	20.0
BALANCE OF STATE / TERRITORY									
<b>Estimate ('000)</b>									
With insulation	622.4	406.4	371.8	130.5	126.7	85.9	..	..	1 743.5
Without insulation	200.0	51.5	287.7	14.2	49.2	15.1	..	..	617.7
Don't know	161.5	88.5	172.8	18.4	27.2	13.2	..	..	481.7
<b>Total households</b>	<b>983.9</b>	<b>546.4</b>	<b>832.3</b>	<b>163.1</b>	<b>203.1</b>	<b>114.1</b>	..	..	<b>2 842.8</b>
<b>Proportion (%)</b>									
With insulation	63.3	74.4	44.7	80.0	62.4	75.3	..	..	61.3
Without insulation	20.3	9.4	34.6	8.7	24.2	13.2	..	..	21.7
Don't know	16.4	16.2	20.8	11.3	13.4	11.5	..	..	16.9
TOTAL STATE / TERRITORY									
<b>Estimate ('000)</b>									
With insulation	1 410.4	1 385.2	662.2	503.0	517.8	146.1	26.9	98.2	4 749.9
Without insulation	642.9	176.9	543.2	55.8	160.7	23.9	9.0	*4.5	1 616.9
Don't know	537.1	354.4	326.7	84.6	110.4	25.9	18.8	22.4	1 480.2
<b>Total households</b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 847.0</b>
<b>Proportion (%)</b>									
With insulation	54.4	72.3	43.2	78.2	65.6	74.6	49.2	78.5	60.5
Without insulation	24.8	9.2	35.5	8.7	20.4	12.2	16.4	*3.6	20.6
Don't know	20.7	18.5	21.3	13.1	14.0	13.2	34.4	17.9	18.9

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**2.12** DWELLING CHARACTERISTICS, Whether has insulation—1994:2005 .....

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
.....									
MARCH 2005									
With insulation	54.4	72.3	43.2	78.2	65.6	74.6	49.2	78.5	60.5
Without insulation	24.8	9.2	35.5	8.7	20.4	12.2	16.4	*3.6	20.6
Don't know	20.7	18.5	21.3	13.1	14.0	13.2	34.4	17.9	18.9
.....									
MARCH 2002									
With insulation	50.5	72.1	36.2	75.7	64.5	68.2	42.3	80.4	57.5
Without insulation	28.0	12.1	44.8	12.8	22.9	21.2	27.4	7.9	25.0
Don't know	21.5	15.8	18.9	11.5	12.6	10.6	30.3	11.7	17.5
.....									
MARCH 1999									
With insulation	47.6	71.3	33.0	70.8	57.3	64.1	44.8	75.8	54.5
Without insulation	31.6	12.4	48.6	12.5	29.0	22.3	31.6	9.4	27.6
Don't know	20.9	16.3	18.4	16.7	13.7	13.6	23.6	14.8	17.9
.....									
JUNE 1994									
With insulation	44.5	69.5	28.5	72.2	52.0	62.7	43.9	79.5	52.1
Without insulation	39.4	17.0	53.6	15.7	36.7	28.8	28.4	9.7	33.1
Don't know	16.1	13.5	17.9	12.0	11.3	8.5	27.6	10.8	14.7

\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.

**2.13**

## DWELLING CHARACTERISTICS, Whether has insulation—by type of dwelling—1994:2005

	<i>Separate house</i>	<i>Semi-detached, row/terrace house etc.</i>	<i>Flat / unit / apartment</i>	<i>Other types(a)</i>	<i>All types</i>
	%	%	%	%	%
MARCH 2005					
With insulation	69.0	47.1	14.2	50.0	60.5
Without insulation	18.5	20.8	34.8	29.2	20.6
Don't know	12.5	32.1	51.0	20.8	18.9
MARCH 2002					
With insulation	65.7	42.2	17.5	44.4	57.5
Without insulation	22.9	26.9	36.5	34.1	25.0
Don't know	11.3	30.9	45.9	21.5	17.5
MARCH 1999					
With insulation	62.3	37.4	14.8	37.6	54.5
Without insulation	26.1	28.5	36.1	41.0	27.6
Don't know	11.6	34.1	49.1	21.3	17.9
JUNE 1994					
With insulation	58.6	37.6	16.4	40.1	52.1
Without insulation	31.5	33.3	44.1	43.0	33.1
Don't know	10.0	29.1	39.5	16.9	14.7

(a) Refers to caravans, houseboats and other improvised homes.

## 2.14 DWELLINGS WITH INSULATION, Where insulation installed—2005 .....

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT(a)</i>	<i>ACT</i>	<i>Aust.</i>
	%	%	%	%	%	%	%	%	%
CAPITAL CITY									
Roof/ceiling	97.7	98.9	95.1	99.3	99.8	98.6	..	..	98.4
Walls	29.8	37.7	24.4	30.1	5.1	31.3	..	..	29.0
Floor	*1.6	*0.7	*1.5	0.5	*0.1	*5.2	..	..	1.1
Other	*0.1	*0.1	—	—	*0.1	—	..	..	*0.1
BALANCE OF STATE / TERRITORY									
Roof/ceiling	96.5	98.1	93.8	98.3	99.6	97.7	..	..	96.7
Walls	36.2	46.5	25.3	46.4	24.9	35.0	..	..	36.2
Floor	*0.4	*1.2	*0.2	*1.1	*1.1	*2.0	..	..	*0.7
Other	*0.3	*1.1	—	—	—	—	..	..	*0.4
TOTAL STATE / TERRITORY									
Roof/ceiling	97.1	98.7	94.4	99.0	99.7	98.1	98.3	99.2	97.8
Walls	32.6	40.3	24.9	34.4	9.8	33.4	*14.7	43.9	31.7
Floor	1.1	*0.9	*0.7	*0.7	*0.4	*3.4	—	*3.3	1.0
Other	*0.2	*0.4	—	—	*0.1	—	—	*0.5	*0.2

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory. Totals do not equal the sum of items in each column as more than one location may be specified.

**2.15**

## DWELLINGS WITH INSULATION, Where insulation installed—1994:2005 .....

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Roof/ceiling	97.1	98.7	94.4	99.0	99.7	98.1	98.3	99.2	97.8
Walls	32.6	40.3	24.9	34.4	9.8	33.4	*14.7	43.9	31.7
Floor	*1.1	*0.9	*0.7	*0.7	*0.4	*3.4	—	*3.3	1.0
Other	*0.2	*0.4	—	—	*0.1	—	—	*0.5	*0.2
MARCH 2002									
Roof/ceiling	98.2	98.6	94.5	99.3	99.2	97.6	97.1	99.0	98.1
Walls	26.8	35.0	26.9	35.0	6.8	31.2	26.7	40.1	28.4
Floor	0.8	0.7	0.7	0.3	0.2	1.4	—	3.0	0.7
Other	0.1	0.3	—	—	0.1	—	—	0.2	0.1
MARCH 1999									
Roof/ceiling	97.4	98.7	93.3	98.4	99.3	97.2	98.3	98.8	97.7
Walls	24.0	31.5	26.1	27.3	7.7	26.6	16.1	39.8	25.7
Floor	0.6	0.4	1.0	0.2	0.2	1.7	0.9	1.2	0.6
Other	0.1	—	0.5	0.2	—	0.1	—	—	0.1
JUNE 1994									
Roof/ceiling	96.6	98.6	91.8	97.3	99.1	96.9	98.0	97.0	97.1
Walls	26.1	27.5	25.8	24.5	6.4	26.5	23.9	31.3	24.6
Floor	0.7	0.8	0.7	0.3	—	1.0	1.9	1.3	0.6
Other	0.3	0.1	0.4	0.4	0.6	0.3	—	0.4	0.3

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: Totals do not equal the sum of items in each column as more than one location may be specified.

**2.16**

## DWELLINGS WITH INSULATION IN ROOF OR CEILING, Main type of insulation—1999:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Batts - fibreglass/wool/poly	72.0	62.8	55.5	71.3	51.2	69.4	48.5	79.6	64.6
Sisalation/reflective foil	7.2	2.5	16.2	2.0	5.8	*2.4	35.9	*1.0	6.2
Loose fill - Cellulose fibre	4.6	7.2	9.4	4.6	21.6	11.0	—	*3.1	8.1
Loose fill - Rock wool	2.9	7.8	2.8	5.7	3.8	4.8	—	7.5	4.9
Loose fill - Other/unknown	2.7	5.2	3.0	*1.5	5.8	5.2	—	*0.8	3.7
Foam/plastic	*0.7	1.1	*1.3	*0.5	*0.5	*1.2	*2.0	*0.5	0.9
Polystyrene sheets	*0.1	*0.2	*0.4	—	*0.3	*0.5	—	—	*0.2
Insulated cladding	*0.2	*0.1	*0.2	*0.1	—	*0.1	—	—	*0.1
Other	*0.8	*0.6	*0.8	*0.3	*0.6	*0.5	—	*0.3	0.6
Not known	8.9	12.5	10.4	13.9	10.4	5.0	13.6	7.2	10.7
MARCH 2002									
Batts - fibreglass/wool/poly	69.2	62.9	53.0	71.6	53.0	64.4	52.3	79.8	63.7
Sisalation/reflective foil	7.3	2.6	18.4	1.9	6.6	1.9	38.3	0.7	6.3
Loose fill - Cellulose fibre	7.4	7.1	8.6	5.4	20.7	13.3	—	3.6	8.8
Loose fill - Rock wool	2.1	7.4	2.3	5.0	4.7	4.0	1.6	6.3	4.5
Loose fill - Other/unknown	2.1	5.3	4.0	3.5	4.5	6.9	—	2.2	3.9
Foam/plastic	1.0	0.9	1.6	0.1	0.5	1.0	—	0.2	0.9
Polystyrene sheets	0.1	0.1	0.4	0.1	0.2	—	—	—	0.1
Insulated cladding	0.1	—	0.7	0.1	0.4	0.4	1.6	—	0.2
Other	0.7	0.7	2.1	0.3	0.3	0.7	—	—	0.8
Not known	9.9	12.9	9.0	12.1	9.1	7.4	6.2	7.2	10.7
MARCH 1999									
Batts - fibreglass/wool/poly	69.8	60.8	53.6	65.6	48.6	63.2	45.5	70.3	62.1
Sisalation/reflective foil	6.6	2.1	19.5	2.1	7.4	3.4	38.6	1.7	6.1
Loose fill - Cellulose fibre	5.3	7.2	6.7	4.9	21.5	10.6	—	4.8	7.9
Loose fill - Rock wool	2.9	7.1	2.2	5.4	3.9	6.8	1.8	7.6	4.8
Loose fill - Other/unknown	2.9	5.6	3.4	2.1	6.2	3.8	—	2.7	4.1
Foam/plastic	0.3	0.9	0.9	0.4	0.6	0.3	1.8	—	0.6
Polystyrene sheets	0.3	—	1.6	0.3	0.2	0.2	0.8	—	0.3
Insulated cladding	0.3	—	0.3	0.1	—	—	0.9	—	0.1
Other	0.9	0.7	1.1	0.5	0.4	0.5	2.8	1.0	0.7
Not known	10.7	15.6	10.8	18.8	11.2	11.3	7.8	11.8	13.3

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

## 2.17 DWELLINGS WITH INSULATION IN WALLS, Main type of insulation—1999:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Batts - fibreglass/wool/poly	59.9	44.8	24.1	67.7	41.2	56.3	*51.2	59.3	50.3
Sisalation/reflective foil	20.8	36.2	51.7	10.2	37.0	28.4	*26.6	*8.0	29.2
Loose fill - Cellulose fibre	*1.0	*0.5	*2.6	—	*3.7	*0.5	—	*5.3	1.1
Loose fill - Rock wool	*2.4	*1.9	*1.1	*4.8	*0.9	*1.0	—	*9.1	2.4
Loose fill - Other/unknown	*0.4	*1.7	*0.8	*1.0	*2.7	*3.1	—	*1.7	1.2
Foam/plastic	*1.9	*1.1	*2.9	*0.3	*1.8	—	*7.6	*2.0	1.5
Polystyrene sheets	*0.8	*0.8	*4.2	—	*3.6	*1.9	—	—	1.2
Insulated cladding	*1.4	*1.7	*0.9	*0.3	—	*2.0	—	—	1.3
Other	*1.3	*0.4	*0.4	—	—	*1.4	—	—	*0.6
Not known	10.2	11.0	11.4	15.9	*9.1	*5.2	*14.5	14.5	11.2
MARCH 2002									
Batts - fibreglass/wool/poly	53.7	39.6	22.0	66.4	50.4	55.5	39.3	58.5	46.3
Sisalation/reflective foil	23.4	42.2	53.7	11.2	29.0	32.9	55.0	13.1	32.9
Loose fill - Cellulose fibre	1.2	0.8	2.2	1.2	2.6	1.0	—	2.8	1.2
Loose fill - Rock wool	2.7	0.9	1.3	2.1	1.4	0.5	5.8	3.0	1.7
Loose fill - Other/unknown	—	0.7	1.4	0.5	1.1	—	—	—	0.5
Foam/plastic	1.8	1.6	2.8	0.2	1.4	1.1	—	1.6	1.6
Polystyrene sheets	1.0	1.4	1.5	0.2	2.7	1.1	—	3.3	1.2
Insulated cladding	3.7	0.4	3.5	0.6	—	1.8	—	0.6	1.7
Other	1.4	1.1	0.9	0.8	2.7	—	—	—	1.1
Not known	11.1	11.2	10.8	16.7	8.7	6.2	—	17.0	11.7
MARCH 1999									
Batts-fibreglass/wool/poly	52.2	36.6	23.6	63.5	32.6	41.7	30.6	56.3	43.3
Sisalation/reflective foil	28.7	41.9	56.5	7.9	38.0	41.0	37.6	10.2	34.7
Loose fill - Cellulose fibre	0.3	1.2	0.4	1.8	2.6	1.9	—	1.1	1.0
Loose fill - Rock wool	1.3	2.0	1.0	3.5	—	1.2	5.6	5.4	1.9
Loose fill - Other/unknown	—	1.1	—	0.5	3.8	—	—	2.5	0.7
Foam/plastic	1.3	1.6	3.5	0.9	2.5	0.6	5.1	1.8	1.7
Polystyrene sheets	1.8	0.4	4.6	1.5	2.9	1.2	—	1.0	1.5
Insulated cladding	2.2	0.4	1.9	0.6	—	1.3	—	1.2	1.2
Other	0.3	0.1	1.4	0.3	—	0.6	5.1	0.6	0.4
Not known	11.8	14.6	7.1	19.5	17.6	10.6	16.0	20.0	13.7

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

## 2.18 HOUSEHOLDS WITH INSULATION IN DWELLING(a), Main reason for installing —1994:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Achieve comfort	83.8	77.7	90.2	83.3	87.0	82.2	*90.1	74.9	83.3
Cost/save on energy bills	8.0	14.0	4.7	11.8	8.4	10.4	—	16.2	9.7
Use less energy	3.9	4.0	*3.2	3.9	*1.8	*5.0	*3.1	*7.9	3.7
Other	4.3	4.2	*1.9	*1.1	*2.8	*2.3	*6.8	*1.0	3.3
MARCH 2002									
Achieve comfort	86.4	75.1	90.0	87.1	90.8	80.2	92.0	76.6	83.8
Cost/save on energy bills	8.1	16.2	4.3	8.6	5.8	13.8	8.0	16.9	10.1
Use less energy	1.9	4.4	2.0	2.9	1.3	2.7	—	6.0	2.8
Other	3.5	4.3	3.8	1.3	2.1	3.4	—	0.5	3.3
MARCH 1999									
Achieve comfort	88.8	80.2	94.0	87.7	92.3	82.1	66.5	77.6	86.5
Cost/save on energy bills	6.9	13.2	3.4	8.6	3.6	11.8	6.6	14.2	8.5
Use less energy	1.8	3.0	0.6	2.3	2.2	3.8	—	5.4	2.2
Other	2.6	3.6	2.0	1.3	1.9	2.4	26.9	2.7	2.7
JUNE 1994									
Achieve comfort	81.2	66.0	86.1	78.6	86.2	76.2	94.3	63.5	76.4
Cost/save on energy bills	12.2	25.6	4.5	16.2	10.3	17.1	3.0	21.6	16.3
Use less energy	4.1	6.7	3.8	4.1	1.6	5.9	—	12.9	4.9
Other	2.6	1.8	5.6	1.1	2.0	0.8	2.6	2.1	2.4

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Includes only households with some form of insulation and owner/occupants were responsible for its installation.

(b) Northern Territory data refers to mainly urban areas only.

## 2.19 HOUSEHOLDS WITHOUT INSULATION IN DWELLING, Main reason for not installing—1994:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Cost	12.6	12.6	18.7	*12.1	20.2	21.3	*12.3	*18.2	15.5
Not interested	10.0	10.2	10.4	*11.4	*5.5	*9.9	*6.6	*8.9	9.8
Not needed because of climate	10.4	*5.6	8.9	*6.6	*4.3	*3.4	*17.6	*4.3	8.5
Haven't got around to it	10.1	13.5	13.3	*8.3	18.2	19.4	*3.3	—	12.4
Not possible due to dwelling structure	8.8	12.7	8.4	*6.7	7.2	*9.7	*7.3	*14.1	8.9
Not home owner/not responsible	37.2	31.7	29.7	39.0	33.8	30.8	*48.5	*41.0	33.8
Other	10.8	13.9	10.5	15.9	10.8	*5.6	*4.5	*13.5	11.1
MARCH 2002									
Cost	20.5	19.4	28.3	19.8	34.0	20.4	12.1	20.1	24.4
Not interested	15.4	17.4	13.8	17.5	15.8	23.4	9.7	14.1	15.3
Not needed because of climate	14.8	8.4	19.0	19.3	4.6	8.0	15.6	—	14.7
Haven't got around to it	19.5	22.6	16.3	15.2	20.0	24.8	5.8	16.2	18.6
Not possible due to dwelling structure	14.6	13.3	9.2	7.7	6.6	11.3	11.6	32.3	11.5
Not home owner/not responsible	0.3	0.5	0.4	1.6	—	1.3	3.9	6.2	0.4
Other	14.8	18.3	13.1	18.8	19.0	10.8	41.4	11.2	15.1
MARCH 1999									
Cost	23.9	24.1	31.0	22.9	31.9	29.0	13.8	32.4	27.2
Not interested	16.9	16.5	20.1	19.9	14.8	19.6	21.2	6.8	17.9
Not needed because of climate	19.9	7.1	17.2	11.3	11.5	10.5	33.3	—	16.3
Haven't got around to it	20.5	26.0	12.6	23.5	21.5	27.3	21.9	23.5	18.6
Not possible due to dwelling structure	9.3	9.9	7.9	8.0	8.9	5.2	5.4	17.4	8.7
Not home owner/not responsible	0.5	0.5	0.3	1.6	—	—	—	—	0.4
Other	9.1	15.9	11.0	12.8	11.5	8.4	4.4	19.9	10.8
JUNE 1994									
Cost	30.6	37.9	31.7	30.1	42.8	37.1	16.6	42.3	33.2
Not interested	21.6	20.0	17.6	11.0	12.7	19.2	22.4	20.2	18.8
Not needed because of climate	13.2	4.6	29.2	17.5	14.6	5.8	29.6	—	17.3
Haven't got around to it	15.2	20.7	7.7	23.6	10.4	20.0	6.6	31.3	13.4
Not possible due to dwelling structure	9.2	7.6	5.7	5.9	5.0	6.5	20.8	6.1	7.3
Not responsible	1.5	1.0	1.8	2.2	1.5	0.9	—	—	1.5
Other	8.7	8.2	6.3	9.8	13.1	10.5	4.1	—	8.4

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any break down beyond the whole territory.

**2.20** DWELLING CHARACTERISTICS, Lighting in dwellings—use of energy saving lights—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
CAPITAL CITY									
Fluorescent lights	46.3	45.1	73.2	50.6	51.6	46.5	..	..	51.2
Other energy saving lights	39.8	30.9	31.2	38.6	32.5	29.8	..	..	34.8
BALANCE OF STATE / TERRITORY									
Fluorescent lights	62.7	62.0	75.6	65.8	70.9	48.3	..	..	66.5
Other energy saving lights	32.9	30.2	27.7	37.0	30.4	29.6	..	..	30.8
TOTAL STATE / TERRITORY									
Fluorescent lights	52.5	49.9	74.5	54.5	56.6	47.6	84.3	46.1	56.7
Other energy saving lights	37.2	30.7	29.3	38.2	32.0	29.7	28.8	34.9	33.3

.. not applicable

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**2.21** DWELLING CHARACTERISTICS, Lighting in dwellings—use of energy saving lights—1999:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Fluorescent lights	52.5	49.9	74.5	54.5	56.6	47.6	84.3	46.1	56.7
Other energy saving lights	37.2	30.7	29.3	38.2	32.0	29.7	28.8	34.9	33.3
MARCH 2002									
Fluorescent lights	55.2	54.1	75.2	51.7	58.9	42.3	86.1	47.9	58.6
Other energy saving lights	23.2	23.8	22.8	24.1	25.3	15.9	19.8	26.2	23.4
MARCH 1999 (b)									
Fluorescent lights	56.7	56.0	76.1	55.3	58.9	49.0	85.4	54.9	60.2

(a) Northern Territory data refers to mainly urban areas only.

(b) Information on other saving lights not collected in March 1999.

**2.22**

## DWELLING CHARACTERISTICS, Lighting in dwelling—number of bedrooms lit by fluorescent or other energy saving lights—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
CAPITAL CITY									
One	27.2	34.0	27.2	30.9	35.4	31.5	..	..	30.3
Two	25.7	24.5	26.0	21.6	24.8	26.2	..	..	24.9
Three	15.0	14.8	16.2	19.1	14.5	17.5	..	..	15.6
Four or more	20.4	16.2	22.2	19.4	16.6	16.8	..	..	18.9
Whole house	11.5	10.3	8.1	9.0	8.4	*7.9	..	..	10.0
None	*0.3	*0.2	*0.3	—	*0.3	—	..	..	*0.2
BALANCE OF STATE / TERRITORY									
One	26.5	37.4	22.3	25.5	32.9	33.5	..	..	27.8
Two	26.9	25.8	22.6	25.8	25.4	25.3	..	..	25.1
Three	16.8	15.8	18.0	23.8	16.9	17.7	..	..	17.4
Four or more	21.1	14.3	22.3	17.7	19.8	14.9	..	..	19.7
Whole house	8.7	6.5	14.8	7.2	*5.0	8.6	..	..	9.8
None	—	*0.2	—	—	—	—	..	..	*—
TOTAL STATE / TERRITORY									
One	26.9	35.1	24.5	29.4	34.7	32.7	22.3	31.2	29.3
Two	26.2	24.9	24.2	22.8	25.0	25.7	27.1	23.6	25.0
Three	15.7	15.2	17.2	20.4	15.2	17.6	*13.6	19.2	16.3
Four or more	20.7	15.6	22.2	18.9	17.5	15.7	16.3	17.3	19.2
Whole house	10.3	9.0	11.8	8.5	7.4	8.3	20.6	8.7	10.0
None	*0.2	*0.2	*0.2	—	*0.2	—	—	—	*0.2

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**2.23**

## DWELLING CHARACTERISTICS, Window treatments/applications—1994:2005 ..

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Outside awnings or shutters	27.7	37.7	28.2	42.8	21.0	7.8	*10.7	27.1	30.2
Boxed pelmets	9.7	22.7	9.3	16.6	14.2	20.1	*6.3	16.4	14.1
Tinted glass or solar guarding	7.3	4.4	21.1	8.3	17.0	7.0	14.3	6.4	10.4
Double glazing	3.0	3.8	1.8	2.4	1.6	4.3	*2.2	5.3	2.8
Louvre windows	3.9	5.4	12.1	6.4	4.3	3.4	25.9	*1.8	6.2
None of the above	60.4	45.1	47.4	42.1	54.8	65.2	58.8	55.4	52.1
MARCH 2002									
Outside awnings or shutters	27.9	39.0	31.8	42.0	22.6	8.7	12.8	29.8	31.4
Boxed pelmets	9.9	22.3	11.4	16.2	16.6	21.3	7.6	15.1	14.8
Tinted glass or solar guarding	8.0	3.8	17.7	9.3	15.1	5.4	10.1	5.5	9.6
Double glazing	2.9	3.4	1.7	2.1	1.8	3.8	0.7	4.5	2.6
Louvre windows	3.9	7.8	15.7	7.1	4.4	5.0	49.9	1.4	7.8
None of the above	59.2	44.2	45.5	43.7	55.1	65.8	34.7	56.2	51.1
MARCH 1999									
Outside awnings	27.4	39.8	30.4	39.9	24.1	7.7	15.6	30.4	31.2
Boxed pelmets	22.7	33.0	24.7	26.2	23.8	28.2	13.2	24.0	26.1
Tinted glass	6.3	3.5	15.2	8.8	15.8	4.4	15.7	5.9	8.4
Double glazing	1.7	2.2	2.1	1.8	2.5	3.3	0.8	3.8	2.1
None of the above	53.9	40.1	45.0	43.2	50.7	63.2	62.8	51.8	47.9
JUNE 1994									
Outside awnings	23.8	34.5	28.5	37.6	21.3	7.6	22.0	24.3	27.8
Boxed pelmets	17.0	26.9	13.2	21.6	17.6	25.3	10.8	20.7	19.5
Tinted glass	5.6	3.0	13.9	8.1	13.9	2.7	17.5	4.5	7.4
Double glazing	1.2	1.3	0.6	0.7	1.3	1.4	1.4	1.1	1.1
None of the above	61.0	48.3	54.4	46.2	56.8	67.1	57.6	58.7	55.0

\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.

Note: Totals do not equal the sum of items in each column as more than one treatment or application may be specified.

INTRODUCTION

The amount and type of energy used in the home has considerable implications for the environment. For example, they deplete natural resources, generate greenhouse emissions and pollute the air. Increasing awareness of these problems has led to the introduction and use of alternative energy sources (e.g. solar energy). Measures to reduce energy demand such as the use of off-peak electricity are also encouraged.

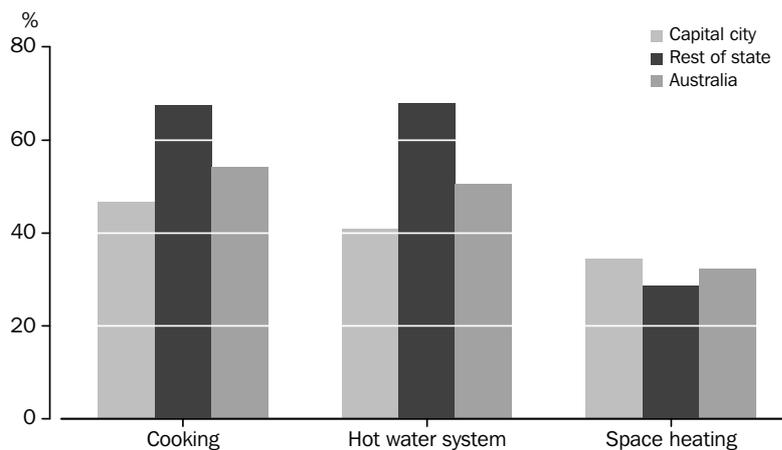
ELECTRICITY

Almost all dwellings (99%) in Australia use electricity for power or heating (table 3.7). This can be attributed to the widespread availability of electricity and its capacity to operate virtually all household appliances.

In March 2005, electricity was the primary energy source for cooking (54% of households) and hot water systems (51%) throughout Australia (graph 3.1). Usage of electricity for these purposes was more pronounced outside of capital cities (68% cooking and hot water system) than within them (47% cooking, 41% hot water system). Electricity was also used to boost 90% of solar water heaters in Australia (table 3.15).

However, electricity (32%) and gas (33%, mains gas and LPG/bottled gas combined) were almost equally preferred for space heating (table 3.11). Households relied more heavily on electricity for space heating in Tasmania (55%), New South Wales (44%) and South Australia (42%).

**3.1** ELECTRICITY, Use in dwellings—by capital city and rest of state—2005

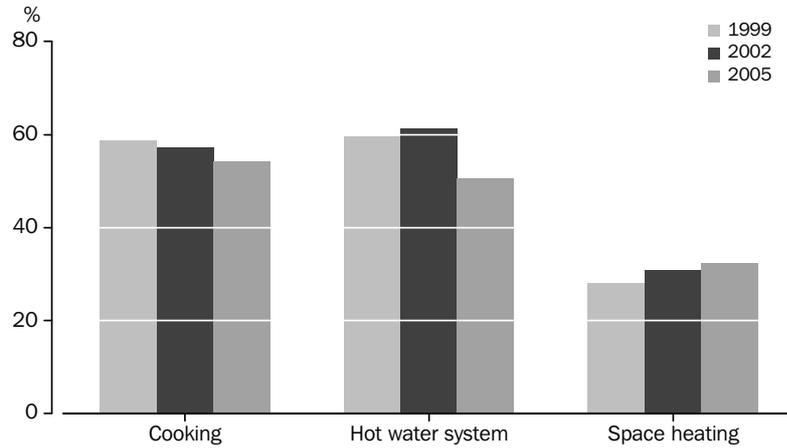


Between 1999 and 2005, there was a decline in the use of electricity for cooking and hot water — from 58% down to 54% and from 60% down to 51% respectively (graph 3.2). There was also a significant increase in use of off-peak electricity for hot water between 2002 and 2005 — from 30% to 34% (table 3.14). Off-peak electricity refers to the supply of electricity during periods of time of less activity than at regular times (between 11 PM

ELECTRICITY *continued*

to 7 AM). In March 2005, Queensland had the highest proportion of households (50%) using off-peak electricity for hot water followed by New South Wales (47%) and South Australia (36%).

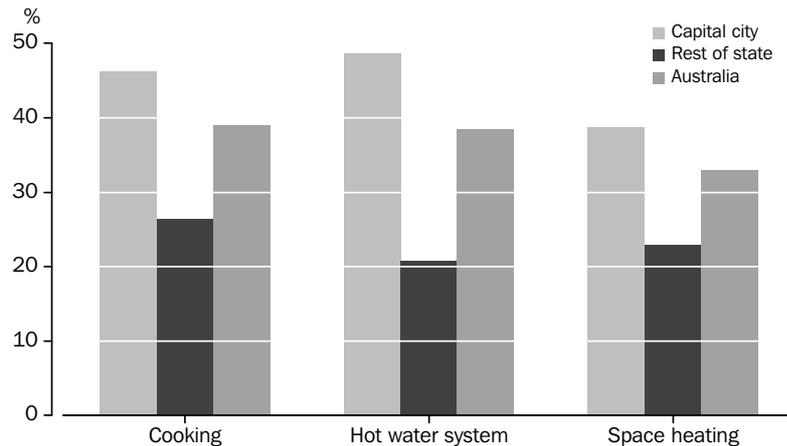
**3.2** ELECTRICITY, Use in dwellings—1999:2005



GAS

Gas is the second most important source of energy for Australian households, and was used in more than half (58%) of households in March 2005, particularly in the gas producing areas of Victoria (88%) and Western Australia (83%) (tables 3.7 and 3.8). Gas (mains or LPG/bottled gas) was used mainly for cooking (39% of households), heating water (38% of households), and space heating (33% of households). Gas usage was most pronounced in the capital cities than rest of states/territories (graph 3.3).

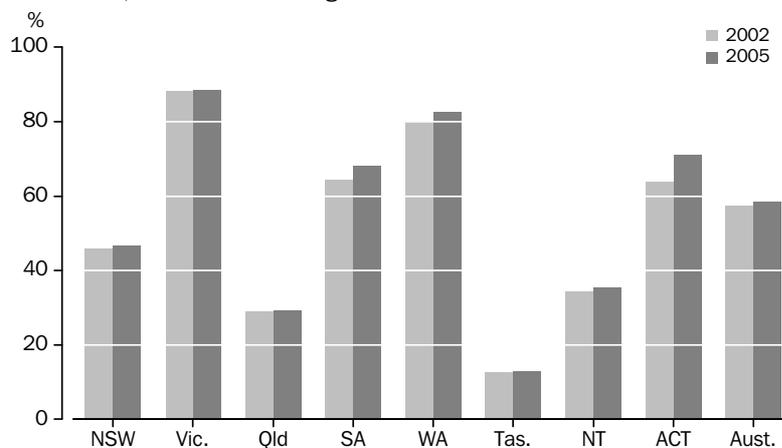
**3.3** GAS, Use in dwellings—by capital city and rest of state—2005



Tasmania had the lowest proportion of households using gas (13%), of which most was LPG or bottled gas. Gas usage in Australian Capital Territory increased substantially from 64% in 2002 to 71% in 2005 (graph 3.4).

GAS *continued*

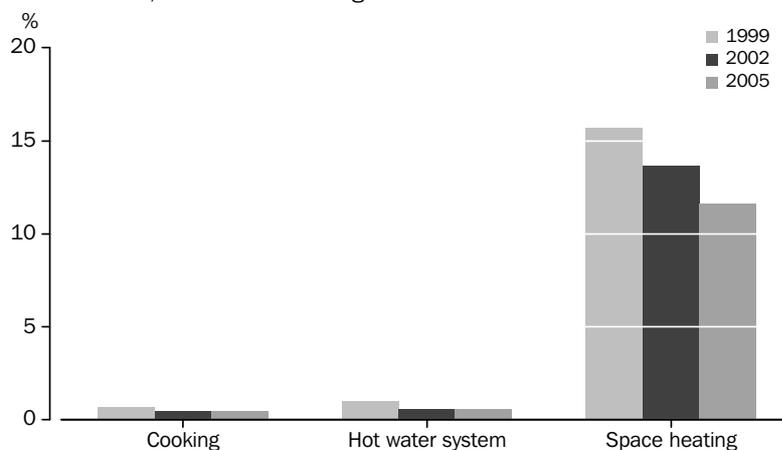
**3.4** GAS, Use in dwellings—2002 and 2005



WOOD

Across Australia, wood was used mainly for space heating (graph 3.5). In March 2005, about 12% of households in Australia used wood for space heating (table 3.12). Between 1994 and 2005, the number of homes using wood for space heating declined from 18% to 12%.

**3.5** WOOD, Use in dwellings—1999:2005



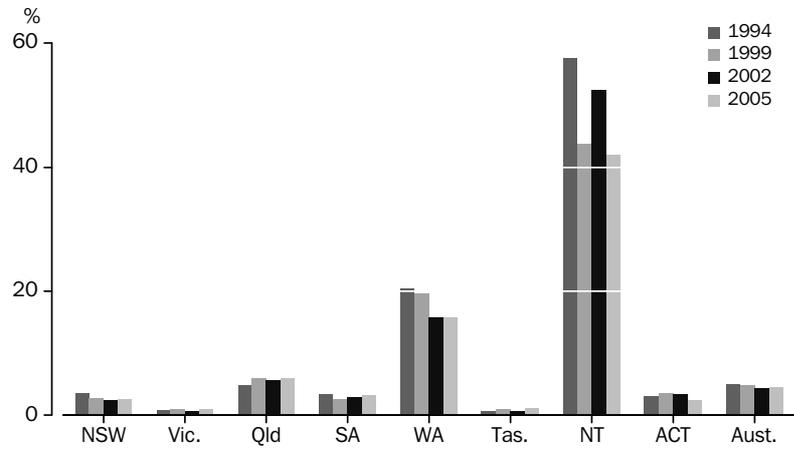
SOLAR ENERGY

Solar energy is primarily used in Australia for heating water and was utilised by 4% of Australian households in 2005. The Northern Territory had the largest proportion of households (42% in 2005) using solar energy to heat water (Graph 3.6). Households from Western Australia were also significant users of solar energy (16%).

SOLAR ENERGY

*continued*

**3.6** SOLAR HOT WATER, Use in dwellings—1994:2005



### 3.7 SOURCES OF ENERGY IN DWELLINGS—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
CAPITAL CITY									
<b>Estimate ('000)</b>									
Electricity	1 595.7	1 322.9	696.4	479.6	582.9	81.8	..	..	4 937.8
Mains gas	700.5	1 257.7	140.7	345.7	463.6	*0.8	..	..	2 997.1
LPG/bottled gas	88.5	25.3	89.3	13.8	27.2	8.6	..	..	272.8
Wood	112.1	135.5	48.9	52.6	64.9	30.8	..	..	453.9
Solar	38.1	19.7	38.1	14.7	84.2	*1.4	..	..	223.9
Oil	17.5	*3.9	*1.7	*11.5	*8.2	*3.8	..	..	48.1
Other	*0.9	*1.9	*1.2	*0.4	*2.1	*0.3	..	..	*6.8
<b>Total households (b)</b>	<b>1 606.5</b>	<b>1 370.0</b>	<b>699.9</b>	<b>480.3</b>	<b>585.8</b>	<b>81.8</b>	..	..	<b>5 004.2</b>
<b>Proportion (%)</b>									
Electricity	99.3	96.6	99.5	99.8	99.5	100.0	..	..	98.7
Mains gas	43.6	91.8	20.1	72.0	79.1	*1.0	..	..	59.9
LPG/bottled gas	5.5	1.8	12.8	2.9	4.6	10.6	..	..	5.5
Wood	7.0	9.9	7.0	11.0	11.1	37.6	..	..	9.1
Solar	2.4	1.4	5.4	3.1	14.4	*1.7	..	..	4.5
Oil	1.1	*0.3	*0.2	*2.4	*1.4	*4.7	..	..	1.0
Other	*0.1	*0.1	*0.2	0.1	*0.4	*0.3	..	..	*0.1
BALANCE OF STATE / TERRITORY									
<b>Estimate ('000)</b>									
Electricity	979.3	540.2	828.2	163.1	200.9	113.3	..	..	2 824.9
Mains gas	208.4	294.6	48.7	19.9	66.9	*0.6	..	..	639.2
LPG/bottled gas	213.8	117.2	170.3	59.1	94.7	15.0	..	..	670.2
Wood	246.4	192.0	102.5	60.9	91.5	59.9	..	..	753.2
Solar	48.1	14.8	62.8	*9.5	48.5	*1.7	..	..	185.4
Oil	*16.0	*2.5	*6.0	*3.2	*2.9	*3.2	..	..	33.8
Other	*3.3	*2.6	*4.1	*0.4	*0.7	*0.4	..	..	*11.5
<b>Total households (b)</b>	<b>983.9</b>	<b>546.4</b>	<b>832.3</b>	<b>163.1</b>	<b>203.1</b>	<b>114.1</b>	..	..	<b>2 842.8</b>
<b>Proportion (%)</b>									
Electricity	99.5	98.9	99.5	100.0	98.9	99.2	..	..	99.4
Mains gas	21.2	53.9	5.9	12.2	32.9	0.6	..	..	22.5
LPG/bottled gas	21.7	21.4	20.5	36.3	46.6	13.2	..	..	23.6
Wood	25.0	35.1	12.3	37.3	45.1	52.4	..	..	26.5
Solar	4.9	2.7	7.5	*5.8	23.9	*1.5	..	..	6.5
Oil	*1.6	*0.5	*0.7	*1.9	*1.4	*2.8	..	..	1.2
Other	*0.3	*0.5	*0.5	*0.3	*0.3	*0.4	..	..	*0.4
TOTAL STATE / TERRITORY									
<b>Estimate ('000)</b>									
Electricity	2 575.0	1 863.0	1 524.6	642.7	783.9	195.1	54.5	124.0	7 762.7
Mains gas	908.9	1 552.3	189.4	365.5	530.5	*1.4	*0.6	87.6	3 636.3
LPG/bottled gas	302.2	142.5	259.6	72.9	121.9	23.7	18.8	*1.4	943.0
Wood	358.5	327.5	151.5	113.5	156.4	90.6	*0.7	8.3	1 207.1
Solar	86.2	34.6	100.8	24.3	132.7	*3.1	24.2	*3.4	409.3
Oil	33.6	*6.4	*7.7	14.7	*11.1	7.0	—	*1.4	81.9
Other	*4.2	*4.5	*5.3	*0.8	*2.8	*0.7	—	—	18.2
<b>Total households (b)</b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 847.0</b>

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) Totals do not equal the sum of items in each column as more than one source of energy may be specified.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**3.7** SOURCES OF ENERGY IN DWELLINGS—2005 *continued*

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
TOTAL STATE / TERRITORY <i>cont.</i>									
<b>Proportion (%)</b>									
Electricity	99.4	97.2	99.5	99.9	99.4	99.6	99.5	99.1	98.9
Mains gas	35.1	81.0	12.4	56.8	67.2	*0.7	*1.1	70.0	46.3
LPG/bottled gas	11.7	7.4	16.9	11.3	15.5	12.1	34.3	*1.1	12.0
Wood	13.8	17.1	9.9	17.6	19.8	46.3	*1.3	6.7	15.4
Solar	3.3	1.8	6.6	3.8	16.8	*1.6	44.3	*2.7	5.2
Oil	1.3	*0.3	*0.5	2.3	*1.4	3.6	—	*1.1	1.0
Other	*0.2	*0.2	*0.3	*0.1	*0.3	0.3	—	—	0.2

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**3.8** SOURCES OF ENERGY IN DWELLINGS—2002 and 2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Electricity	99.4	97.2	99.5	99.9	99.4	99.6	99.5	99.1	98.9
Mains gas	35.1	81.0	12.4	56.8	67.2	*0.7	*1.1	70.0	46.3
LPG/bottled gas	11.7	7.4	16.9	11.3	15.5	12.1	34.3	*1.1	12.0
Wood	13.8	17.1	9.9	17.6	19.8	46.3	*1.3	6.7	15.4
Solar	3.3	1.8	6.6	3.8	16.8	*1.6	44.3	*2.7	5.2
Oil	1.3	*0.3	*0.5	2.3	1.4	3.6	—	*1.1	1.0
Other	*0.2	*0.2	*0.3	*0.1	*0.3	*0.3	—	—	0.2
MARCH 2002									
Electricity	99.6	98.6	99.8	99.9	99.1	99.8	100.0	100.0	99.4
Gas	45.7	88.0	28.9	64.4	79.9	12.5	34.4	63.8	57.3
Wood	15.1	20.2	10.7	21.6	26.1	51.6	2.7	9.4	17.9
Coal/coke	0.1	0.1	—	0.1	—	—	—	—	—
Solar	2.8	0.9	6.2	3.1	16.1	0.9	52.5	4.1	4.7
Photo voltaic	0.1	0.1	—	—	0.2	—	—	—	0.1
Other	2.2	1.0	2.0	4.0	2.3	4.6	0.7	2.0	2.1

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

### 3.9 MAIN SOURCE OF ENERGY USED IN COOKING—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
CAPITAL CITY									
<b>Estimate ('000)</b>									
Electricity	979.4	277.9	522.4	187.4	181.4	75.6	..	..	2 336.3
Mains gas	516.6	911.6	102.8	253.2	329.6	*0.4	..	..	2 155.2
LPG/bottled gas	43.7	*8.0	62.7	*6.2	15.4	*3.0	..	..	155.2
Electricity and gas combined	61.7	171.3	*10.7	32.4	57.8	*2.2	..	..	346.4
Wood	*3.5	—	—	*0.7	*0.4	*0.6	..	..	*5.5
Solar	*1.7	—	*1.2	—	*1.2	—	..	..	*4.1
Oil	—	*0.6	—	*0.4	—	—	..	..	*1.0
Other	—	*0.6	—	—	—	—	..	..	*0.6
<b>Total households</b>	<b>1 606.5</b>	<b>1 370.0</b>	<b>699.9</b>	<b>480.3</b>	<b>585.8</b>	<b>81.8</b>	..	..	<b>5 004.2</b>
<b>Proportion (%)</b>									
Electricity	61.0	20.3	74.6	39.0	31.0	92.4	..	..	46.7
Mains gas	32.2	66.5	14.7	52.7	56.3	*0.5	..	..	43.1
LPG/bottled gas	2.7	*0.6	9.0	*1.3	2.6	*3.7	..	..	3.1
Electricity and gas combined	3.8	12.5	*1.5	6.7	9.9	*2.6	..	..	6.9
Wood	*0.2	—	—	*0.2	*0.1	*0.8	..	..	*0.1
Solar	*0.1	—	*0.2	—	*0.2	—	..	..	*0.1
Oil	—	*—	—	*0.1	—	—	..	..	*—
Other	—	*—	—	—	—	—	..	..	*—
BALANCE OF STATE / TERRITORY									
<b>Estimate ('000)</b>									
Electricity	734.5	252.2	653.9	116.4	61.9	100.7	..	..	1 919.6
Mains gas	110.9	175.6	27.6	14.0	45.5	*0.2	..	..	373.8
LPG/bottled gas	84.7	64.4	118.5	27.7	73.2	9.1	..	..	377.7
Electricity and gas combined	38.4	45.2	26.0	*3.4	19.0	*1.1	..	..	133.0
Wood	*13.7	*8.4	*5.1	*1.6	*3.1	*2.8	..	..	34.8
Solar	*1.6	—	*0.5	—	*0.4	—	..	..	*2.6
Oil	—	—	—	—	—	—	..	..	—
Other	—	*0.6	*0.5	—	—	*0.2	..	..	*1.4
<b>Total households</b>	<b>983.9</b>	<b>546.4</b>	<b>832.3</b>	<b>163.1</b>	<b>203.1</b>	<b>114.1</b>	..	..	<b>2 842.8</b>
<b>Proportion (%)</b>									
Electricity	74.7	46.2	78.6	71.4	30.5	88.3	..	..	67.5
Mains gas	11.3	32.1	3.3	8.6	22.4	*0.2	..	..	13.1
LPG/bottled gas	8.6	11.8	14.2	17.0	36.0	8.0	..	..	13.3
Electricity and gas combined	3.9	8.3	3.1	*2.1	9.3	*0.9	..	..	4.7
Wood	*1.4	*1.5	*0.6	*1.0	*1.5	*2.4	..	..	1.2
Solar	*0.2	—	*0.1	—	*0.2	—	..	..	*0.1
Oil	—	—	—	—	—	—	..	..	—
Other	—	*0.1	*0.1	—	—	*0.2	..	..	*—

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

### 3.9 MAIN SOURCE OF ENERGY USED IN COOKING—2005 *continued*

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
TOTAL STATE / TERRITORY									
<b>Estimate ('000)</b>									
Electricity	1 713.9	530.1	1 176.3	303.8	243.3	176.3	38.3	73.9	4 255.8
Mains gas	627.5	1 087.2	130.5	267.2	375.1	*0.6	*0.6	40.4	2 529.0
LPG/bottled gas	128.4	72.5	181.3	33.9	88.6	12.2	15.6	*0.5	532.9
Electricity and gas combined	100.1	216.5	36.7	35.8	76.7	*3.2	*0.3	10.1	479.4
Wood	17.2	*8.4	*5.1	*2.3	*3.5	*3.4	—	*0.2	40.3
Solar	*3.3	—	*1.7	—	*1.6	—	—	—	*6.6
Oil	—	*0.6	—	*0.4	—	—	—	—	*1.0
Other	—	*1.2	*0.5	—	—	*0.2	—	—	*2.0
<b>Total households</b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 847.0</b>
<b>Proportion (%)</b>									
Electricity	66.2	27.7	76.8	47.2	30.8	90.0	70.0	59.0	54.2
Mains gas	24.2	56.7	8.5	41.5	47.5	*0.3	*1.1	32.3	32.2
LPG/bottled gas	5.0	3.8	11.8	5.3	11.2	6.2	28.4	*0.4	6.8
Electricity and gas combined	3.9	11.3	2.4	5.6	9.7	*1.6	*0.5	8.1	6.1
Wood	0.7	*0.4	*0.3	*0.4	*0.4	*1.7	—	*0.2	0.5
Solar	*0.1	—	*0.1	—	*0.2	—	—	—	*0.1
Oil	—	—	—	*0.1	—	—	—	—	*—
Other	—	*0.1	—	—	—	*0.1	—	—	*—

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**3.10**

## MAIN SOURCE OF ENERGY USED IN COOKING—1999:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Electricity	66.2	27.7	76.8	47.2	30.8	90.0	70.0	59.0	54.2
Mains gas	24.2	56.7	8.5	41.5	47.5	*0.3	*1.1	32.3	32.2
LPG/bottled gas	5.0	3.8	11.8	5.3	11.2	6.2	28.4	*0.4	6.8
Electricity and gas combined	3.9	11.3	2.4	5.6	9.7	*1.6	*0.5	8.1	6.1
Wood	0.7	*0.4	*0.3	*0.4	*0.4	*1.7	—	*0.2	0.5
Solar	*0.1	—	*0.1	—	*0.2	—	—	—	*0.1
MARCH 2002									
Electricity	68.0	32.1	76.9	50.2	38.4	93.6	69.6	70.4	57.1
Gas(b)	31.6	67.3	22.6	49.7	61.1	5.0	30.4	29.6	42.4
Wood	0.4	0.6	0.5	0.1	0.5	1.3	—	—	0.5
MARCH 1999									
Electricity	71.3	32.1	78.0	51.8	38.7	91.8	69.7	72.6	58.6
Gas(b)	27.9	66.4	21.5	47.6	60.4	5.9	29.9	26.7	40.5
Wood	0.7	1.0	0.5	0.3	0.7	2.2	0.4	0.2	0.7
Other	0.1	0.5	0.1	0.2	0.2	—	—	0.5	0.2

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) No sub-classification as to mains gas or LPG/bottled gas.

**3.11****MAIN SOURCE OF ENERGY USED IN SPACE HEATING—2005**

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
CAPITAL CITY									
<b>Estimate ('000)</b>									
Electricity	799.7	190.9	266.5	212.2	154.0	53.1	..	..	1 721.3
Mains gas	270.3	1 071.5	*7.3	174.0	274.0	*0.2	..	..	1 872.1
LPG/bottled gas	34.2	*8.6	*4.7	*3.9	*7.1	*2.9	..	..	64.3
Wood	72.9	57.6	40.0	36.3	42.7	22.7	..	..	276.7
Solar	—	—	—	—	*0.4	—	..	..	*0.4
Oil	*10.5	*2.6	*1.7	9.8	*5.3	*2.1	..	..	33.0
Other/varies	—	*1.2	*0.7	*0.4	*1.2	—	..	..	*3.6
Don't know	*2.8	*10.8	*2.8	*2.5	*4.4	—	..	..	24.1
No heater	416.1	26.7	376.2	41.3	96.7	*0.9	..	..	1 008.8
<b>Total households</b>	<b>1 606.5</b>	<b>1 370.0</b>	<b>699.9</b>	<b>480.3</b>	<b>585.8</b>	<b>81.8</b>	..	..	<b>5 004.2</b>
<b>Proportion (%)</b>									
Electricity	49.8	13.9	38.1	44.2	26.3	64.9	..	..	34.4
Mains gas	16.8	78.2	*1.0	36.2	46.8	*0.2	..	..	37.4
LPG/bottled gas	2.1	*0.6	*0.7	*0.8	*1.2	*3.5	..	..	1.3
Wood	4.5	4.2	5.7	7.6	7.3	27.7	..	..	5.5
Solar	—	—	—	—	*0.1	—	..	..	*—
Oil	*0.7	*0.2	*0.2	2.0	*0.9	*2.6	..	..	0.7
Other/varies	—	*0.1	*0.1	*0.1	*0.2	—	..	..	*0.1
Don't know	*0.2	*0.8	*0.4	*0.5	*0.8	—	..	..	0.5
No heater	25.9	1.9	53.7	8.6	16.5	*1.1	..	..	20.2
BALANCE OF STATE / TERRITORY									
<b>Estimate ('000)</b>									
Electricity	347.2	89.8	223.5	59.4	38.9	55.2	..	..	814.1
Mains gas	147.8	251.9	*11.4	14.8	38.7	—	..	..	464.4
LPG/bottled gas	97.7	32.2	17.5	22.0	11.3	4.8	..	..	185.5
Wood	208.6	157.8	79.8	54.5	81.1	50.7	..	..	632.5
Solar	*0.7	*0.7	*0.6	—	—	*0.2	..	..	*2.2
Oil	*11.1	*0.6	*4.3	*1.6	*1.2	*1.3	..	..	20.0
Other/varies	*1.6	*0.6	*1.3	*0.4	—	*0.4	..	..	*4.3
Don't know	*3.1	*4.0	*4.2	*0.8	*2.0	*0.2	..	..	14.2
No heater	166.1	*8.9	489.7	9.7	29.9	*1.3	..	..	705.5
<b>Total households</b>	<b>983.9</b>	<b>546.4</b>	<b>832.3</b>	<b>163.1</b>	<b>203.1</b>	<b>114.1</b>	..	..	<b>2 842.8</b>
<b>Proportion (%)</b>									
Electricity	35.3	16.4	26.9	36.4	19.2	48.4	..	..	28.6
Mains gas	15.0	46.1	*1.4	9.0	19.0	—	..	..	16.3
LPG/bottled gas	9.9	5.9	2.1	13.5	5.6	4.2	..	..	6.5
Wood	21.2	28.9	9.6	33.4	40.0	44.4	..	..	22.2
Solar	*0.1	*0.1	*0.1	—	—	*0.2	..	..	*0.1
Oil	*1.1	*0.1	*0.5	*1.0	*0.6	*1.1	..	..	0.7
Other/varies	*0.2	*0.1	*0.2	*0.3	—	*0.4	..	..	*0.2
Don't know	*0.3	*0.7	*0.5	*0.5	*1.0	*0.2	..	..	0.5
No heater	16.9	*1.6	58.8	6.0	14.7	*1.1	..	..	24.8

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**3.11****MAIN SOURCE OF ENERGY USED IN SPACE HEATING—2005** *continued*

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
TOTAL STATE / TERRITORY									
<b>Estimate ('000)</b>									
Electricity	1 146.9	280.8	490.0	271.6	192.9	108.3	*2.4	42.6	2 535.4
Mains gas	418.1	1 323.4	18.6	188.8	312.6	*0.2	—	74.9	2 336.6
LPG/bottled gas	131.9	40.7	22.2	25.8	18.4	7.7	*3.0	—	249.8
Wood	281.5	215.4	119.8	90.8	123.9	73.4	*0.7	*3.7	909.2
Solar	*0.7	*0.7	*0.6	—	*0.4	*0.2	—	—	*2.6
Oil	21.6	*3.2	*5.9	11.3	*6.5	*3.4	—	*1.0	53.0
Other/varies	*1.6	*1.9	*2.0	*0.8	*1.2	*0.4	—	—	*7.9
Don't know	*5.9	14.8	*7.0	*3.3	*6.4	*0.2	—	*0.8	38.3
No heater	582.2	35.6	865.8	51.0	126.6	*2.1	48.7	*2.2	1 714.3
<b>Total households</b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 847.0</b>
<b>Proportion (%)</b>									
Electricity	44.3	14.7	32.0	42.2	24.5	55.3	*4.3	34.0	32.3
Mains gas	16.1	69.1	1.2	29.3	39.6	*0.1	—	59.9	29.8
LPG/bottled gas	5.1	2.1	1.5	4.0	2.3	3.9	*5.4	—	3.2
Wood	10.9	11.2	7.8	14.1	15.7	37.5	*1.3	*2.9	11.6
Solar	*—	*—	*—	—	*—	*0.1	—	—	*—
Oil	0.8	*0.2	*0.4	1.8	*0.8	*1.7	—	*0.8	0.7
Other/varies	*0.1	*0.1	*0.1	*0.1	*0.2	*0.2	—	—	*0.1
Don't know	*0.2	0.8	*0.5	*0.5	*0.8	*0.1	—	*0.6	0.5
No heater	22.5	1.9	56.5	7.9	16.0	*1.1	89.0	*1.7	21.8

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**3.12**

## MAIN SOURCE OF ENERGY USED IN SPACE HEATING—1994:2005 .....

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Electricity	44.3	14.7	32.0	42.2	24.5	55.3	*4.3	34.0	32.3
Mains gas	16.1	69.1	1.2	29.3	39.6	*0.1	—	59.9	29.8
LPG/bottled gas	5.1	2.1	1.5	4.0	2.3	3.9	*5.4	—	3.2
Wood	10.9	11.2	7.8	14.1	15.7	37.5	*1.3	*2.9	11.6
Solar	*—	*—	*—	—	*—	*0.1	—	—	*—
Oil	0.8	*0.2	*0.4	1.8	*0.8	*1.7	—	*0.8	0.7
Other/varies	*0.1	*0.1	*0.1	*0.1	*0.2	*0.2	—	—	*0.1
Don't know	*0.2	0.8	*0.5	*0.5	*0.8	*0.1	—	*0.6	0.5
No heater	22.5	1.9	56.5	7.9	16.0	*1.1	89.0	*1.7	21.8

MARCH 2002									
Electricity	44.4	12.9	31.3	39.3	20.0	45.7	2.4	37.4	30.9
Gas(b)	23.7	72.7	3.0	32.7	41.0	5.3	3.2	56.3	34.2
Wood	11.8	12.4	9.7	17.4	22.1	45.2	2.2	4.3	13.7
Coal/coke	—	—	—	—	—	—	—	—	—
Oil	1.6	0.5	0.7	2.7	1.3	2.7	0.7	1.7	1.2
Solar	—	—	—	—	0.1	—	—	—	—
Other/varies	0.2	0.4	0.9	0.6	0.5	0.1	—	—	0.4
Don't know	—	—	—	—	—	—	—	—	—
No heater	18.2	1.0	54.4	7.3	15.1	1.0	91.6	0.3	19.5

MARCH 1999									
Electricity	42.2	11.9	24.3	38.4	16.6	33.1	3.8	38.5	28.0
Gas(b)	21.9	71.5	2.6	32.3	39.0	6.0	3.4	50.7	32.9
Wood	14.7	13.8	9.7	17.7	24.7	56.2	3.4	5.7	15.7
Coal/coke	0.1	—	—	0.1	—	—	—	—	—
Oil	2.7	1.0	1.8	3.9	2.2	3.3	—	3.3	2.2
Solar	—	—	—	—	—	—	—	0.2	—
Other/varies	0.6	0.3	1.3	0.4	0.6	0.4	—	0.6	0.6
Don't know	—	0.2	0.2	—	0.1	—	—	0.1	0.1
No heater	17.8	1.2	60.1	7.2	16.8	1.1	89.5	0.9	20.4

JUNE 1994									
Electricity	46.3	12.5	26.6	36.0	17.1	28.8	8.8	37.8	29.7
Gas(b)	19.7	71.0	3.0	33.3	32.1	5.2	5.4	46.1	31.9
Wood	17.1	14.0	10.1	19.0	31.6	60.5	1.2	10.2	17.6
Oil	3.5	1.3	3.7	4.2	3.9	4.8	1.5	4.5	3.1
Solar	0.1	—	—	0.1	0.1	0.1	0.4	—	0.1
Other/varies	1.7	0.6	2.0	1.4	2.0	0.5	0.9	0.9	1.4
No heater	11.7	0.6	54.6	5.9	13.2	0.2	81.8	0.4	16.2

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) No sub-classification as to mains gas or LPG/bottled gas.

**3.13****SOURCES OF ENERGY USED IN HEATING WATER—2005**

NSW Vic. Qld SA WA Tas. NT(a) ACT Aust.

## CAPITAL CITY

**Estimate ('000)**

Electricity									
Peak electricity	319.4	103.8	108.1	35.0	100.9	55.7	..	..	788.9
Off-peak electricity	594.4	158.3	327.4	120.5	12.8	17.9	..	..	1 260.5
Total	913.8	262.1	435.5	155.5	113.7	73.5	..	..	2 049.4
Gas									
Mains gas	493.1	1 054.1	107.7	297.3	371.9	—	..	..	2 376.8
LPG/bottled gas	*4.4	*7.5	27.3	*2.4	12.8	*0.6	..	..	56.5
Total	497.5	1 061.6	135.1	299.8	384.7	*0.6	..	..	2 433.3
Wood	*3.6	*0.7	*0.6	*0.4	*1.8	*0.8	..	..	*8.4
Solar	23.9	*8.6	35.1	11.7	79.0	*1.2	..	..	185.5
Oil	—	*0.6	—	—	*0.8	—	..	..	*1.4
Other	—	—	—	—	—	—	..	..	—
Don't know	173.1	50.3	103.8	18.5	23.9	7.2	..	..	386.8
<b>Total households (b)</b>	<b>1 606.5</b>	<b>1 370.0</b>	<b>699.9</b>	<b>480.3</b>	<b>585.8</b>	<b>81.8</b>	..	..	<b>5 004.2</b>

**Proportion (%)**

Electricity									
Peak electricity	19.9	7.6	15.4	7.3	17.2	68.1	..	..	15.8
Off-peak electricity	37.0	11.6	46.8	25.1	2.2	21.8	..	..	25.2
Total	56.9	19.1	62.2	32.4	19.4	89.9	..	..	41.0
Gas									
Mains gas	30.7	76.9	15.4	61.9	63.5	—	..	..	47.5
LPG/bottled gas	*0.3	*0.5	3.9	*0.5	2.2	*0.7	..	..	1.1
Total	31.0	77.5	19.3	62.4	65.7	*0.7	..	..	48.6
Wood	*0.2	*—	*0.1	*0.1	*0.3	*1.0	..	..	*0.2
Solar	1.5	*0.6	5.0	2.4	13.5	*1.4	..	..	3.7
Oil	—	*—	—	—	*0.1	—	..	..	*—
Other	—	—	—	—	—	—	..	..	—
Don't know	10.8	3.7	14.8	3.8	4.1	8.8	..	..	7.7

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) Total of households do not equal the sum of items in each column as more than one source of energy may be specified.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

### 3.13 SOURCES OF ENERGY USED IN HEATING WATER—2005 *continued*

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
BALANCE OF STATE / TERRITORY									
<b>Estimate ('000)</b>									
Electricity									
Peak electricity	129.4	55.1	168.7	14.0	66.5	83.8	..	..	517.5
Off-peak electricity	611.4	228.0	444.0	110.3	*2.2	19.3	..	..	1 415.2
Total	740.8	283.1	612.6	124.3	68.7	103.1	..	..	1 932.7
Gas									
Mains gas	125.0	223.2	33.0	13.9	53.4	*0.2	..	..	448.7
LPG/bottled gas	29.6	19.3	34.2	13.0	41.9	*1.9	..	..	139.8
Total	154.5	242.5	67.2	26.9	95.3	*2.1	..	..	588.5
Wood	*12.9	*9.9	*3.5	*1.6	*7.8	*4.0	..	..	39.8
Solar	40.3	*11.2	55.3	8.8	45.7	*1.1	..	..	162.4
Oil	*0.8	—	—	—	—	—	..	..	*0.8
Other	—	*1.2	*0.5	—	—	*0.2	..	..	*2.0
Don't know	50.4	*9.9	114.7	*5.1	*4.1	5.3	..	..	189.4
<b>Total households (b)</b>	<b>983.9</b>	<b>546.4</b>	<b>832.3</b>	<b>163.1</b>	<b>203.1</b>	<b>114.1</b>	..	..	<b>2 842.8</b>
<b>Proportion (%)</b>									
Electricity									
Peak electricity	13.2	10.1	20.3	8.6	32.7	73.5	..	..	18.2
Off-peak electricity	62.1	41.7	53.3	67.6	*1.1	16.9	..	..	49.8
Total	75.3	51.8	73.6	76.2	33.8	90.4	..	..	68.0
Gas									
Mains gas	12.7	40.8	4.0	8.5	26.3	*0.2	..	..	15.8
LPG/bottled gas	3.0	3.5	4.1	8.0	20.6	*1.6	..	..	4.9
Total	15.7	44.4	8.1	16.5	46.9	*1.8	..	..	20.7
Wood	*1.3	*1.8	*0.4	*1.0	*3.9	*3.5	..	..	1.4
Solar	4.1	*2.0	6.6	5.4	22.5	*0.9	..	..	5.7
Oil	*0.1	—	—	—	—	—	..	..	*—
Other	—	*0.2	*0.1	—	—	*0.2	..	..	*0.1
Don't know	5.1	*1.8	13.8	*3.2	*2.0	4.6	..	..	6.7

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) Total of households do not equal the sum of items in each column as more than one source of energy may be specified.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**3.13****SOURCES OF ENERGY USED IN HEATING WATER—2005** *continued*

NSW Vic. Qld SA WA Tas. NT(a) ACT Aust.

## TOTAL STATE / TERRITORY

**Estimate ('000)**

## Electricity

Peak electricity	448.9	158.9	276.7	49.0	167.4	139.5	31.5	34.4	1 306.4
Off-peak electricity	1 205.8	386.3	771.4	230.8	15.0	37.2	*2.2	27.1	2 675.7
<b>Total</b>	<b>1 654.7</b>	<b>545.2</b>	<b>1 048.1</b>	<b>279.8</b>	<b>182.4</b>	<b>176.7</b>	<b>33.7</b>	<b>61.5</b>	<b>3 982.1</b>

## Gas

Mains gas	618.0	1 277.3	140.8	311.2	425.3	*0.2	*0.3	52.4	2 825.5
LPG/bottled gas	34.0	26.8	61.5	15.4	54.7	*2.5	*1.2	*0.2	196.3
<b>Total</b>	<b>652.0</b>	<b>1 304.1</b>	<b>202.3</b>	<b>326.7</b>	<b>480.0</b>	<b>*2.7</b>	<b>*1.5</b>	<b>52.6</b>	<b>3 021.9</b>

## Wood

Solar	64.2	19.8	90.5	20.5	124.7	*2.2	22.9	*3.0	347.8
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## Oil

Oil	*0.8	*0.6	—	—	*0.8	—	—	—	*2.2
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## Other

Other	—	*1.2	*0.5	—	—	*0.2	—	—	*2.0
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## Don't know

Don't know	223.5	60.2	218.5	23.6	27.9	12.5	*1.5	8.5	576.3
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**Total households (b)**

<b>Total households (b)</b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 847.0</b>
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**Proportion (%)**

## Electricity

Peak electricity	17.3	8.3	18.1	7.6	21.2	71.2	57.6	27.5	16.6
Off-peak electricity	46.5	20.2	50.3	35.9	1.9	19.0	*4.0	21.6	34.1
<b>Total</b>	<b>63.9</b>	<b>28.5</b>	<b>68.4</b>	<b>43.5</b>	<b>23.1</b>	<b>90.2</b>	<b>61.6</b>	<b>49.2</b>	<b>50.7</b>

## Gas

Mains gas	23.9	66.6	9.2	48.4	53.9	*0.1	*0.5	41.9	36.0
LPG/bottled gas	1.3	1.4	4.0	2.4	6.9	*1.3	*2.2	*0.2	2.5
<b>Total</b>	<b>25.2</b>	<b>68.0</b>	<b>13.2</b>	<b>50.8</b>	<b>60.8</b>	<b>*1.4</b>	<b>*2.7</b>	<b>42.0</b>	<b>38.5</b>

## Wood

Wood	0.6	*0.6	*0.3	*0.3	*1.2	2.5	—	*0.4	0.6
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## Solar

Solar	2.5	1.0	5.9	3.2	15.8	*1.1	41.9	*2.4	4.4
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## Oil

Oil	*—	*—	—	—	*0.1	—	—	—	*—
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## Other

Other	—	*0.1	*—	—	—	0.1	—	—	*—
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## Don't know

Don't know	8.6	3.1	14.3	3.7	3.5	6.4	*2.7	6.8	7.3
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\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) Total of households do not equal the sum of items in each column as more than one source of energy may be specified.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

### 3.14 SOURCES OF ENERGY USED IN HEATING WATER—1994:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Electricity (peak)	17.3	8.3	18.1	7.6	21.2	71.2	57.6	27.5	16.6
Off-peak electricity	46.5	20.2	50.3	35.9	1.9	19.0	*4.0	21.6	34.1
Mains gas	23.9	66.6	9.2	48.4	53.9	*0.1	*0.5	41.9	36.0
LPG/bottled gas	1.3	1.4	4.0	2.4	6.9	*1.3	*2.2	*0.2	2.5
Solar	2.5	1.0	5.9	3.2	15.8	*1.1	41.9	*2.4	4.4
Wood	0.6	*0.6	*0.3	*0.3	*1.2	2.5	—	*0.4	0.6
Oil	*—	*—	—	—	*0.1	—	—	—	*—
Other	—	*0.1	*—	—	—	*0.1	—	—	*—
Don't know	8.6	3.1	14.3	3.7	3.5	6.4	*2.7	6.8	7.3
MARCH 2002									
Electricity (peak)	33.1	13.9	45.9	22.4	26.0	91.0	54.7	42.3	31.0
Off-peak electricity	45.9	20.2	37.3	29.3	0.5	8.5	0.7	25.1	30.4
Gas(b)	23.4	66.7	14.4	49.2	60.5	1.1	5.2	32.1	37.6
Solar	2.4	0.6	5.6	2.9	15.7	0.6	52.5	3.3	4.3
Wood	0.5	0.6	0.4	0.3	1.4	1.7	0.4	—	0.6
Oil	—	—	—	0.1	0.1	—	—	—	—
Coal/coke	—	—	—	—	—	—	—	—	—
Other	0.2	0.1	0.4	0.1	0.1	0.3	—	—	0.2
Not known	2.2	1.1	2.1	0.7	1.0	0.2	0.5	1.2	1.6
MARCH 1999									
Electricity	75.9	34.1	80.6	50.8	24.7	96.5	55.5	69.4	59.6
Gas(b)	20.8	64.6	13.4	47.1	56.3	1.4	2.4	29.2	35.4
Solar	2.7	0.9	6.0	2.5	19.6	0.9	43.7	3.4	4.8
Wood	0.7	1.4	0.6	0.5	2.2	2.3	—	—	1.0
Oil	0.1	—	—	—	0.1	—	—	—	—
Coal/coke	—	—	—	—	—	—	—	—	—
Other	0.1	0.1	0.4	0.1	—	0.2	0.4	—	0.2
Don't know	0.8	0.3	0.4	0.5	0.5	0.2	—	0.1	0.5
JUNE 1994									
Electricity	77.7	38.0	82.0	48.9	36.6	95.9	44.9	79.1	62.3
Gas(b)	19.8	61.0	13.5	48.8	47.7	0.9	2.3	20.1	33.6
Solar	3.5	0.8	4.8	3.3	20.5	0.6	57.5	3.1	4.9
Other	1.9	1.9	1.9	0.6	5.8	3.7	4.3	0.2	2.2

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) No sub-classification as to mains gas or LPG/bottled gas.

**3.15****SOLAR HOT WATER SYSTEM, Type of booster—1999:2005**

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT(a)</i>	<i>ACT</i>	<i>Aust.</i>
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Electric	93.9	65.4	91.9	92.8	92.1	*56.4	81.0	*66.7	89.7
Mains gas	—	*25.8	—	*3.4	*2.6	—	—	*13.4	*2.7
LPG/bottled gas	—	—	*2.2	—	*0.3	*9.6	—	—	*0.8
Wood	—	—	—	*1.9	*3.7	—	—	—	*1.4
Not boosted	*5.0	*8.8	*3.2	*1.9	*1.4	*17.6	*16.6	*13.2	4.2
Don't know	*1.1	—	*2.7	—	—	*16.4	*2.4	*6.7	*1.2
MARCH 2002									
Electric	95.1	69.9	94.7	92.5	95.0	68.0	86.4	100.0	93.1
Gas(b)	3.7	15.1	0.7	3.3	1.0	—	3.0	—	2.2
Don't know	1.2	15.0	4.6	4.2	4.0	32.0	10.6	—	4.7
MARCH 1999									
Electric	90.2	72.2	93.4	97.7	94.5	77.4	87.6	86.2	92.0
Gas(b)	1.0	19.8	1.2	—	2.0	—	0.9	3.7	2.3
Don't know	8.8	7.9	5.4	2.3	3.5	22.6	11.5	10.1	5.8

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) No sub-classification as to mains gas or LPG/bottled gas.

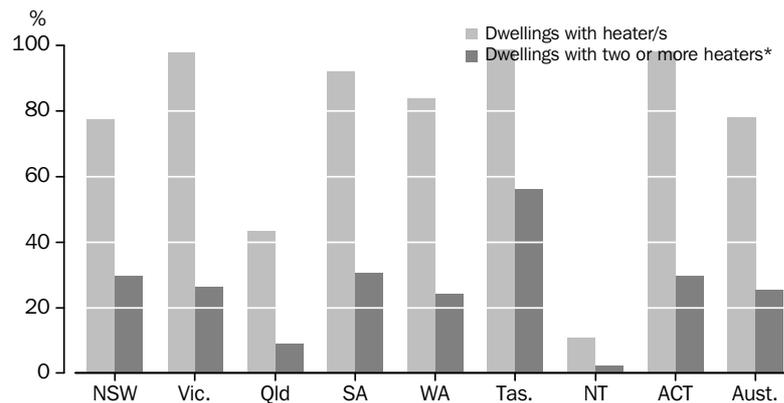
INTRODUCTION

This chapter describes the type and characteristics of heaters and coolers present in Australian dwellings. Heaters and coolers are major contributors to household energy use and costs. They account for nearly two-fifths (39%) of total household energy use and 14% of the residential sector greenhouse emissions (AGO 2005a).

HEATERS

Nearly eight in ten dwellings (78%) across Australia had a heater in 2005 (graph 4.1). In the cooler states of the Australian Capital Territory, Victoria, Tasmania and South Australia, heaters were in nearly all dwellings (99%).

**4.1** HEATERS IN DWELLINGS—2005



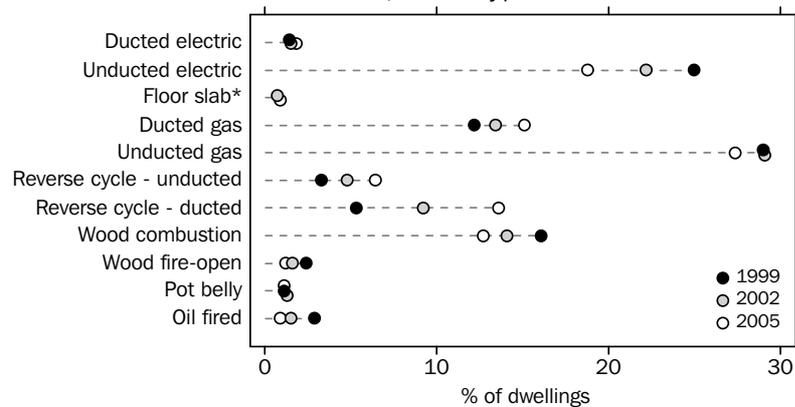
\* As a proportion of dwellings with heater/s.

One-third (33%) of dwellings with heaters had two or more heaters in use in their homes - a slight increase from 29% in 2002 (table 4.7). In Tasmania, more than half of the dwellings (57%) had two or more heaters in use.

Unducted gas was the most prominent type of heater in Australian dwellings in 2005 (27% of dwellings), followed by unducted electric (19% of dwellings) and ducted gas heaters (15% of dwellings) (graph 4.2 and table 4.8). Reverse cycle air conditioners (ducted and unducted) were reported to be present in 20% of Australian households, an increase from 14% in 2002. Wood combustion heaters were used by 13% of households (36% in Tasmania), although this proportion has fallen substantially from 16% in 1999.

HEATERS *continued*

**4.2** HEATERS IN DWELLINGS, Main type—1999:2005

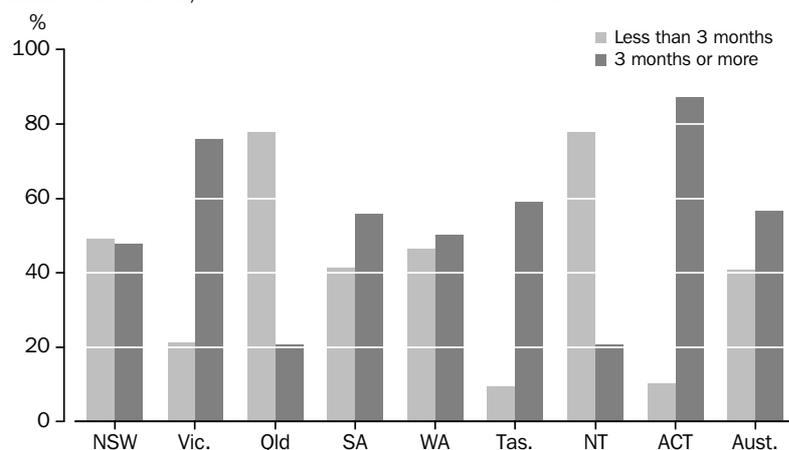


\*Data not collected in 1999.

Comfort and convenience was the most important factor for households (36%) installing a heater (regardless of type). This was cited by 48% of households with reverse cycle air conditioners and 42% of households with electric heaters (table 4.9). Heaters that were more likely to be chosen due to cost were unducted gas and electric heaters (23%), while heaters chosen due to savings on energy bills were likely to be wood combustion heaters (25%). Ducted reverse cycle air conditioners were the most likely to be chosen for energy efficiency (21%).

The frequency of use of heaters was influenced by climate. Households in the cooler and temperate climates of Tasmania, Victoria and the Australian Capital Territory used heaters more frequently than households in the warmer states of Northern Territory and Queensland (graph 4.3).

**4.3** HEATERS, Number of months used—2005



Between 2002 and 2005, the frequency of use of heaters remained constant in most states. Queensland and the Northern Territory, however, both displayed a declining trend in the frequency of use of heaters as the proportion of households using heaters in the 'less than 1 month' group increased (from 35% to 41% and from 25% to 41%, respectively). In contrast, Tasmania displayed a change in use of heaters with an increase

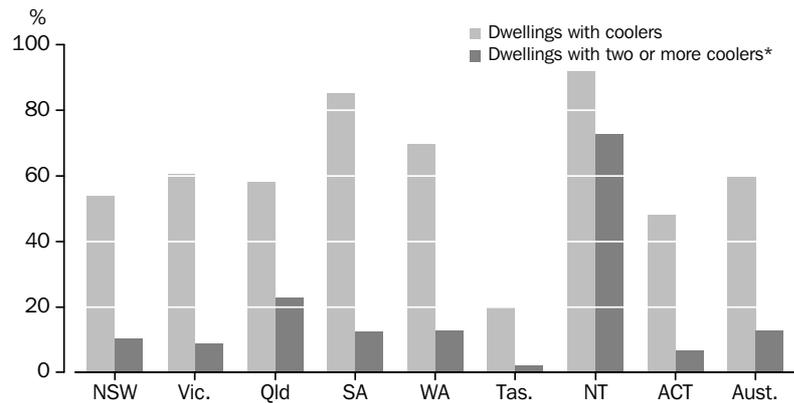
HEATERS *continued*

in proportion of households using heaters for 6 months or more (from 42% to 52%) (table 4.10).

COOLERS

Six in ten dwellings (60%) had some form of cooler (i.e. air conditioner or evaporative cooler) in 2005, about one-fifth of which (22%) had two or more coolers in use (graph 4.4 and table 5.3). In the Northern Territory, nine in ten households had a cooler, and close to half (47%) had three or more units in use (table 4.11).

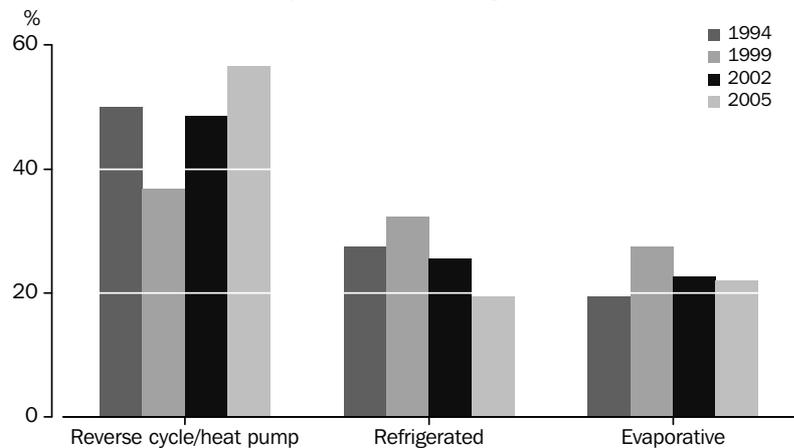
**4.4** COOLERS IN DWELLINGS—2005



\* As a proportion of dwellings with coolers.

Since 1994, the most popular system of cooling in Australia has been the reverse cycle/heat pump air conditioning (57% in 2005) (graph 4.5 and table 4.12). In 2005, reverse cycle/heat pump coolers were used widely in Tasmania (90% of households), New South Wales (78%) and Queensland (61%). However, in the Northern Territory, the most dominant system of cooling was the refrigerated unit (65%).

**4.5** MAIN COOLER, System of cooling—1994:2005

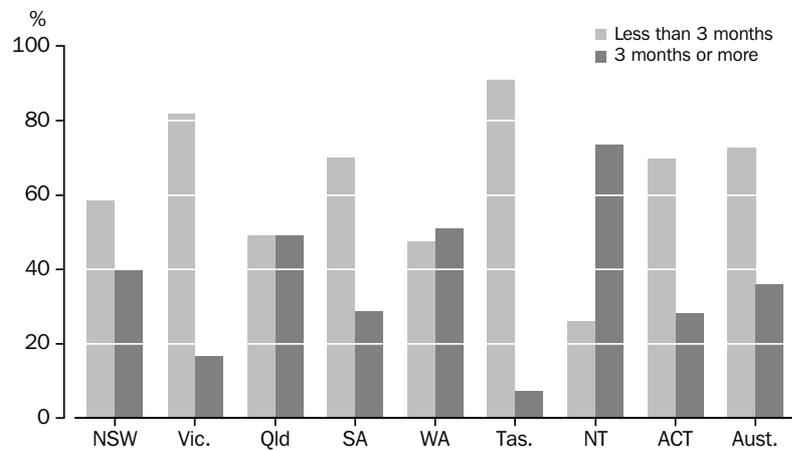


COOLERS *continued*

While most of the coolers in Australia were wall mounted (36%), there was a significant increase in the proportion of dwellings with split type coolers, from 18% in 2002 to 30% in 2005. Increases were pronounced in the Northern Territory (from 30% to 48%) and Queensland (from 24% to 47%) (table 4.13). Ducted coolers were more common in Western Australia (45%) and South Australia (43%).

The hotter regions of the Northern Territory and Queensland used coolers more frequently than any other region in Australia (graph 4.6 and table 4.14). In the Northern Territory, about 45% of households used their coolers for 6 months or more in the year, whereas the majority of households in Tasmania (70%) used their coolers for less than one month in the year.

**4.6** COOLERS, Number of months used—2005



## 4.7 HEATERS IN DWELLINGS(a), Number of units in use—1994:2005 .....

	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
.....									
MARCH 2005									
One	60.0	72.4	67.7	68.1	69.8	42.5	*74.4	69.5	66.1
Two	28.0	20.5	21.1	24.2	23.5	31.7	*22.5	18.3	24.0
Three or more	10.3	6.5	8.3	6.4	5.2	25.4	—	11.9	8.5
None	1.6	*0.6	2.9	*1.4	*1.5	*0.3	*3.0	*0.4	1.4
.....									
MARCH 2002									
One	66.0	73.8	72.3	69.3	73.5	51.3	82.1	58.6	69.5
Two	24.0	20.6	21.3	24.4	20.9	30.8	4.3	26.0	22.7
Three or more	10.0	5.6	6.3	6.3	5.5	17.9	13.7	15.4	7.8
.....									
MARCH 1999									
One	66.8	71.8	72.7	62.3	76.5	52.0	66.7	54.0	68.7
Two	25.3	22.9	19.9	29.1	19.8	30.0	29.1	28.1	24.1
Three or more	7.9	5.3	7.4	8.6	3.7	18.0	4.2	17.9	7.2
.....									
JUNE 1994									
One	55.6	61.2	64.9	47.6	59.6	34.9	66.1	33.2	56.7
Two	29.6	26.4	24.3	31.4	29.2	31.2	26.9	26.6	28.3
Three or more	14.7	12.4	10.7	20.9	11.2	33.9	7.0	40.2	15.0

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Includes only dwellings with heater/s.

(b) Northern Territory data refers to mainly urban areas only

## 4.8

## HEATERS IN DWELLING(a), Main type—1999:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Electric									
Ducted	2.2	1.7	*0.7	2.1	*1.1	*1.9	—	*3.3	1.8
Not ducted	26.9	8.6	27.0	14.5	13.0	37.2	*27.7	21.4	18.8
Floor slab	1.1	1.1	0.1	1.0	—	2.7	—	*1.5	0.9
Gas									
Ducted	3.4	40.1	*0.2	3.4	4.2	—	—	42.0	15.1
Not ducted	24.0	33.0	6.0	33.0	46.2	4.1	*49.1	19.3	27.4
Reverse cycle									
Ducted	10.7	*0.7	8.2	11.0	5.3	3.2	*3.1	3.7	6.4
Not ducted	16.2	3.0	38.3	17.6	10.0	10.9	*8.4	4.9	13.6
Wood									
Combustion	12.1	10.4	13.1	13.6	15.1	35.9	*6.7	*2.8	12.7
Fire-open	1.3	0.9	*2.0	*1.1	*0.9	*1.5	*4.9	*0.2	1.2
Pot-belly	*0.7	*0.3	3.0	*0.7	2.8	*0.5	—	—	1.1
Oil (oil-fired)	1.1	*0.2	*0.9	1.9	*1.0	*1.8	—	*0.8	0.9
Other	0.1	*0.1	*0.4	*0.1	*0.2	*0.3	—	—	*0.2
MARCH 2002									
Electric									
Ducted	2.2	1.7	0.2	0.6	0.4	1.5	—	2.6	1.5
Not ducted	31.3	8.0	44.2	16.7	11.4	35.3	14.8	26.4	22.2
Floor slab	0.8	0.9	0.2	0.2	0.3	2.5	—	1.4	0.7
Gas									
Ducted	3.9	35.8	0.3	3.2	2.5	0.7	6.3	30.5	13.4
Not ducted	25.1	37.7	6.4	32.1	45.8	4.6	31.2	26.0	29.1
Reverse cycle									
Ducted	8.1	0.5	5.0	8.5	4.9	0.7	—	3.5	4.8
Not ducted	12.1	1.8	19.2	16.4	6.6	6.2	13.7	3.5	9.2
Wood									
Combustion	12.4	10.9	14.6	16.2	20.1	42.6	13.8	4.3	14.1
Fire-open	1.5	1.3	3.0	1.4	1.6	2.0	12.2	—	1.6
Pot-belly	0.6	0.4	3.6	1.2	4.3	1.0	—	—	1.3
Oil (oil-fired)	2.0	0.5	1.4	2.9	1.6	2.7	8.0	1.7	1.5
Other	0.2	0.4	2.0	0.6	0.6	0.1	—	—	0.5
MARCH 1999									
Electric									
Ducted	1.9	1.3	0.9	1.1	0.7	1.5	—	2.4	1.4
Not ducted	36.4	9.3	48.5	20.2	14.3	28.4	20.7	30.8	25.0
Gas									
Ducted	3.9	31.5	0.7	2.2	3.7	1.0	—	28.7	12.2
Not ducted	23.0	40.1	5.8	32.4	42.8	5.1	32.3	22.9	29.0
Reverse cycle									
Ducted	5.0	1.2	2.5	6.7	2.2	1.1	11.2	3.4	3.3
Not ducted	7.4	0.8	9.1	12.7	2.9	2.1	3.9	2.3	5.3
Wood									
Combustion	14.6	12.4	15.9	15.8	23.3	51.4	22.1	5.0	16.1
Fire-open	2.4	1.4	5.1	2.6	2.1	4.0	3.3	0.6	2.4
Pot-belly	0.9	0.1	2.8	1.1	3.7	1.2	6.6	0.3	1.1
Oil (oil-fired)	3.5	1.0	4.7	4.3	2.9	3.4	—	3.3	2.9
Other	1.1	0.9	3.9	0.9	1.4	0.6	—	0.4	1.3

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Includes only dwellings with at least a heater in use and respondents were aware of its type.

(b) Northern Territory data refers to mainly urban areas only.

**4.9**

HOUSEHOLDS RESPONSIBLE FOR INSTALLING MAIN HEATER, Main reason for choice of heater—2005

	ELECTRIC HEATER				GAS HEATER			REVERSE CYCLE		
	Ducted	Not ducted	Floor slab	Total	Ducted	Not ducted	Total	Ducted	Not ducted	Total
	%	%	%	%	%	%	%	%	%	%
Cost price	22.9	18.3	*13.5	18.4	12.9	23.4	19.8	7.2	14.3	12.1
Save on energy bills	*11.2	4.4	*13.3	5.2	17.9	22.1	20.7	9.9	9.2	9.4
Use less energy/efficiency	*16.4	4.6	*14.8	5.7	20.0	19.3	19.6	21.2	13.1	15.6
Comfort/convenience	38.8	42.6	35.0	42.1	39.4	22.8	28.4	46.7	47.9	47.6
Environmental considerations	—	*1.1	*3.2	*1.1	*0.8	2.2	1.7	*1.1	*0.9	*0.9
Appearance	—	*0.8	*1.7	*0.8	*0.4	*0.8	*0.7	*0.9	*0.7	*0.7
Financial incentive/subsidy	*0.9	*0.3	—	*0.3	*0.4	*0.3	*0.3	—	*0.2	*0.2
Recommended by friend/expert	*3.0	*0.7	*5.2	*1.0	*2.5	*1.3	1.7	*3.0	3.5	3.3
Other	6.7	27.2	*13.3	25.4	5.8	7.8	7.1	10.0	10.2	10.2

	WOOD HEATER				OIL HEATER	
	Combustion	Fire-open	Pot belly	Total	Oil-fired heater	All types
	%	%	%	%	%	%
Cost price	18.2	*10.5	*11.5	17.4	*23.9	17.4
Save on energy bills	24.8	*17.4	*21.9	24.3	*13.1	14.6
Use less energy/efficiency	13.4	—	*17.6	13.0	*8.2	14.0
Comfort/convenience	24.7	*22.2	*26.7	24.7	*25.6	35.7
Environmental considerations	*1.2	5.6	*1.0	*1.4	*1.3	1.3
Appearance	5.7	*26.7	*13.8	*7.1	—	1.7
Financial incentive/subsidy	*0.3	—	—	*0.3	—	*0.3
Recommended by friend/expert	*0.9	*3.6	*1.7	*1.1	*2.7	1.8
Other	10.8	*14.1	*5.9	10.6	*25.1	13.3

\* estimate is subject to sampling variability too high for most practical purposes — nil or rounded to zero (including null cells)

## 4.10 HOUSEHOLDS WITH AT LEAST ONE HEATER IN USE, Number of months used—2002 and 2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Less than 1 month	13.4	6.1	40.8	12.9	14.3	4.0	*41.4	4.3	13.8
1 month to less than 3 months	35.7	15.0	36.9	28.4	32.0	5.4	*36.4	5.9	26.8
3 months to less than 6 months	42.8	50.9	19.3	49.0	46.2	37.2	*20.7	65.0	44.0
6 months or more	5.0	25.0	1.4	6.6	4.0	51.8	—	22.1	12.6
Don't know	3.1	3.1	1.6	3.0	3.5	1.7	*1.5	*2.7	2.9
MARCH 2002									
Less than 1 month	11.5	6.4	35.1	12.1	12.9	4.4	25.4	4.9	12.4
1 month to less than 3 months	35.4	18.3	42.7	30.0	34.8	6.5	56.5	11.1	29.1
3 months to less than 6 months	44.7	48.5	16.8	45.1	43.7	43.0	18.0	65.0	43.1
6 months or more	3.0	22.8	0.5	8.9	4.5	42.1	—	14.6	10.9
Don't know	5.4	4.0	4.9	3.9	4.1	3.9	—	4.4	4.6

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

## 4.11 COOLERS IN DWELLINGS (a), Number of units in use—1994:2005 .....

	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
One	80.3	84.8	59.9	84.3	80.6	86.6	30.9	92.4	77.7
Two	15.0	11.9	23.0	12.1	12.7	*8.9	22.5	*6.2	15.1
Three or more	3.9	2.6	16.5	2.5	5.5	*1.9	46.6	*1.0	6.4
None	*0.8	*0.7	*0.6	*1.0	*1.2	*2.6	—	*0.4	0.8
MARCH 2002									
One	84.7	88.0	66.4	85.8	82.9	92.5	38.6	90.5	82.2
Two	12.1	9.9	22.3	12.1	12.6	7.5	29.7	8.4	13.3
Three or more	3.3	2.1	11.3	2.1	4.5	—	31.8	1.1	4.5
MARCH 1999									
One	84.6	87.3	65.3	82.9	83.5	96.0	39.8	92.4	81.8
Two	12.6	11.0	20.5	15.3	12.4	4.0	29.1	5.8	13.7
Three or more	2.8	1.7	14.2	1.8	4.1	—	31.0	1.8	4.5
JUNE 1994									
One	86.1	88.0	68.7	83.7	83.0	100.0	55.7	90.7	83.8
Two	10.8	10.1	19.3	13.9	10.9	—	26.9	7.0	12.2
Three or more	3.1	1.8	12.0	2.4	6.1	—	17.5	2.3	4.0

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) For this survey, a cooler may refer to an air conditioner or evaporative cooler.

(b) Northern Territory data refers to mainly urban areas only

**4.12****MAIN COOLER IN DWELLING (a), System of cooling—1994:2005**

	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Reverse cycle/heat pump	78.0	36.3	61.2	53.4	41.6	90.8	16.2	59.1	56.6
Refrigerated	7.6	29.4	26.6	16.5	17.8	*2.0	65.1	11.1	19.4
Evaporative	12.7	31.3	9.8	29.4	39.1	*6.7	17.1	28.7	22.0
Don't know	1.7	3.0	2.3	*0.8	*1.5	*0.4	*1.6	*1.0	2.0
MARCH 2002									
Reverse cycle/heat pump	71.4	30.3	47.7	50.5	35.6	93.6	9.2	54.3	48.8
Refrigerated	12.5	35.7	37.7	19.8	23.7	—	70.8	15.9	25.6
Evaporative	12.6	29.7	11.8	29.2	39.1	6.4	18.5	27.6	22.7
Don't know	3.5	4.3	2.9	0.4	1.6	—	1.5	2.1	2.9
MARCH 1999									
Reverse cycle/heat pump	59.4	30.3	23.5	35.4	23.9	53.7	4.3	56.4	36.8
Refrigerated	16.6	40.8	49.7	27.6	27.2	19.0	77.2	12.2	32.3
Evaporative	20.8	24.3	20.5	36.0	47.8	15.4	17.6	28.7	27.4
Don't know	3.1	4.6	6.2	1.1	1.2	11.8	0.9	2.7	3.4
JUNE 1994									
Reverse cycle/heat pump	67.5	41.6	36.6	52.9	33.2	51.5	15.0	50.7	50.0
Refrigerated	14.2	36.7	39.1	23.4	33.3	8.9	63.3	13.6	27.4
Evaporative	16.1	16.8	18.9	23.1	30.3	31.2	20.0	34.6	19.5
Don't know	2.2	4.8	5.4	0.6	3.1	8.4	1.7	1.1	3.1

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) For this survey, a cooler may refer to an air conditioner or evaporative cooler.

(b) Northern Territory data refers to mainly urban areas only.

Note: Figures are as a proportion of households with at least one cooler in use in dwelling.

**4.13** MAIN COOLER IN DWELLING (a), Type—1994:2005 .....

	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
.....									
MARCH 2005									
Split system	29.6	23.4	47.2	16.1	26.7	43.1	47.9	30.8	29.8
Set in wall/window	34.6	43.5	37.2	37.8	25.1	32.3	36.8	20.1	36.4
Ducted	30.2	27.8	10.3	43.1	44.6	18.4	*14.8	33.9	28.8
Portable	5.5	5.3	5.3	3.1	3.6	*6.3	*0.5	15.1	5.0
.....									
MARCH 2002									
Split system	21.7	13.2	24.0	11.3	16.1	45.9	30.3	25.2	18.0
Set in wall/window	45.3	53.8	57.4	46.7	31.9	33.7	52.4	30.6	47.8
Ducted	29.0	28.7	12.8	39.6	49.0	11.1	17.3	27.8	30.1
Portable	4.0	4.4	5.7	2.4	3.0	9.4	—	16.4	4.1
.....									
MARCH 1999									
Set in wall/window	75.8	76.2	83.2	68.1	54.4	68.1	71.3	64.1	73.0
Ducted	19.0	17.3	9.6	27.7	41.8	8.6	27.7	21.4	21.4
Portable	5.3	6.5	7.2	4.2	3.8	23.4	0.9	14.5	5.6
.....									
JUNE 1994									
Set in wall/window	71.9	79.2	78.7	70.1	63.4	39.5	77.5	53.6	73.3
Ducted	20.3	12.5	6.6	25.3	30.0	21.0	21.4	17.2	18.6
Portable	7.8	8.3	14.6	4.5	6.5	39.5	1.1	29.2	8.0

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) For this survey, a cooler may refer to an air conditioner or evaporative cooler.

(b) Northern Territory data refers to mainly urban areas only.

## 4.14 COOLERS IN DWELLINGS (a), Number of months used—2002 and 2005 .....

	NSW	Vic.	Qld	SA	WA	Tas.	NT(b)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Less than 1 month	21.4	40.8	18.2	31.1	15.9	69.5	*11.1	25.9	26.4
1 month to less than 3 months	36.8	41.0	31.7	38.8	31.7	21.3	15.0	43.7	36.2
3 months to less than 6 months	36.0	15.7	38.4	26.6	44.8	*3.5	28.3	27.3	30.9
6 months or more	4.1	0.9	10.5	2.0	6.2	*3.6	45.0	*1.0	4.9
Don't know	1.8	1.6	*1.2	*1.4	*1.5	*2.1	*0.5	*2.1	1.5
MARCH 2002									
Less than 1 month	20.6	59.1	13.6	48.7	18.5	59.8	9.2	41.7	33.6
1 month to less than 3 months	39.0	30.9	27.5	36.3	40.7	21.2	18.1	44.9	34.6
3 months to less than 6 months	34.7	8.3	44.1	12.5	35.2	13.1	31.7	12.8	25.8
6 months or more	3.2	0.2	12.7	0.9	4.3	2.9	37.9	—	4.1
Don't know	2.6	1.5	2.0	1.6	1.3	3.0	3.1	0.7	1.9

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Includes only dwellings that have at least one cooler in use.

(b) Northern Territory data refers to mainly urban areas only.

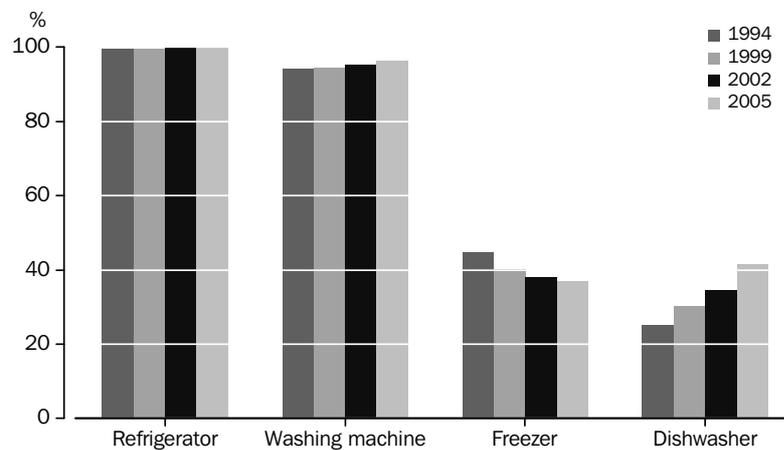
INTRODUCTION

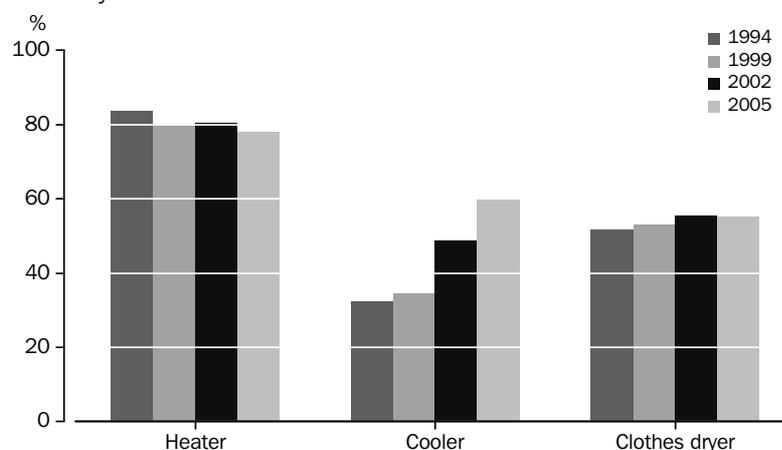
This chapter describes the kind and type of appliances present in Australian dwellings. Household appliances, such as refrigerators, freezers, dishwashers etc. account for a 30% of total energy consumption and 53% of the resultant residential greenhouse gas emissions (AGO 2005c).

WHITE GOODS

In March 2005, almost every dwelling in Australia had a refrigerator (99.9%) and a washing machine (95%). More than three-quarters (78%) of all dwellings had a heater, three-fifths (60%) a cooler (i.e. air conditioner or evaporative cooler) and more than half (55%) had a clothes dryer. A significant proportion of dwellings had dishwashers (42%) and separate freezers (37%) (graphs 5.1 and 5.2, table 5.3). The presence of these appliances was similar for urban and rural dwellings, except that separate freezers were more common in rural dwellings (51%) than in urban dwellings (29%). Conversely, dishwashers were more common in urban dwellings (44%) than in rural dwellings (37%) (table 5.3).

**5.1** WHITE GOODS IN DWELLINGS, Refrigerator, washing machine, freezer, dishwasher—1994:2005



WHITE GOODS *continued***5.2** WHITE GOODS IN DWELLINGS, Heater, cooler, clothes dryer—1994:2005

There has been an increase in ownership of several white goods into Australian households between 1994 and 2005. For example, the proportion of dwellings with coolers, dishwashers and clothes dryers grew by 27%, 17% and 3% respectively (table 5.4). Refrigerators and washing machines, as in 1999 and 2002, were the top two appliances bought or replaced by households within the survey year (table 5.5).

*Refrigerators*

Almost all dwellings in Australia had a refrigerator, with one-third (33%) having two or more in use (tables 5.3 and 5.6). Queensland had the highest proportion of dwellings with two or more refrigerator in use, followed by the Northern Territory (39%). Close to 60% of main refrigerators were aged 5 years or more while 32% were aged 10 years or older (table 5.7). For households with more than one refrigerator, the majority (56%) reported their secondary refrigerator was 10 years or older (table 5.8).

*Separate freezers*

Close to 40% of dwellings across Australia had at least one separate freezer, but this proportion has declined from 45% in 1994 to 37% in 2005 (tables 5.3 and 5.9). In Tasmania, almost 60% of dwellings had a separate freezer, 8% with two or more in use, the highest among states and territories.

*Dishwashers*

Dishwashers were present in 42% of dwellings in Australia. They were most common in the Australian Capital Territory (56% of dwellings) and Victoria (48% of dwellings) (table 5.3). The proportion of dwellings with dishwashers increased significantly between 1994 and 2005 (from 25% to 42%). The highest increase was noted in the Australian Capital Territory (from 38% to 56%) and New South Wales (25% to 43%).

More than two-fifths of households (41%) used their dishwasher just once a week, whereas over one-third (35%) used their dishwasher daily (table 5.10). About 10% of households used their dishwasher very rarely. About 9% had not used them at all in the 12 months prior to the survey. Households in Tasmania used their dishwasher more frequently than other households with 46% using them on a daily basis in 2005.

The proportion of Australian households using dishwashers on a daily basis increased marginally, from 32% in 1994 to 36% in 2005. The most significant increases were in Western Australia (13%) and South Australia (10%).

*Washing machine*

Almost all households in Australia had washing machines (tables 5.3 and 5.11). The more energy efficient front loading washers were used by 13% of Australian households, though this proportion has increased from 5% in 1994. The highest proportion of households with front loading washers was the Australian Capital Territory (19%), followed by Western Australia (13%).

Since 1994, Australians have used their washing machines less frequently. In 1994, 62% of households in Australia averaged 5 washing machine loads or less per week (table 5.12). This proportion gradually increased to 69% in 2005, while the number of households loading 6 or more loads per week decreased from 38% in 1994 to 31% in 2005.

Cold water usage in washing machines is slowly increasing among Australian households. In 1994, 61% used cold water while in 2005, 69% did (table 5.13).

*Clothes dryer*

In March 2005, 55% of the dwellings in Australia had clothes dryers, a slight increase from 52% in 1994 (table 5.3).

In March 2005, about one-third of households with a clothes dryer (30%) used it seasonally, while an additional 34% used the clothes dryer very rarely or on an occasional basis only (table 5.14). A further 8% reported they never had used it at all.

BUYING/REPLACING  
APPLIANCES

Energy rating efficiency and cost (price) were the two main factors considered by households across Australia in buying or replacing white good appliances. Energy rating efficiency ranked first over cost in buying/replacing a dishwasher (50%), washing machine (44%) and refrigerator (41%). Cost was considered highly in buying/replacing a heater (42%) and separate freezer (38%). Both factors were evenly rated highly in choosing a clothes dryer (40%) (table 5.15).

## NON-WHITE GOODS

Table 5.16 describes the types of non-white good appliances that may occur in a typical Australian dwelling. It shows that almost all dwellings have at least one television, vacuum cleaner and microwave. Eight in ten dwellings have a video player/recorder and stereo system, and seven in ten dwellings have a DVD player/recorder and a computer.

Between 1999 and 2005, there was a steady increase in the ownership of microwaves and computers. Computers in dwellings increased from 45% in 1999 to 68% in 2005. In the Australian Capital Territory, almost eight in ten dwellings had a computer in 2005 (tables 5.16 and 5.17).

## STANDBY POWER

Standby power is the power used by electrical products while they are waiting to be fully activated. It is a modern feature on many appliances such as televisions, computers, videos and DVD players/recorders, etc. Standby power consumption is significant as it accounts for up to 12 per cent of the nation's household electricity usage generating more than 5 mega tonnes of carbon dioxide per annum (NAEEEC 2002).

Table 5.18 illustrates common non-white goods in dwellings and the number of units that were usually plugged-in and ready to use. It shows that households had almost all of the listed appliances in standby mode.

## 5.3 WHITE GOODS IN DWELLINGS—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
CAPITAL CITY									
<b>Estimate ('000)</b>									
Refrigerator	1 604.6	1 367.5	699.9	479.9	585.8	81.6	..	..	4 999.1
Separate freezer	391.1	372.1	219.3	162.9	208.1	41.0	..	..	1 454.6
Dishwasher	705.5	707.2	306.0	154.1	214.3	29.4	..	..	2 202.6
Heater	1 190.4	1 343.3	323.7	439.0	489.1	80.9	..	..	3 995.4
Washing machine	1 515.7	1 299.5	675.4	466.1	564.6	80.2	..	..	4 777.5
Clothes dryer	968.4	721.9	378.8	241.3	286.7	43.2	..	..	2 733.7
Air conditioner	831.1	803.6	384.3	420.4	425.9	18.6	..	..	2 994.4
None of the above	*0.9	*0.7	—	*0.4	—	—	..	..	*2.0
<b>Total dwellings (b)</b>	<b>1 606.5</b>	<b>1 370.0</b>	<b>699.9</b>	<b>480.3</b>	<b>585.8</b>	<b>81.8</b>	..	..	<b>5 004.2</b>
<b>Proportion (%)</b>									
Refrigerator	99.9	99.8	100.0	99.9	100.0	99.8	..	..	99.9
Separate freezer	24.3	27.2	31.3	33.9	35.5	50.2	..	..	29.1
Dishwasher	43.9	51.6	43.7	32.1	36.6	35.9	..	..	44.0
Heater	74.1	98.1	46.3	91.4	83.5	98.9	..	..	79.8
Washing machine	94.3	94.9	96.5	97.0	96.4	98.1	..	..	95.5
Clothes dryer	60.3	52.7	54.1	50.2	48.9	52.9	..	..	54.6
Air conditioner	51.7	58.7	54.9	87.5	72.7	22.8	..	..	59.8
None of the above	*0.1	*—	—	*0.1	—	—	..	..	*—
BALANCE OF STATE / TERRITORY									
<b>Estimate ('000)</b>									
Refrigerator	983.0	545.8	832.3	162.3	202.2	114.1	..	..	2 839.7
Separate freezer	488.2	297.6	366.1	98.8	121.5	71.5	..	..	1 443.8
Dishwasher	399.2	203.0	328.7	43.3	49.8	33.6	..	..	1 057.6
Heater	817.8	537.6	342.6	153.3	173.2	112.9	..	..	2 137.3
Washing machine	960.9	537.2	817.5	159.3	197.9	111.6	..	..	2 784.4
Clothes dryer	563.0	312.6	460.9	89.8	94.1	66.3	..	..	1 586.7
Air conditioner	571.0	356.3	506.9	126.3	123.0	20.1	..	..	1 703.5
None of the above	—	—	—	*0.4	—	—	..	..	*0.4
<b>Total dwellings (b)</b>	<b>983.9</b>	<b>546.4</b>	<b>832.3</b>	<b>163.1</b>	<b>203.1</b>	<b>114.1</b>	..	..	<b>2 842.8</b>
<b>Proportion (%)</b>									
Refrigerator	99.9	99.9	100.0	99.5	99.6	100.0	..	..	99.9
Separate freezer	49.6	54.5	44.0	60.6	59.8	62.7	..	..	50.8
Dishwasher	40.6	37.2	39.5	26.5	24.5	29.5	..	..	37.2
Heater	83.1	98.4	41.2	94.0	85.3	98.9	..	..	75.2
Washing machine	97.7	98.3	98.2	97.7	97.4	97.8	..	..	97.9
Clothes dryer	57.2	57.2	55.4	55.1	46.3	58.1	..	..	55.8
Air conditioner	58.0	65.2	60.9	77.4	60.6	17.6	..	..	59.9
None of the above	—	—	—	*0.3	—	—	..	..	*—

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) Totals do not equal the sum of items in each column as more than one appliance may be specified.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any break down beyond the whole territory.

### 5.3 WHITE GOODS IN DWELLINGS—2005 *continued*

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
TOTAL STATE / TERRITORY									
<b>Estimate ('000)</b>									
Refrigerator	2 587.7	1 913.3	1 532.1	642.2	788.0	195.7	54.7	125.0	7 838.7
Separate freezer	879.4	669.7	585.4	261.7	329.6	112.6	19.2	40.8	2 898.4
Dishwasher	1 104.7	910.3	634.8	197.4	264.0	63.0	15.6	70.4	3 260.2
Heater	2 008.2	1 880.9	666.3	592.3	662.3	193.8	6.0	123.0	6 132.8
Washing machine	2 476.6	1 836.7	1 492.9	625.5	762.5	191.8	52.9	123.0	7 561.9
Clothes dryer	1 531.4	1 034.5	839.6	331.1	380.8	109.5	19.7	73.8	4 320.4
Air conditioner	1 402.2	1 159.8	891.2	546.6	548.9	38.7	50.3	60.2	4 697.9
None of the above	*0.9	*0.7	—	*0.8	—	—	—	—	*2.4
<b>Total dwellings<sup>(b)</sup></b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 847.0</b>
<b>Proportion (%)</b>									
Refrigerator	99.9	99.8	100.0	99.8	99.9	99.9	100.0	99.8	99.9
Separate freezer	33.9	34.9	38.2	40.7	41.8	57.4	35.1	32.6	36.9
Dishwasher	42.6	47.5	41.4	30.7	33.5	32.2	28.5	56.3	41.5
Heater	77.5	98.1	43.5	92.1	84.0	98.9	11.0	98.3	78.2
Washing machine	95.6	95.8	97.4	97.2	96.7	97.9	96.7	98.3	96.4
Clothes dryer	59.1	54.0	54.8	51.5	48.3	55.9	35.9	58.9	55.1
Air conditioner	54.1	60.5	58.2	85.0	69.6	19.8	91.9	48.1	59.9
None of the above	*—	*—	—	*0.1	—	—	—	—	*—

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

(b) Totals do not equal the sum of items in each column as more than one appliance may be specified.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any break down beyond the whole territory.

## 5.4 WHITE GOODS IN DWELLINGS—1994:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Refrigerator	99.9	99.8	100.0	99.8	99.9	99.9	100.0	99.8	99.9
Separate freezer	33.9	34.9	38.2	40.7	41.8	57.4	35.1	32.6	36.9
Dishwasher	42.6	47.5	41.4	30.7	33.5	32.2	28.5	56.3	41.5
Heater	77.5	98.1	43.5	92.1	84.0	98.9	11.0	98.3	78.2
Washing machine	95.6	95.8	97.4	97.2	96.7	97.9	96.7	98.3	96.4
Clothes dryer	59.1	54.0	54.8	51.5	48.3	55.9	35.9	58.9	55.1
Air conditioner	54.1	60.5	58.2	85.0	69.6	19.8	91.9	48.1	59.9
MARCH 2002									
Refrigerator	99.8	99.8	100.0	99.9	100.0	99.8	100.0	99.8	99.9
Separate freezer	36.0	36.2	39.1	43.6	38.4	59.6	37.9	28.2	38.0
Dishwasher	37.1	42.4	30.3	23.0	26.7	25.9	25.9	46.8	34.7
Heater	81.8	99.0	45.6	92.7	84.9	99.0	8.4	99.7	80.5
Washing machine	94.4	95.1	95.8	95.5	95.8	97.3	94.9	96.9	95.2
Clothes dryer	60.4	55.1	52.7	51.5	48.4	54.8	36.6	61.4	55.4
Air conditioner	43.5	52.9	38.5	79.6	59.0	10.3	89.3	28.9	48.6
MARCH 1999									
Refrigerator	99.6	99.8	99.7	99.9	99.7	99.4	100.0	99.8	99.7
Separate freezer	38.2	39.6	40.9	42.8	39.4	61.7	41.5	33.5	40.1
Dishwasher	31.2	37.4	28.6	20.2	20.0	24.1	20.0	46.0	30.1
Heater	82.2	98.8	39.9	92.8	83.2	98.9	10.5	99.1	79.6
Washing machine	93.7	95.3	95.9	94.7	93.8	97.2	95.0	95.7	94.7
Clothes dryer	55.6	54.9	52.5	48.4	45.1	56.1	32.7	56.2	53.0
Air conditioner	27.6	43.5	24.8	54.3	45.4	2.5	83.6	19.9	34.7
JUNE 1994									
Refrigerator	99.6	99.9	99.7	99.6	99.6	99.7	100.0	99.9	99.7
Separate freezer	41.7	45.4	45.4	47.6	47.1	63.8	47.1	41.0	44.9
Dishwasher	24.5	31.9	24.7	18.6	16.6	19.4	14.5	38.0	25.1
Heater	88.3	99.4	45.4	94.1	86.8	99.8	18.2	99.6	83.8
Washing machine	92.6	95.0	95.0	94.5	94.6	97.2	88.0	96.8	94.2
Clothes dryer	52.7	57.3	49.4	49.1	41.4	54.6	23.3	54.2	51.7
Air conditioner	30.8	36.9	17.6	61.5	35.5	2.4	76.4	16.7	32.5

(a) Northern Territory data refers to mainly urban areas only.

## 5.5 REPLACING/BUYING APPLIANCES, Items replaced or bought in the last 12 months—1999:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
MARCH 2005									
<b>Estimate ('000)</b>									
Refrigerator	276.5	198.1	215.6	65.5	104.2	19.5	7.9	14.6	901.8
Separate freezer	54.6	38.5	48.7	13.8	22.0	7.7	*1.7	*1.6	188.6
Dishwasher	76.7	71.9	62.2	21.1	29.5	8.6	*1.9	6.3	278.3
Heater	115.4	74.1	53.8	20.2	33.4	14.5	—	5.6	317.0
Washing machine	224.9	192.7	167.7	66.8	91.1	20.1	*6.1	10.9	780.3
Clothes dryer	74.3	59.2	48.7	16.7	23.3	7.3	*0.3	*3.9	233.8
No/none	1 967.1	1 453.3	1 086.0	493.1	567.1	137.2	40.5	92.0	5 836.3
<b>Total households</b>	<b>2 589.5</b>	<b>1 915.8</b>	<b>1 532.1</b>	<b>642.6</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 844.6</b>
<b>Proportion (%)</b>									
Refrigerator	10.7	10.3	14.1	10.2	13.2	9.9	14.5	11.6	11.5
Separate freezer	2.1	2.0	3.2	2.1	2.8	3.9	*3.1	*1.3	2.4
Dishwasher	3.0	3.8	4.1	3.3	3.7	4.4	*3.5	5.0	3.5
Heater	4.5	3.9	3.5	3.1	4.2	7.4	—	4.5	4.0
Washing machine	8.7	10.1	10.9	10.4	11.5	10.2	*11.2	8.7	9.9
Clothes dryer	2.9	3.1	3.2	2.6	3.0	3.7	*0.6	*3.1	3.0
No/none	76.0	75.9	70.9	76.7	71.9	70.0	74.0	73.5	74.4
MARCH 2002									
<b>Proportion (%)</b>									
Refrigerator	9.4	8.7	11.6	8.3	8.6	9.0	12.7	9.4	9.5
Separate freezer	1.6	1.4	2.1	2.4	1.7	2.7	2.4	1.3	1.7
Dishwasher	2.8	3.5	3.0	1.9	2.9	2.6	1.6	4.1	3.0
Heater	3.7	1.9	3.0	2.6	3.0	4.9	—	3.1	2.9
Washing machine	8.6	8.5	10.5	10.4	10.5	7.7	10.8	9.4	9.3
Clothes dryer	3.3	2.9	2.5	2.3	2.7	1.8	0.4	2.0	2.8
No/none	77.9	79.1	74.5	77.3	77.8	77.8	77.6	76.0	77.4
MARCH 1999									
<b>Proportion (%)</b>									
Refrigerator	6.3	5.7	6.8	6.3	7.3	5.2	12.5	8.9	6.4
Separate freezer	0.6	1.0	1.2	0.9	1.4	1.6	1.2	0.6	1.0
Dishwasher	1.6	1.6	1.3	0.9	1.2	0.5	0.7	1.9	1.4
Heater	6.0	4.9	3.3	5.5	6.4	7.5	0.8	7.6	5.2
Washing machine	5.0	5.1	5.6	5.1	4.9	6.3	2.3	4.6	5.2
Clothes dryer	—	—	—	—	—	—	—	—	—
No/none	76.6	77.3	77.5	77.1	73.7	78.5	67.0	72.5	76.6

\* estimate is subject to sampling variability too high for most practical purposes (a) Northern Territory data refers to mainly urban areas only.

— nil or rounded to zero (including null cells)

## 5.6 REFRIGERATORS, Number in use—1994:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
MARCH 2005									
<b>Estimate ('000)</b>									
One	1 738.8	1 406.9	908.6	451.8	483.2	142.3	33.4	87.6	5 252.7
Two	749.2	459.6	554.1	170.2	270.2	47.6	19.7	33.4	2 303.8
Three or more	99.6	46.9	69.4	20.2	34.6	5.8	*1.7	*4.0	282.2
None	*2.7	*3.1	—	*1.2	*0.9	*0.2	—	*0.2	*8.3
<b>Total dwellings</b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 847.0</b>
<b>Proportion (%)</b>									
One	67.1	73.4	59.3	70.2	61.3	72.6	61.0	70.0	66.9
Two	28.9	24.0	36.2	26.5	34.2	24.3	35.9	26.6	29.4
Three or more	3.8	2.4	4.5	3.1	4.4	3.0	*3.1	*3.2	3.6
None	*0.1	*0.2	—	*0.2	*0.1	*0.1	—	*0.2	*0.1
MARCH 2002									
<b>Proportion (%)</b>									
One	71.2	74.0	66.2	68.8	66.0	79.1	56.9	75.3	70.4
Two	25.6	23.9	30.2	27.7	29.8	19.4	39.2	21.2	26.5
Three or more	3.0	1.9	3.6	3.4	4.2	1.3	3.9	3.3	3.0
None	0.2	0.2	—	0.1	—	0.2	—	0.2	0.1
MARCH 1999									
<b>Proportion (%)</b>									
One	71.0	75.3	63.7	72.7	69.4	79.0	66.2	71.7	70.8
Two	25.5	22.6	32.5	24.6	27.1	18.7	27.4	26.4	26.0
Three or more	3.0	2.0	3.5	2.6	3.2	1.7	6.4	1.7	2.8
None	0.4	0.2	0.3	0.1	0.3	0.6	—	0.2	0.3
JUNE 1994									
<b>Proportion (%)</b>									
One	77.1	79.0	68.4	76.7	73.8	82.3	67.7	79.5	75.8
Two	20.4	19.1	29.1	21.2	23.4	16.3	31.0	19.3	21.9
Three or more	2.1	1.9	2.2	1.7	2.4	1.0	1.3	1.1	2.0
None	0.4	0.1	0.3	0.4	0.4	0.3	—	0.1	0.3

\* estimate is subject to sampling variability too high for most practical purposes (a) Northern Territory data refers to mainly urban areas only  
 — nil or rounded to zero (including null cells)

## 5.7 MAIN REFRIGERATOR, Age—1994:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
MARCH 2005									
<b>Estimates ('000)</b>									
Less than 1 year	201.0	146.6	157.4	43.3	71.2	14.4	*6.0	11.7	651.8
1 year to less than 5 years	842.3	563.1	514.1	187.0	255.3	54.7	24.0	33.7	2 474.1
5 years to less than 10 years	708.6	480.7	396.5	160.6	207.3	54.9	16.9	34.0	2 059.5
10 or more years	791.9	692.5	438.1	239.0	236.5	64.6	*6.6	43.6	2 513.0
Don't know	43.9	30.4	26.0	12.3	17.7	7.1	*1.1	*2.0	140.3
<b>Total dwellings</b>	<b>2 587.7</b>	<b>1 913.3</b>	<b>1 532.1</b>	<b>642.2</b>	<b>788.0</b>	<b>195.7</b>	<b>54.7</b>	<b>125.0</b>	<b>7 838.7</b>
<b>Proportion (%)</b>									
Less than 1 year	7.8	7.7	10.3	6.7	9.0	7.4	*11.1	9.4	8.3
1 year to less than 5 years	32.5	29.4	33.6	29.1	32.4	27.9	43.9	26.9	31.6
5 years to less than 10 years	27.4	25.1	25.9	25.0	26.3	28.1	31.0	27.2	26.3
10 or more years	30.6	36.2	28.6	37.2	30.0	33.0	*12.1	34.9	32.1
Don't know	1.7	1.6	1.7	1.9	2.2	3.6	*2.0	*1.6	1.8
MARCH 2002									
<b>Proportion (%)</b>									
Less than 1 year	8.1	7.4	9.9	6.4	7.2	6.5	10.2	7.8	8.0
1 year to less than 5 years	32.9	28.1	33.0	26.4	28.6	28.0	39.4	29.3	30.6
5 years to less than 10 years	26.2	24.1	25.9	25.1	27.6	27.4	28.1	25.9	25.7
10 or more years	31.4	39.0	29.4	40.9	34.7	33.7	18.2	35.4	34.0
Don't know	1.4	1.4	1.8	1.1	1.9	4.4	4.0	1.6	1.6
MARCH 1999									
<b>Proportion (%)</b>									
Less than 1 year	7.0	5.2	7.1	6.0	8.2	5.1	18.1	8.7	6.7
1 year to less than 5 years	27.5	22.6	30.0	21.8	27.4	24.1	39.4	23.0	26.2
5 years to less than 10 years	25.1	23.4	28.2	22.0	25.9	27.5	24.1	24.0	25.1
10 years or more	38.0	46.9	32.7	47.4	36.6	39.7	17.1	41.9	39.8
Don't know	2.5	1.9	2.1	2.8	2.0	3.6	1.3	2.3	2.3
JUNE 1994									
<b>Proportion (%)</b>									
Less than 1 year	7.1	6.4	7.2	5.4	6.9	7.2	8.4	9.1	6.8
1 year to less than 5 years	27.3	23.8	28.8	23.5	26.8	24.7	36.8	23.0	26.2
5 years to less than 10 years	30.2	27.1	30.6	27.0	33.4	30.4	31.9	30.0	29.5
10 years or more	34.2	42.0	31.3	43.0	30.6	36.3	20.1	36.3	36.1
Don't know	1.2	0.7	2.0	1.1	2.3	1.4	2.8	1.5	1.4

\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.

## 5.8 SECONDARY REFRIGERATOR, Age—2002 and 2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
MARCH 2005									
<b>Estimate ('000)</b>									
Less than 1 year	30.6	15.9	27.8	4.9	13.9	*1.8	*2.2	*0.8	98.0
1 year to less than 5 years	157.6	77.3	113.8	23.6	50.7	7.5	*5.7	4.9	441.1
5 years to less than 10 years	174.4	92.4	127.8	39.6	67.8	10.4	*4.7	8.4	525.5
10 or more years	465.4	305.1	339.7	116.7	166.0	30.2	8.7	22.6	1 454.5
Don't know	20.8	15.9	*14.4	*5.5	*6.4	*3.5	—	*0.5	66.9
<b>Total dwellings</b>	<b>848.8</b>	<b>506.4</b>	<b>623.5</b>	<b>190.4</b>	<b>304.8</b>	<b>53.4</b>	<b>21.3</b>	<b>37.3</b>	<b>2 586.0</b>
<b>Proportion (%)</b>									
Less than 1 year	3.6	3.1	4.5	2.6	4.5	*3.4	*10.5	*2.2	3.8
1 year to less than 5 years	18.6	15.3	18.2	12.4	16.6	14.1	*26.6	13.1	17.1
5 years to less than 10 years	20.5	18.2	20.5	20.8	22.2	19.5	*22.0	22.6	20.3
10 or more years	54.8	60.2	54.5	61.3	54.5	56.4	40.9	60.7	56.2
Don't know	2.4	3.1	*2.3	*2.9	*2.1	*6.6	—	*1.4	2.6
MARCH 2002 (b)									
<b>Proportion (%)</b>									
1 year to less than 5 years	15.1	13.1	19.3	11.2	18.6	13.8	18.1	16.3	15.7
5 years to less than 10 years	20.3	16.4	23.5	15.8	21.4	21.2	21.4	17.5	19.9
10 years or more	62.2	68.0	54.3	70.7	57.7	60.7	53.3	64.2	61.9
Don't know	2.3	2.5	2.8	2.3	2.3	4.3	7.1	1.9	2.5

\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.

(b) No information collected on 'Less than 1 year'.

— nil or rounded to zero (including null cells)

## 5.9 SEPARATE FREEZERS, Number in use—1994:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
MARCH 2005									
<b>Estimate ('000)</b>									
One	802.9	610.7	523.6	237.2	301.4	97.2	18.9	39.6	2 631.5
Two	70.3	52.1	51.9	22.7	25.3	12.9	*0.3	*1.2	236.7
Three or more	*6.2	*6.9	*9.9	*1.8	*3.0	*2.4	—	—	30.2
None	1 711.0	1 246.7	946.7	381.6	459.3	83.4	35.5	84.3	4 948.6
<b>Total dwellings</b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>195.9</b>	<b>54.7</b>	<b>125.2</b>	<b>7 847.0</b>
<b>Proportion (%)</b>									
One	31.0	31.9	34.2	36.9	38.2	49.6	34.6	31.7	33.5
Two	2.7	2.7	3.4	3.5	3.2	6.6	*0.5	*1.0	3.0
Three or more	*0.2	*0.4	*0.6	*0.3	*0.4	*1.2	—	—	0.4
None	66.1	65.1	61.8	59.3	58.2	42.6	64.9	67.4	63.1
MARCH 2002									
<b>Proportion (%)</b>									
One	33.8	34.3	35.3	39.3	35.5	53.4	34.9	27.4	35.3
Two	2.0	1.7	3.4	3.9	2.5	5.3	3.0	0.8	2.5
Three or more	0.2	0.2	0.4	0.3	0.4	0.9	—	—	0.3
None	64.0	63.8	60.9	56.4	61.6	40.4	62.1	71.8	62.0
MARCH 1999									
<b>Proportion (%)</b>									
One	35.5	36.7	36.6	38.4	36.1	54.1	39.6	32.5	36.8
Two	2.4	2.8	4.2	4.0	3.0	7.2	1.5	0.7	3.1
Three or more	0.3	0.1	0.2	0.4	0.3	0.4	0.4	0.3	0.2
None	61.8	60.4	59.1	57.2	60.6	38.3	58.5	66.5	59.9
JUNE 1994									
<b>Proportion (%)</b>									
One	38.7	41.8	41.2	43.1	43.0	54.8	41.2	39.4	41.2
Two	2.6	3.2	3.7	3.9	3.9	8.0	5.5	1.6	3.4
Three or more	0.3	0.3	0.5	0.6	0.1	1.0	0.4	—	0.4
None	58.3	54.6	54.6	52.4	52.9	36.2	52.9	59.0	55.1

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

## 5.10 HOUSEHOLDS WITH DISHWASHERS, Frequency of use—1994:2005 .....

NSW Vic. Qld SA WA Tas. NT(a) ACT Aust.

### MARCH 2005

#### Estimate ('000)

Daily	361.0	309.1	250.2	70.5	102.6	28.9	*4.8	23.9	1 151.0
At least once a week	448.4	375.3	251.8	86.5	106.8	21.5	*5.5	37.1	1 332.9
At least once a month	54.2	40.4	26.2	*8.0	13.0	1.5	*1.0	*2.2	146.4
Occasionally/rarely	135.3	103.8	45.4	17.9	23.0	4.6	*3.3	*3.1	336.5
Never	105.8	81.7	61.1	14.5	18.7	6.6	*1.0	*4.1	293.4
<b>Total households</b>	<b>1 104.7</b>	<b>910.3</b>	<b>634.8</b>	<b>197.4</b>	<b>264.0</b>	<b>63.0</b>	<b>15.6</b>	<b>70.4</b>	<b>3 260.2</b>

#### Proportion (%)

Daily	32.7	34.0	39.4	35.7	38.8	45.8	*30.8	34.0	35.3
At least once a week	40.6	41.2	39.7	43.8	40.4	34.1	*35.3	52.7	40.9
At least once a month	4.9	4.4	4.1	*4.0	4.9	2.4	*6.1	*3.1	4.5
Occasionally/rarely	12.2	11.4	7.2	9.1	8.7	7.3	*21.1	*4.4	10.3
Never	9.6	9.0	9.6	7.3	7.1	10.4	*6.6	*5.8	9.0

### MARCH 2002

#### Proportion (%)

Daily	36.7	34.7	42.1	30.2	32.5	44.8	47.1	45.4	36.7
At least once a week	39.2	41.0	33.8	47.8	42.0	34.2	22.0	37.4	39.3
At least once a month	5.3	5.2	5.4	3.5	5.3	3.5	2.5	3.2	5.1
Occasionally/rarely	10.0	10.2	11.0	10.4	10.4	9.9	18.9	6.6	10.3
Never	8.8	8.9	7.7	8.2	9.7	7.8	9.5	7.4	8.6

### MARCH 1999

#### Proportion (%)

Daily	35.4	31.0	44.8	30.7	32.8	36.0	46.6	38.6	35.4
At least once a week	40.1	41.6	34.6	45.8	39.2	40.5	38.3	43.6	39.9
At least once a month	5.3	6.3	3.6	4.1	6.9	3.5	3.6	4.7	5.3
Occasionally/rarely	10.9	10.6	8.9	10.6	10.3	10.8	2.0	8.1	10.3
Never	8.3	10.5	8.1	8.8	10.8	9.3	9.5	5.0	9.1

### JUNE 1994

#### Proportion (%)

Daily	30.0	33.2	36.9	25.8	25.4	38.8	38.9	30.6	31.9
At least once a week	44.1	42.8	35.5	42.2	42.2	34.4	30.0	50.0	41.8
At least once a month	4.3	5.5	5.6	5.3	5.0	4.1	2.4	5.7	5.1
Occasionally/rarely	21.6	18.4	22.0	26.7	27.4	22.8	28.6	13.7	21.2

\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.

## 5.11 WASHING MACHINES, Type—1994:2005

NSW Vic. Qld SA WA Tas. NT(a) ACT Aust.

### MARCH 2005

#### Estimate ('000)

##### Automatic

Top loading	2 117.3	1 528.7	1 279.1	465.1	612.7	162.4	45.5	97.8	6 308.6
Front loading	281.2	261.1	153.9	107.5	123.3	17.3	*6.5	23.9	974.8
Total	2 398.5	1 789.9	1 433.0	572.7	735.9	179.8	52.0	121.8	7 283.5

##### Not automatic

	78.1	46.8	59.9	52.8	26.6	12.1	*0.9	*1.3	278.5
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**Total dwellings (b)** 2 476.6 1 836.7 1 492.9 625.5 762.5 191.8 52.9 123.0 7 561.9

#### Proportion (%)

##### Automatic

Top loading	85.5	83.2	85.7	74.4	80.3	84.7	86.0	79.5	83.4
Front loading	11.4	14.2	10.3	17.2	16.2	9.0	*12.3	19.5	12.9
Total	96.8	97.5	96.0	91.6	96.5	93.7	98.2	99.0	96.3

Not automatic	3.2	2.5	4.0	8.4	3.5	6.3	*1.8	*1.0	3.7
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### MARCH 2002

#### Proportion (%)

##### Automatic

Top loading	87.7	87.0	88.1	77.2	86.4	86.1	96.4	87.8	86.6
Front loading	8.1	10.0	6.6	10.9	8.6	5.0	2.4	10.5	8.5
Total	95.8	97.0	94.7	88.1	95.0	91.1	98.8	98.3	95.1

Not automatic	4.2	3.0	5.3	11.9	5.0	8.9	1.2	1.7	4.9
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### MARCH 1999

#### Proportion (%)

##### Automatic

Top loading	88.5	88.6	87.2	75.0	85.1	85.8	94.9	88.6	86.8
Front loading	6.1	7.4	5.3	8.3	6.7	3.6	2.9	10.1	6.5
Total	94.6	96.0	92.5	83.3	91.8	89.4	97.8	98.7	93.2

Not automatic	5.4	4.0	7.5	16.7	8.2	10.6	2.2	1.3	6.8
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### JUNE 1994

#### Proportion (%)

##### Automatic

Top loading	85.6	87.7	82.4	75.8	82.1	83.1	89.8	87.8	84.3
Front loading	5.8	5.4	3.7	5.1	4.6	3.3	5.1	9.3	5.1
Total	91.4	93.1	86.1	80.9	86.7	86.4	94.9	97.1	89.5

Not automatic	8.6	6.9	13.9	19.1	13.3	13.6	5.1	2.9	10.5
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\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.  
(b) Includes only dwellings with washing machine/s.

## 5.12 WASHING MACHINES, Average loads of washing done per week—1994:2005 ..

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
MARCH 2005									
<b>Estimate ('000)</b>									
Less than 3 loads per week	739.1	598.7	367.0	230.6	225.9	44.4	13.0	38.8	2 257.5
3 to 5 loads per week	975.6	687.6	635.7	226.7	310.8	72.5	20.6	49.2	2 978.7
6 to 10 loads per week	597.4	418.0	373.2	139.8	183.8	53.1	15.3	29.5	1 810.2
11 loads or more per week	164.5	132.4	117.0	28.4	42.0	21.8	*3.9	5.5	515.5
<b>Total households</b>	<b>2 476.6</b>	<b>1 836.7</b>	<b>1 492.9</b>	<b>625.5</b>	<b>762.5</b>	<b>191.8</b>	<b>52.9</b>	<b>123.0</b>	<b>7 561.9</b>
<b>Proportion (%)</b>									
Less than 3 loads per week	29.8	32.6	24.6	36.9	29.6	23.2	24.6	31.5	29.9
3 to 5 loads per week	39.4	37.4	42.6	36.2	40.8	37.8	39.0	40.0	39.4
6 to 10 loads per week	24.1	22.8	25.0	22.3	24.1	27.7	29.0	24.0	23.9
11 loads or more per week	6.6	7.2	7.8	4.5	5.5	11.4	*7.4	4.5	6.8
MARCH 2002									
<b>Proportion (%)</b>									
Less than 3 loads per week	28.5	28.6	25.0	32.1	31.3	26.8	23.7	29.0	28.4
3 to 5 loads per week	37.9	39.2	37.1	39.1	37.9	34.6	37.3	39.2	38.1
6 to 10 loads per week	25.2	24.8	29.7	22.5	24.6	25.6	28.8	27.4	25.8
11 loads or more per week	8.4	7.4	8.2	6.3	6.2	13.0	10.2	4.4	7.8
MARCH 1999									
<b>Proportion (%)</b>									
Less than 3 loads per week	27.5	27.1	23.8	31.2	30.2	23.5	19.0	28.3	27.1
3 to 5 loads per week	36.4	37.2	34.9	36.0	36.2	33.1	35.8	37.6	36.2
6 to 10 loads per week	27.0	26.9	30.6	26.6	26.8	28.1	36.0	26.7	27.7
11 loads or more per week	9.1	8.8	10.6	6.2	6.8	15.3	9.2	7.4	9.0
JUNE 1994									
<b>Proportion (%)</b>									
Less than 3 loads per week	29.4	30.9	23.2	31.7	31.7	25.5	17.9	27.3	28.9
3 to 5 loads per week	32.1	32.1	33.0	36.3	35.3	32.6	37.6	36.9	33.1
6 to 10 loads per week	27.0	26.4	30.1	23.7	25.2	28.5	34.5	26.7	27.0
11 loads or more per week	11.5	10.5	13.7	8.3	7.9	13.4	10.0	9.1	11.0

\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.

## 5.13 WASHING MACHINES, Temperature of water used—1994:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
MARCH 2005									
<b>Estimate ('000)</b>									
Cold	1 821.8	1 087.0	1 172.9	394.0	495.4	136.0	40.4	78.5	5 226.0
Warm	389.1	448.1	218.4	144.7	186.6	40.8	7.2	28.5	1 463.3
Hot	49.1	67.7	15.4	26.8	24.3	*4.0	*2.1	*2.1	191.5
Varies	216.6	233.9	86.2	60.0	56.2	11.0	*3.1	13.9	681.1
<b>Total households(b)</b>	<b>2 476.6</b>	<b>1 836.7</b>	<b>1 492.9</b>	<b>625.5</b>	<b>762.5</b>	<b>191.8</b>	<b>52.9</b>	<b>123.0</b>	<b>7 561.9</b>
<b>Proportion (%)</b>									
Cold	73.6	59.2	78.6	63.0	65.0	70.9	76.4	63.8	69.1
Warm	15.7	24.4	14.6	23.1	24.5	21.2	13.7	23.2	19.4
Hot	2.0	3.7	1.0	4.3	3.2	*2.1	*4.0	*1.7	2.5
Varies	8.7	12.7	5.8	9.6	7.4	5.8	*5.9	11.3	9.0
MARCH 2002									
<b>Proportion (%)</b>									
Cold	71.9	58.8	77.1	62.2	63.1	66.3	76.8	65.6	67.8
Warm	19.1	27.9	16.0	24.5	27.2	24.9	15.5	24.4	22.1
Hot	2.1	4.2	2.1	5.7	3.4	3.3	4.2	1.6	3.1
Varies	6.9	9.2	4.8	7.6	6.2	5.4	3.6	8.4	7.0
MARCH 1999									
<b>Proportion (%)</b>									
Cold	70.6	53.6	73.9	53.2	61.0	63.7	75.7	64.2	64.4
Warm	20.5	31.6	19.2	31.3	26.8	26.0	17.3	25.1	24.7
Hot	3.3	5.1	2.9	8.0	5.3	3.9	2.1	3.5	4.3
Varies	5.6	9.6	4.0	7.4	6.9	6.4	4.9	7.2	6.6
JUNE 1994									
<b>Proportion (%)</b>									
Cold	69.4	47.5	73.0	48.1	59.1	58.6	70.3	61.1	61.2
Warm	21.8	38.2	20.3	37.0	27.8	32.4	21.5	30.5	28.0
Hot	4.4	7.0	3.0	8.7	7.6	4.8	3.8	2.5	5.5
Varies	4.4	7.3	3.7	6.2	5.4	4.2	4.4	5.8	5.3

\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.

(b) Includes only households with washing machine/s.

**5.14****CLOTHES DRYERS, Frequency of use—1994:2005**

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
MARCH 2005									
<b>Estimate ('000)</b>									
At least once a week	325.3	258.0	194.0	57.9	58.5	20.1	*3.5	14.3	931.7
At least once a fortnight	54.1	42.6	29.5	8.9	*6.6	*1.8	*0.3	*3.3	147.0
At least once a month	65.3	53.1	34.8	9.6	*6.8	*3.5	*0.7	*3.7	177.5
Depends on weather/season	472.8	264.3	252.1	95.0	133.5	40.8	7.6	21.6	1 287.7
Occasionally/rarely	504.3	335.7	264.3	129.7	149.7	35.5	*3.9	24.8	1 447.9
Never	109.7	80.7	65.0	30.0	25.7	7.8	*3.6	6.1	328.6
<b>Total households(b)</b>	<b>1 531.4</b>	<b>1 034.5</b>	<b>839.6</b>	<b>331.1</b>	<b>380.8</b>	<b>109.5</b>	<b>19.7</b>	<b>73.8</b>	<b>4 320.4</b>
<b>Proportion (%)</b>									
At least once a week	21.2	24.9	23.1	17.5	15.4	18.3	*18.1	19.3	21.6
At least once a fortnight	3.5	4.1	3.5	2.7	*1.7	*1.7	*1.5	*4.5	3.4
At least once a month	4.3	5.1	4.1	2.9	*1.8	*3.2	*3.5	*5.0	4.1
Depends on weather/season	30.9	25.6	30.0	28.7	35.1	37.2	38.9	29.3	29.8
Occasionally/rarely	32.9	32.5	31.5	39.2	39.3	32.5	*19.8	33.6	33.5
Never	7.2	7.8	7.7	9.0	6.8	7.1	*18.3	8.3	7.6
MARCH 2002									
<b>Proportion (%)</b>									
At least once a week	23.3	21.3	19.8	15.5	14.8	16.1	20.3	15.9	20.5
At least once a fortnight	3.2	3.8	3.1	1.3	1.8	2.7	5.6	3.0	3.0
At least once a month	4.6	3.8	3.8	2.4	1.3	3.7	1.2	2.6	3.7
Depends on weather/season	36.9	29.3	32.3	30.7	38.7	33.0	36.3	41.6	33.9
Occasionally/rarely	26.5	33.6	35.1	39.5	35.6	38.2	22.2	32.0	32.0
Never	5.4	8.2	5.9	10.6	7.8	6.3	14.5	4.8	6.8
MARCH 1999									
<b>Proportion (%)</b>									
At least once a week	16.9	17.6	21.9	13.9	11.7	15.6	17.8	11.0	17.2
At least once a fortnight	3.7	3.0	3.4	1.4	2.5	2.9	5.0	2.5	3.1
At least once a month	3.7	1.9	3.2	2.2	2.0	2.3	5.8	4.1	2.9
Depends on weather/season	39.3	37.4	37.5	40.2	41.5	31.8	42.1	45.1	38.7
Occasionally/rarely	32.0	32.5	29.8	35.6	37.6	41.0	23.2	32.5	32.7
Never	4.4	7.6	4.2	6.7	4.6	6.4	6.1	4.8	5.4
JUNE 1994									
<b>Proportion (%)</b>									
At least once a fortnight	21.3	30.5	22.4	20.6	16.6	29.6	14.4	25.5	23.9
At least once a month	5.3	4.8	3.3	3.2	2.3	3.8	2.9	7.2	4.4
Depends on weather/season	38.1	30.0	39.7	39.2	39.1	27.3	43.0	32.2	35.9
Occasionally/rarely	35.3	34.7	34.7	37.0	42.1	39.3	39.7	35.1	35.8

\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.  
 (b) Includes only households with clothes dryer/s.

**5.15** REPLACING APPLIANCES, Factors considered in buying—2002 and 2005 .....

	Refrigerator	Separate freezer	Dishwasher	Heater	Washing machine	Clothes dryer
	%	%	%	%	%	%
.....						
MARCH 2005						
Cost price	38.9	37.7	38.0	42.3	38.1	40.4
Features	17.3	15.3	26.2	19.5	19.8	12.4
Energy star rating	41.2	28.8	50.3	30.8	43.5	39.8
Brand name	10.1	9.6	17.0	6.3	15.3	14.2
Appearance	12.6	*3.0	11.9	9.3	2.5	*3.5
Environmental considerations	2.0	*1.6	13.6	7.7	19.1	*4.6
Reliability	5.9	*4.1	10.5	10.2	9.7	7.5
Serviceability	2.6	*1.4	*4.4	*2.6	3.9	*2.5
Availability	2.1	*2.7	*2.7	*3.2	2.5	*2.6
Dimensions	30.3	29.3	12.2	6.7	12.1	10.2
Capacity	25.8	28.4	8.1	15.9	22.9	15.6
Other	4.1	*4.9	7.9	12.7	6.7	5.3
Recommended by friend/expert(a)	2.4	*1.1	5.8	9.0	4.1	*2.0
No reason	4.0	*2.8	*3.1	*0.8	2.2	6.2
Don't know	1.7	*1.5	*1.5	*1.4	*1.2	*1.1

.....						
MARCH 2002						
Cost price	51.1	46.5	48.9	55.5	50.3	50.4
Features	23.5	17.0	30.2	29.6	26.6	24.0
Energy star rating	46.1	39.4	53.0	31.5	39.0	49.1
Brand name	20.2	15.5	28.0	14.4	26.3	27.2
Appearance	13.7	8.6	15.4	13.1	6.5	6.6
Environmental considerations	4.5	4.9	10.5	10.9	10.2	8.1
Reliability	13.8	12.7	23.6	15.6	21.7	18.4
Serviceability	7.5	5.8	12.6	7.3	10.2	9.3
Availability	5.5	5.7	4.6	7.1	5.2	5.7
Dimensions	34.2	31.1	22.9	16.9	22.1	18.3
Capacity	34.6	39.4	20.8	18.7	31.7	24.5
Other	7.1	7.4	15.7	21.1	9.7	9.8
No reason	1.9	2.9	1.4	0.8	2.4	3.1
Don't know	1.2	1.0	1.2	0.8	0.7	1.3

\* estimate is subject to sampling variability too high for most practical purposes  
 (a) Not collected in 2002.

Note: Asked of households that bought or replaced at least one appliance in the last 12 months prior to the survey.

**5.16**

## NON-WHITE GOODS IN DWELLINGS—2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
CAPITAL CITY									
Ceiling fan	30.9	32.2	56.1	47.7	40.9	28.2	..	..	38.1
Vacuum cleaner	95.3	93.1	95.3	95.9	95.4	98.5	..	..	94.8
Portable fan	67.6	56.2	79.4	57.0	62.9	48.3	..	..	63.9
Television	99.1	97.1	99.2	98.9	99.2	98.2	..	..	98.5
Video player/recorder	85.5	82.8	82.0	84.7	84.8	85.1	..	..	83.9
DVD player/recorder	75.5	74.0	74.5	71.3	75.0	68.2	..	..	74.5
Microwave	90.9	87.7	91.3	88.7	93.3	90.9	..	..	90.2
Stereo system	79.1	75.9	80.7	78.2	83.1	85.0	..	..	79.0
Computer	70.9	67.9	72.0	66.6	72.5	66.0	..	..	70.1
Waterbed	2.5	1.9	4.7	3.4	1.8	*2.1	..	..	2.8
Games console	32.6	30.0	33.1	29.7	31.9	30.0	..	..	31.6
None of the above	*0.1	1.5	—	—	—	—	..	..	0.4
BALANCE OF STATE / TERRITORY									
Ceiling fan	51.4	50.6	68.1	57.0	40.2	28.2	..	..	54.7
Vacuum cleaner	96.9	97.1	93.7	97.2	93.6	97.4	..	..	95.8
Portable fan	67.5	64.4	68.2	64.7	62.3	43.9	..	..	65.6
Television	99.5	99.1	96.5	98.8	99.3	98.5	..	..	98.4
Video player/recorder	83.9	83.7	81.9	86.4	81.6	85.2	..	..	83.3
DVD player/recorder	67.5	65.2	70.0	64.9	69.2	64.2	..	..	67.6
Microwave	93.2	92.2	88.6	91.1	91.2	92.4	..	..	91.4
Stereo system	73.8	74.2	77.1	78.5	80.7	77.0	..	..	75.7
Computer	63.1	61.7	66.5	61.5	62.4	62.9	..	..	63.7
Waterbed	4.1	2.7	5.6	5.3	*2.2	*3.3	..	..	4.2
Games console	28.4	29.4	30.4	28.2	30.0	30.3	..	..	29.4
None of the above	—	*0.1	—	*0.3	—	*0.4	..	..	0.1
TOTAL STATE / TERRITORY									
Ceiling fan	38.7	37.4	62.6	50.1	40.7	28.2	88.6	27.2	44.1
Vacuum cleaner	95.9	94.3	94.4	96.2	94.9	97.8	89.3	97.4	95.2
Portable fan	67.5	58.6	73.3	59.0	62.7	45.7	47.7	62.3	64.5
Television	99.3	97.6	97.7	98.9	99.2	98.4	98.1	99.0	98.5
Video player/recorder	84.9	83.1	81.9	85.1	83.9	85.2	69.2	86.8	83.7
DVD player/recorder	72.4	71.5	72.1	69.7	73.5	65.8	79.5	78.1	72.0
Microwave	91.8	89.0	89.9	89.3	92.8	91.8	85.7	93.7	90.6
Stereo system	77.1	75.4	78.8	78.2	82.5	80.3	79.6	82.6	77.8
Computer	67.9	66.1	69.0	65.3	69.9	64.2	69.0	79.2	67.8
Waterbed	3.1	2.1	5.2	3.9	1.9	2.8	*4.7	6.0	3.3
Games console	31.0	29.9	31.7	29.3	31.4	30.2	35.7	32.0	30.8
None of the above	*—	1.1	—	*0.1	—	*0.2	—	—	0.3

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

Note: No regional split between capital city and balance of state/territory for NT and ACT as the sample does not support any breakdown beyond the whole territory.

**5.17** NON-WHITE GOODS IN DWELLINGS—1999:2005

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
	%	%	%	%	%	%	%	%	%
MARCH 2005									
Ceiling fan	38.7	37.4	62.6	50.1	40.7	28.2	88.6	27.2	44.1
Vacuum cleaner	95.9	94.3	94.4	96.2	94.9	97.8	89.3	97.4	95.2
Portable fan	67.5	58.6	73.3	59.0	62.7	45.7	47.7	62.3	64.5
Television	99.3	97.6	97.7	98.9	99.2	98.4	98.1	99.0	98.5
Video player/recorder	84.9	83.1	81.9	85.1	83.9	85.2	69.2	86.8	83.7
DVD player/recorder	72.4	71.5	72.1	69.7	73.5	65.8	79.5	78.1	72.0
Microwave	91.8	89.0	89.9	89.3	92.8	91.8	85.7	93.7	90.6
Stereo system	77.1	75.4	78.8	78.2	82.5	80.3	79.6	82.6	77.8
Computer	67.9	66.1	69.0	65.3	69.9	64.2	69.0	79.2	67.8
Waterbed	3.1	2.1	5.2	3.9	1.9	2.8	*4.7	6.0	3.3
Games console	31.0	29.9	31.7	29.3	31.4	30.2	35.7	32.0	30.8
None of the above	*—	1.1	—	*0.1	—	*0.2	—	—	0.3
MARCH 2002									
Ceiling fan	37.5	38.2	58.6	48.6	44.8	30.1	87.0	23.8	43.3
Vacuum cleaner	95.3	96.9	93.8	95.5	95.3	97.6	85.7	98.4	95.5
Portable fan	67.2	62.1	76.3	60.9	64.1	53.2	53.1	72.7	66.5
Television	99.3	99.3	98.9	99.4	99.4	99.8	97.2	99.1	99.2
Video player/recorder	88.9	90.1	87.5	88.9	89.9	88.8	83.5	93.9	89.1
Microwave	88.7	86.6	86.3	85.5	87.4	85.0	83.2	92.0	87.3
Stereo system	81.2	79.5	81.2	79.7	83.9	80.5	83.8	88.0	81.1
Computer	60.0	60.8	58.2	57.8	60.8	51.7	57.5	73.3	59.8
None of the above	0.1	—	0.2	0.1	—	—	—	—	0.1
MARCH 1999									
Ceiling fan	34.7	34.7	57.2	45.3	41.8	23.8	91.3	22.6	40.4
Vacuum cleaner	95.4	96.7	93.4	95.1	94.5	96.4	89.1	95.9	95.2
Portable fan	69.7	69.3	78.8	67.4	71.5	50.9	54.2	73.2	70.7
Television	98.9	99.2	98.6	99.6	98.1	98.9	96.9	98.5	98.9
Video player/recorder	86.9	87.2	85.7	86.6	87.8	85.5	89.6	88.7	86.8
Microwave	84.6	82.2	81.7	81.1	83.1	80.7	79.9	86.6	82.9
Stereo system	77.9	76.9	78.1	75.5	80.2	77.1	86.2	85.9	77.9
Computer	44.1	46.6	43.3	42.9	46.5	34.5	45.3	61.9	44.8
None of the above	0.1	0.1	0.1	—	—	—	—	—	0.1

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

**5.18****APPLIANCES IN DWELLINGS, Number plugged-in and ready to use—2005** .....

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
TELEVISION									
<b>Estimate ('000)</b>									
One	1 011.7	706.0	600.6	227.8	311.9	76.4	29.6	38.2	3 002.2
Two	947.8	692.0	558.0	238.1	273.7	66.3	14.7	50.9	2 841.6
Three	380.0	291.3	219.1	104.9	121.4	29.4	*5.5	22.1	1 173.7
Four	133.0	107.4	67.3	31.7	46.3	12.0	*2.0	8.1	407.7
Five or more	71.6	49.2	24.4	15.9	19.2	4.9	*0.3	*3.5	189.1
None	27.3	25.1	27.5	17.8	10.4	*3.8	*1.6	*1.0	114.5
<b>Total dwellings</b>	<b>2 571.4</b>	<b>1 871.0</b>	<b>1 496.9</b>	<b>636.2</b>	<b>782.9</b>	<b>192.8</b>	<b>53.7</b>	<b>123.9</b>	<b>7 728.7</b>
<b>Proportion (%)</b>									
One	39.3	37.7	40.1	35.8	39.8	39.6	55.1	30.8	38.8
Two	36.9	37.0	37.3	37.4	35.0	34.4	27.4	41.1	36.8
Three	14.8	15.6	14.6	16.5	15.5	15.3	*10.2	17.9	15.2
Four	5.2	5.7	4.5	5.0	5.9	6.2	*3.7	6.5	5.3
Five or more	2.8	2.6	1.6	2.5	2.4	2.5	*0.5	*2.8	2.4
None	1.1	1.3	1.8	2.8	1.3	*1.9	*3.0	*0.8	1.5

VIDEO PLAYER / RECORDER									
<b>Estimate ('000)</b>									
One	1 538.5	1 152.4	895.5	379.8	456.8	119.4	28.1	75.0	4 645.6
Two	432.1	295.6	239.3	115.5	141.3	30.4	*4.4	23.2	1 281.9
Three	90.5	58.7	39.0	16.7	27.0	7.6	*1.5	*4.1	245.1
Four	17.1	*11.4	*6.4	*2.7	*6.8	*1.7	*0.3	*0.4	46.8
Five or more	*10.0	*3.2	*0.6	*2.6	*4.2	*1.1	—	*0.2	22.0
None	109.9	70.5	74.8	30.0	26.1	6.7	*3.5	5.6	327.1
<b>Total dwellings</b>	<b>2 198.1</b>	<b>1 591.8</b>	<b>1 255.5</b>	<b>547.4</b>	<b>662.3</b>	<b>166.9</b>	<b>37.8</b>	<b>108.6</b>	<b>6 568.5</b>
<b>Proportion (%)</b>									
One	70.0	72.4	71.3	69.4	69.0	71.5	74.4	69.1	70.7
Two	19.7	18.6	19.1	21.1	21.3	18.2	*11.8	21.4	19.5
Three	4.1	3.7	3.1	3.1	4.1	4.5	*4.0	*3.8	3.7
Four	0.8	*0.7	*0.5	*0.5	*1.0	*1.0	*0.8	*0.4	0.7
Five or more	*0.5	*0.2	*—	*0.5	*0.6	*0.6	—	*0.2	0.3
None	5.0	4.4	6.0	5.5	3.9	4.0	*9.1	5.2	5.0

DVD PLAYER / RECORDER									
<b>Estimate ('000)</b>									
One	1 390.2	1 013.7	832.5	328.9	425.9	99.9	33.3	72.3	4 196.7
Two	311.7	242.9	173.9	72.5	105.4	17.7	*5.3	19.3	948.6
Three	73.6	49.4	36.9	13.3	22.6	*4.2	*1.6	*2.1	203.8
Four	*15.9	13.7	*8.0	*3.7	*5.4	*0.8	—	*0.7	48.4
Five or more	*12.7	*4.9	*1.3	*4.7	*2.1	*0.2	*0.3	—	26.1
None	72.4	45.8	51.5	25.2	18.3	6.2	*3.0	*3.4	225.9
<b>Total dwellings</b>	<b>1 876.6</b>	<b>1 370.4</b>	<b>1 104.1</b>	<b>448.4</b>	<b>579.7</b>	<b>129.0</b>	<b>43.5</b>	<b>97.8</b>	<b>5 649.4</b>
<b>Proportion (%)</b>									
One	74.1	74.0	75.4	73.4	73.5	77.5	76.5	73.9	74.3
Two	16.6	17.7	15.8	16.2	18.2	13.7	*12.2	19.7	16.8
Three	3.9	3.6	3.3	3.0	3.9	*3.3	*3.8	*2.2	3.6
Four	*0.8	1.0	*0.7	*0.8	*0.9	*0.6	—	*0.7	0.9
Five or more	*0.7	*0.4	*0.1	*1.0	*0.4	*0.1	*0.7	—	0.5
None	3.9	3.3	4.7	5.6	3.2	4.8	*6.9	*3.4	4.0

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

## 5.18 APPLIANCES IN DWELLINGS, Number plugged-in and ready to use—2005

*continued*

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
MICROWAVE									
<b>Estimate ('000)</b>									
One	2 299.8	1 663.4	1 307.7	544.4	707.6	170.7	43.8	114.5	6 851.9
Two	40.6	19.6	28.2	6.2	14.3	*2.3	*0.4	*2.5	114.1
Three	*0.8	—	*0.7	*0.3	*1.0	*0.2	—	—	*3.1
Four	—	—	—	—	—	—	—	—	—
Five or more	*2.1	*1.2	*2.7	*3.3	—	*0.4	—	—	*9.7
None	34.8	21.1	37.5	20.1	*9.0	6.1	*2.7	*0.4	131.8
<b>Total dwellings</b>	<b>2 378.1</b>	<b>1 705.3</b>	<b>1 376.8</b>	<b>574.4</b>	<b>731.9</b>	<b>179.8</b>	<b>46.9</b>	<b>117.3</b>	<b>7 110.5</b>
<b>Proportion (%)</b>									
One	96.7	97.5	95.0	94.8	96.7	94.9	93.3	97.6	96.4
Two	1.7	1.1	2.0	1.1	2.0	*1.3	*0.9	*2.1	1.6
Three	*—	—	*0.1	*0.1	*0.1	*0.1	—	—	*—
Four	—	—	—	—	—	—	—	—	—
Five or more	*0.1	*0.1	*0.2	*0.6	—	*0.2	—	—	*0.1
None	1.5	1.2	2.7	3.5	*1.2	3.4	*5.8	*0.3	1.9
STEREO SYSTEM									
<b>Estimate ('000)</b>									
One	1 456.7	1 079.2	872.2	352.2	467.2	106.8	34.0	74.8	4 443.1
Two	294.0	210.6	204.6	75.7	107.5	25.7	*3.8	16.3	938.3
Three	93.1	66.6	45.1	26.3	37.9	10.4	*1.0	7.3	287.6
Four	29.4	19.4	12.7	*5.4	13.6	*1.4	—	*1.8	83.7
Five or more	*14.0	*4.7	*5.8	*3.7	*4.2	*2.1	*0.9	*0.2	35.6
None	110.3	64.6	66.5	40.0	20.4	11.0	*3.9	3.0	319.6
<b>Total dwellings</b>	<b>1 997.5</b>	<b>1 445.1</b>	<b>1 206.9</b>	<b>503.3</b>	<b>650.8</b>	<b>157.4</b>	<b>43.6</b>	<b>103.4</b>	<b>6 107.9</b>
<b>Proportion (%)</b>									
One	72.9	74.7	72.3	70.0	71.8	67.8	78.1	72.4	72.7
Two	14.7	14.6	17.0	15.0	16.5	16.3	*8.6	15.8	15.4
Three	4.7	4.6	3.7	5.2	5.8	6.6	*2.2	7.1	4.7
Four	1.5	1.3	1.1	*1.1	2.1	*0.9	—	*1.8	1.4
Five or more	*0.7	*0.3	*0.5	*0.7	*0.6	*1.3	*2.0	*0.2	0.6
None	5.5	4.5	5.5	7.9	3.1	7.0	*9.0	2.9	5.2
COMPUTER									
<b>Estimate ('000)</b>									
One	1 255.1	962.5	779.7	300.5	409.2	98.2	29.0	71.3	3 905.6
Two	287.7	176.8	161.3	59.4	82.0	11.9	*3.4	18.5	800.9
Three	62.3	36.0	31.4	11.2	21.2	*2.8	*0.7	5.0	170.7
Four	19.1	14.7	*5.3	*2.2	*5.7	*1.1	*0.3	*1.3	49.7
Five or more	21.4	*6.6	*7.7	*5.4	*4.2	*1.3	*0.3	*0.4	47.2
None	113.9	70.2	72.2	41.7	29.0	10.4	*4.0	*2.6	344.1
<b>Total dwellings</b>	<b>1 759.5</b>	<b>1 266.8</b>	<b>1 057.6</b>	<b>420.4</b>	<b>551.3</b>	<b>125.8</b>	<b>37.7</b>	<b>99.1</b>	<b>5 318.3</b>
<b>Proportion (%)</b>									
One	71.3	76.0	73.7	71.5	74.2	78.1	76.9	72.0	73.4
Two	16.4	14.0	15.2	14.1	14.9	9.5	*9.1	18.6	15.1
Three	3.5	2.8	3.0	2.7	3.8	2.3	*1.9	5.0	3.2
Four	1.1	1.2	*0.5	*0.5	*1.0	*0.9	*0.7	*1.3	0.9
Five or more	1.2	*0.5	*0.7	*1.3	*0.8	*1.0	*0.8	*0.4	0.9
None	6.5	5.5	6.8	9.9	5.3	8.3	*10.6	*2.7	6.5

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Northern Territory data refers to mainly urban areas only.

**5.18**

## APPLIANCES IN DWELLINGS, Number plugged-in and ready to use—2005

*continued*

	NSW	Vic.	Qld	SA	WA	Tas.	NT(a)	ACT	Aust.
WATERBED									
<b>Estimate ('000)</b>									
One	69.6	37.5	68.7	21.1	12.9	4.8	*1.3	5.3	221.3
Two	*6.3	*1.2	*5.1	*2.1	*0.6	*0.2	—	*1.2	16.7
Three	—	—	—	—	—	*0.2	—	*0.4	*0.6
Four	—	—	*0.7	—	—	—	—	*0.2	*0.9
Five or more	—	—	*0.6	—	—	—	—	—	*0.6
None	*5.1	*2.4	*3.9	*1.7	*1.2	*0.4	*1.2	*0.4	16.4
<b>Total dwellings</b>	<b>80.9</b>	<b>41.1</b>	<b>79.0</b>	<b>25.0</b>	<b>14.7</b>	<b>5.6</b>	<b>2.6</b>	<b>7.5</b>	<b>256.4</b>
<b>Proportion (%)</b>									
One	86.0	91.2	87.0	84.5	87.8	86.1	*51.5	70.4	86.3
Two	*7.7	*2.9	*6.5	*8.5	*3.8	*3.9	—	*16.2	6.5
Three	—	—	—	—	—	*3.5	—	*5.2	*0.2
Four	—	—	*0.9	—	—	—	—	*2.7	*0.3
Five or more	—	—	*0.8	—	—	—	—	—	*0.2
None	*6.2	*5.9	*4.9	*6.9	*8.4	*6.5	*48.5	*5.4	6.4

## GAMES CONSOLE (E.G. PLAYSTATION, XBOX ETC.)

<b>Estimate ('000)</b>									
One	612.1	421.2	354.9	125.3	186.2	45.4	15.9	28.7	1 789.8
Two	71.2	48.0	46.1	11.2	26.7	*3.3	*0.2	4.8	211.4
Three	*12.6	*10.9	*7.3	*3.9	*5.9	*1.0	*0.3	*1.1	43.1
Four	*2.2	*3.0	*0.7	—	*0.8	—	*0.3	*0.2	*7.2
Five or more	*2.5	*0.8	*0.7	*3.5	*1.6	*0.2	—	—	*9.4
None	103.3	88.1	75.2	44.6	26.7	9.2	*2.8	5.3	355.3
<b>Total dwellings</b>	<b>804.0</b>	<b>572.1</b>	<b>485.0</b>	<b>188.6</b>	<b>247.8</b>	<b>59.1</b>	<b>19.5</b>	<b>40.1</b>	<b>2 416.3</b>
<b>Proportion (%)</b>									
One	76.1	73.6	73.2	66.5	75.1	76.8	81.4	71.5	74.1
Two	8.9	8.4	9.5	5.9	10.8	*5.6	*1.0	12.0	8.8
Three	*1.6	*1.9	*1.5	*2.1	*2.4	*1.7	*1.8	*2.8	1.8
Four	*0.3	*0.5	*0.1	—	*0.3	—	*1.5	*0.5	*0.3
Five or more	*0.3	*0.1	*0.1	*1.9	*0.7	*0.3	—	—	*0.4
None	12.9	15.4	15.5	23.7	10.8	15.6	*14.3	13.2	14.7

\* estimate is subject to sampling variability too high for most practical purposes

(a) Northern Territory data refers to mainly urban areas only.

— nil or rounded to zero (including null cells)

INTRODUCTION

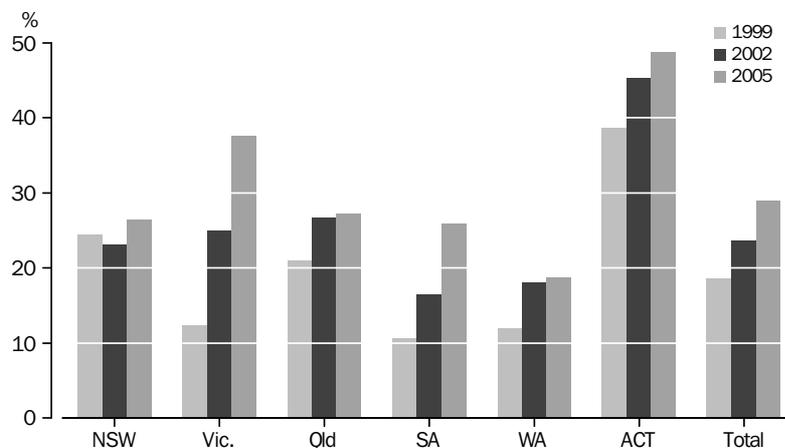
This chapter looks at the awareness of households of green power scheme and the associated Green Power Product. Tasmania and the Northern Territory had no Green Power Product at the time of the survey, and were thus excluded, although Tasmania makes extensive use of hydro-electricity.

Green power generally refers to the electricity generated from renewable energy resources like solar, wind, biomass, wave and tidal power, hydro-electricity, and geothermal. Green power schemes enable electricity consumers to pay a premium for electricity generated from renewable sources. The scheme has been operating in Australia for the past six years in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Australian Capital Territory. Accreditation for green power is provided by the National Green Power Accreditation Program (NGPAP). As of March 2005, there were 132,262 domestic households belonging to a green power scheme (DEUS 2005c).

GREEN POWER SCHEME AWARENESS

In March 2005, more than a quarter (29%) of households reported that they were aware of green power schemes, an increase from 19% in 1999 and from 24% in 2002 (graph 6.1). The Australian Capital Territory, as in 1999 and 2002, had the highest proportion (49%) of households aware of a green power scheme, and Western Australia (19%) had the least. Awareness of the scheme by Victorian households more than tripled from 12% in 1999 to 38% in 2005. In South Australia, awareness of the scheme increased from 11% to 26% over the same period.

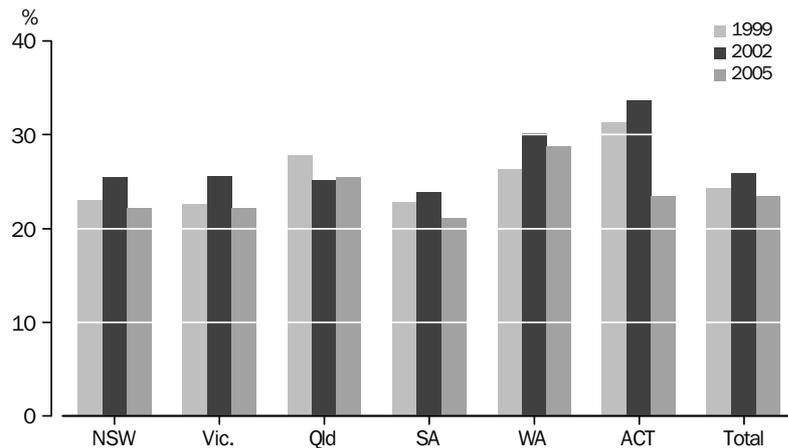
**6.1** GREEN POWER SCHEME, Awareness—1999:2005



LEVEL OF SUPPORT

Nearly a quarter of all households (23%) were willing to support a green power scheme by paying extra for electricity generated from green power. This was a slight decrease from 2002 (26%) (graph 6.2). Households in Western Australia (29%) had expressed the highest support among participating states, followed by Queensland (25%). Support for the scheme is more apparent in urban areas (25%) than in rural areas (21%) (table 6.6).

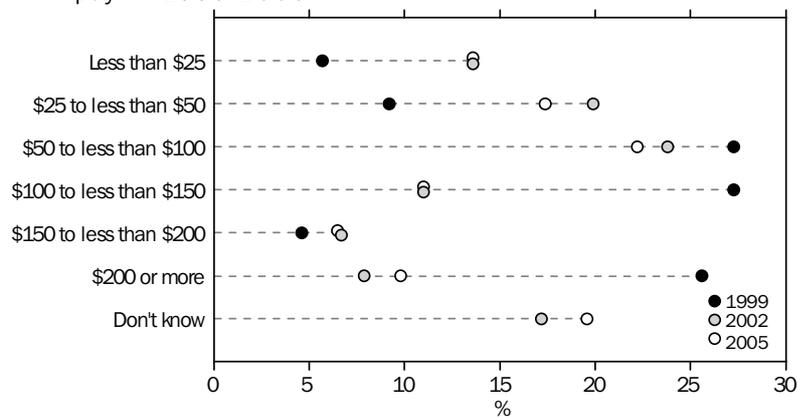
**6.2** GREEN POWER SCHEME, Willingness to pay extra—1999:2005



Slightly more than half of households which expressed support for the green power scheme in 2005 (53%) were prepared to pay less than \$100 extra per annum for a Green Power Product – a similar occurrence in 2002 (57%), but higher than in 1999 (42%). Over one-fifth of households (22%) in 2005 were prepared to pay between \$50 and \$100 extra, and 17% were prepared to pay between \$25 and \$50 extra (graph 6.3).

The proportion of households prepared to pay an extra \$200 or more has slightly increased from 8% in 2002 to 10% in 2005, mostly attributed to the increase in New South Wales (from 7% in 2002 to 11% in 2005). However, the proportion of households prepared to pay an extra \$200 or more has declined by 16% since 1999.

**6.3** GREEN POWER SCHEME, Extra amount willing to pay\*—1999:2005



Note: \* This is on top of the average electricity expenditure per annum.

LEVEL OF SUPPORT  
*continued*

Table 6.10 illustrates households that spent more on electricity bills were most likely to be prepared to pay extra for a Green Power Product than those that spent less on electricity in 2005. In 2005, around one-third (34%) of households spending over a \$1000 on electricity bills per annum were prepared to pay between \$50 and \$150 extra. One in two households (54%) spending less than \$250 on electricity bills per annum were prepared to pay less than \$50 extra for a Green Power Product.

## 6.4 AWARENESS OF GREEN POWER SCHEME—2005

	NSW	Vic.	Qld	SA	WA	ACT(a)	Total
CAPITAL CITY							
<b>Estimate ('000)</b>							
Aware of green power scheme	395.3	495.1	204.3	137.6	119.1	..	1 412.2
Not aware of green power scheme	1 156.4	838.2	483.1	338.5	459.8	..	3 339.2
Don't know	54.8	36.8	12.6	*4.2	*6.9	..	116.3
<b>Total households</b>	<b>1 606.5</b>	<b>1 370.0</b>	<b>699.9</b>	<b>480.3</b>	<b>585.8</b>	..	<b>4 867.7</b>
<b>Proportion (%)</b>							
Aware of green power scheme	24.6	36.1	29.2	28.7	20.3	..	29.0
Not aware of green power scheme	72.0	61.2	69.0	70.5	78.5	..	68.6
Don't know	3.4	2.7	1.8	*0.9	*1.2	..	2.4
BALANCE OF STATE / TERRITORY							
<b>Estimate ('000)</b>							
Aware of green power scheme	288.5	226.1	213.1	28.7	28.5	..	784.9
Not aware of green power scheme	676.0	303.8	609.8	130.6	173.3	..	1 893.5
Don't know	19.4	16.6	*9.3	*3.7	*1.3	..	50.3
<b>Total households</b>	<b>983.9</b>	<b>546.4</b>	<b>832.3</b>	<b>163.1</b>	<b>203.1</b>	..	<b>2 728.7</b>
<b>Proportion (%)</b>							
Aware of green power scheme	29.3	41.4	25.6	17.6	14.0	..	28.8
Not aware of green power scheme	68.7	55.6	73.3	80.1	85.3	..	69.4
Don't know	2.0	3.0	*1.1	*2.3	*0.7	..	1.8
TOTAL STATE / TERRITORY							
<b>Estimate ('000)</b>							
Aware of green power scheme	683.8	721.1	417.4	166.4	147.6	60.9	2 197.2
Not aware of green power scheme	1 832.4	1 142.0	1 092.9	469.1	633.1	63.2	5 232.6
Don't know	74.2	53.3	21.8	*7.9	*8.3	*1.0	166.6
<b>Total households</b>	<b>2 590.4</b>	<b>1 916.4</b>	<b>1 532.1</b>	<b>643.4</b>	<b>788.9</b>	<b>125.2</b>	<b>7 596.4</b>
<b>Proportion (%)</b>							
Aware of green power scheme	26.4	37.6	27.2	25.9	18.7	48.7	28.9
Not aware of green power scheme	70.7	59.6	71.3	72.9	80.2	50.5	68.9
Don't know	2.9	2.8	1.4	*1.2	*1.0	*0.8	2.2

\* estimate is subject to sampling variability too high for most practical purposes

.. not applicable

(a) No regional split between capital city and balance of territory for ACT as the sample does not support any breakdown beyond the whole territory.

Note: Data covers only states and territories that are participating in the *National Green Power Accreditation Program*.

**6.5** AWARENESS OF GREEN POWER SCHEME—1999:2005

	NSW	Vic.	Qld	SA	WA	ACT	Total
	%	%	%	%	%	%	%
MARCH 2005							
Aware of green power scheme	26.4	37.6	27.2	25.9	18.7	48.7	28.9
Not aware of green power scheme	70.7	59.6	71.3	72.9	80.2	50.5	68.9
Don't know	2.9	2.8	1.4	*1.2	*1.0	*0.8	2.2
MARCH 2002							
Aware of green power scheme	23.1	24.9	26.7	16.5	18.0	45.2	23.6
Not aware of green power scheme	67.3	66.0	67.3	78.7	76.7	47.7	68.6
Don't know	9.6	9.0	6.0	4.9	5.3	7.1	7.8
MARCH 1999							
Aware of green power scheme	24.5	12.4	21.0	10.6	12.0	38.6	18.5
Not aware of green power scheme	62.9	78.4	68.4	81.8	81.7	55.7	71.3
Don't know	12.6	9.2	10.6	7.6	6.4	5.7	10.2

\* estimate is subject to sampling variability too high for most practical purposes

Note: Data covers only states and territories that are participating in the *National Green Power Accreditation Program*.

**6.6****WILLINGNESS TO PAY EXTRA PER ANNUM ON GREEN POWER ELECTRICITY—2005**

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>ACT(a)</i>	<i>Total</i>
	%	%	%	%	%	%	%
CAPITAL CITY							
Willing to pay extra	23.5	23.5	27.3	21.3	30.6	. .	24.7
Not willing to pay extra	64.2	62.8	62.8	67.9	58.0	. .	63.2
Don't know	12.3	13.8	9.9	10.8	11.4	. .	12.1
BALANCE OF STATE / TERRITORY							
Willing to pay extra	20.2	18.9	23.7	20.5	23.7	. .	21.3
Not willing to pay extra	68.9	69.4	62.9	67.7	63.5	. .	66.7
Don't know	10.8	11.7	13.4	11.8	12.8	. .	12.0
TOTAL STATE / TERRITORY							
Willing to pay extra	22.2	22.2	25.4	21.1	28.8	23.4	23.5
Not willing to pay extra	66.0	64.6	62.8	67.9	59.4	64.1	64.5
Don't know	11.7	13.2	11.8	11.0	11.8	12.5	12.1

. . not applicable

(a) No regional split between capital city and balance of territory for ACT as the sample does not support any breakdown beyond the whole territory.

Note: Only includes respondents who have indicated they are not connected to any Green Power scheme.

Data covers only states and territories that are participating in the *National Green Power Accreditation Program*.

## 6.7 WILLINGNESS TO PAY EXTRA PER ANNUM ON GREEN POWER ELECTRICITY—1999:2005

	NSW	Vic.	Qld	SA	WA	ACT	Total
	%	%	%	%	%	%	%
MARCH 2005							
Willing to pay extra	22.2	22.2	25.4	21.1	28.8	23.4	23.5
Not willing to pay extra	66.0	64.6	62.8	67.9	59.4	64.1	64.5
Don't know	11.7	13.2	11.8	11.0	11.8	12.5	12.1
MARCH 2002							
Willing to pay extra	25.4	25.6	25.2	23.9	30.1	33.6	25.9
Not willing to pay extra	60.6	63.3	65.6	62.3	59.3	59.7	62.3
Don't know	14.0	11.1	9.3	13.8	10.6	6.7	11.8
MARCH 1999							
Willing to pay extra	23.0	22.6	27.8	22.8	26.3	31.3	24.3
Not willing to pay extra	56.9	56.7	53.1	55.2	55.7	55.7	55.8
Should not pay extra to green power(a)	5.3	4.2	5.2	4.2	3.1	2.4	4.6
Don't know	14.8	16.4	13.8	17.9	14.8	10.6	15.2

(a) Not an option in 2002 and 2005.

Note: Only includes respondents who have indicated they are not connected to any Green Power scheme. Data covers only states and territories that are participating in the *National Green Power Accreditation Program*.

## 6.8 EXTRA AMOUNT WILLING TO PAY PER ANNUM ON GREEN POWER ELECTRICITY—2005

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>ACT(a)</i>	<i>Total</i>
	%	%	%	%	%	%	%
CAPITAL CITY							
Less than \$25	15.0	10.6	8.6	9.2	12.7	..	11.7
\$25 to less than \$50	18.4	18.6	15.6	20.1	21.0	..	18.5
\$50 to less than \$100	17.9	29.1	21.3	21.8	21.4	..	22.7
\$100 to less than \$150	9.8	11.7	14.5	14.6	10.5	..	11.6
\$150 to less than \$200	5.5	6.8	7.3	3.8	8.1	..	6.5
\$200 to less than \$250	3.8	5.5	5.1	6.3	6.7	..	5.0
\$250 or more	7.1	1.5	6.0	4.2	4.5	..	4.7
Don't know	22.6	16.2	21.6	20.1	15.2	..	19.2
BALANCE OF STATE / TERRITORY							
Less than \$25	17.4	16.0	17.3	17.4	19.8	..	17.3
\$25 to less than \$50	14.9	19.2	13.0	18.0	13.3	..	15.1
\$50 to less than \$100	22.9	19.8	21.5	18.7	16.8	..	21.1
\$100 to less than \$150	9.9	9.9	10.7	3.4	7.0	..	9.5
\$150 to less than \$200	4.7	9.5	6.7	10.3	2.8	..	6.4
\$200 to less than \$250	6.2	3.9	3.8	3.4	7.7	..	5.0
\$250 or more	4.0	4.2	6.8	6.3	3.6	..	5.1
Don't know	20.0	17.6	20.1	22.5	28.9	..	20.5
TOTAL STATE / TERRITORY							
Less than \$25	15.8	11.9	13.0	11.2	14.2	6.0	13.6
\$25 to less than \$50	17.2	18.7	14.3	19.6	19.3	18.6	17.4
\$50 to less than \$100	19.6	26.9	21.4	21.0	20.4	35.4	22.2
\$100 to less than \$150	9.8	11.3	12.6	11.8	9.7	13.5	11.0
\$150 to less than \$200	5.2	7.4	7.0	5.4	7.0	9.3	6.5
\$200 to less than \$250	4.6	5.1	4.4	5.6	6.9	1.5	5.0
\$250 or more	6.0	2.2	6.4	4.7	4.3	2.2	4.8
Don't know	21.7	16.5	20.9	20.7	18.1	13.5	19.6

.. not applicable

(a) No regional split between capital city and balance of territory for ACT as the sample does not support any break down beyond the whole territory.

Note: Data covers only states and territories that are participating in the *National Green Power Accreditation Program*.

## 6.9 EXTRA AMOUNT WILLING TO PAY PER ANNUM ON GREEN POWER ELECTRICITY—1999:2005

	NSW	Vic.	Qld	SA	WA	ACT	Total
	%	%	%	%	%	%	%
MARCH 2005							
Less than \$25	15.8	11.9	13.0	11.2	14.2	*6.0	13.6
\$25 to less than \$50	17.2	18.7	14.3	19.6	19.3	18.6	17.4
\$50 to less than \$100	19.6	26.9	21.4	21.0	20.4	35.4	22.2
\$100 to less than \$150	9.8	11.3	12.6	11.8	9.7	13.5	11.0
\$150 to less than \$200	5.2	7.4	7.0	*5.4	7.0	*9.3	6.5
\$200 to less than \$250	4.6	5.1	*4.4	*5.6	6.9	*1.5	5.0
\$250 or more	6.0	*2.2	*6.4	*4.7	*4.3	*2.2	4.8
Don't know	21.7	16.5	20.9	20.7	18.1	13.5	19.6
MARCH 2002							
Less than \$25	13.0	14.7	15.4	11.2	11.1	14.8	13.6
\$25 to less than \$50	18.2	20.3	23.0	18.7	19.0	24.9	19.9
\$50 to less than \$100	24.1	24.9	23.7	22.0	21.5	25.1	23.8
\$100 to less than \$150	9.2	10.5	10.5	11.8	16.5	16.0	11.0
\$150 to less than \$200	7.2	6.2	6.3	7.5	6.9	6.0	6.7
\$200 to less than \$250	4.0	4.4	3.4	4.5	6.4	1.5	4.3
\$250 or more	3.1	2.7	4.4	4.5	4.7	3.2	3.6
Don't know	21.1	16.3	13.4	19.9	14.0	8.5	17.2
MARCH 1999							
Less than \$25	6.7	3.7	7.4	3.8	6.0	4.1	5.7
\$25 to less than \$50	7.9	9.1	11.3	9.1	9.0	7.8	9.2
\$50 to less than \$100	24.5	30.3	28.4	25.1	28.8	23.6	27.3
\$100 to less than \$150	27.8	27.7	26.9	31.2	25.9	26.3	27.6
\$150 to less than \$200	5.3	3.3	4.5	3.5	5.9	5.6	4.6
\$200 to less than \$250	13.9	17.5	11.4	17.1	10.3	16.0	14.1
\$250 or more	13.9	8.5	10.1	10.2	14.1	16.6	11.5

\* estimate is subject to sampling variability too high for most practical purposes

Note: Data covers only states and territories that are participating in the *National Green Power Accreditation Program*.

**6.10****EXTRA AMOUNT WILLING TO PAY PER ANNUM ON GREEN POWER ELECTRICITY,  
By household level of electricity expenditure—2005**

## HOUSEHOLD LEVEL OF ELECTRICITY EXPENDITURE(a)

	<i>Less than \$250</i>	<i>\$250 to less than \$500</i>	<i>\$500 to less than \$750</i>	<i>\$750 to less than \$1000</i>	<i>Over \$1000</i>	<i>Not known</i>	<i>Total households</i>
<i>Amount willing to pay</i>	%	%	%	%	%	%	%

## CAPITAL CITY

Less than \$25	24.6	17.2	11.4	9.4	6.4	12.8	11.7
\$25 to less than \$50	28.0	36.0	19.6	13.1	10.0	9.8	18.5
\$50 to less than \$100	*15.4	21.5	31.4	26.8	15.8	17.3	22.7
\$100 to less than \$150	*4.1	5.8	13.7	13.0	16.8	8.0	11.6
\$150 to less than \$200	*1.6	*2.5	4.8	13.1	8.3	*3.3	6.5
\$200 to less than \$250	*0.7	*1.2	4.8	*3.7	11.4	*3.3	5.0
\$250 or more	*1.7	*1.1	*2.1	*5.2	12.3	*1.0	4.7
Don't know	23.8	14.7	12.2	15.6	19.1	44.4	19.2

## BALANCE OF STATE / TERRITORY

Less than \$25	*42.1	27.7	20.2	14.6	8.9	*16.1	17.3
\$25 to less than \$50	*14.2	25.5	12.6	16.5	*7.1	25.0	15.1
\$50 to less than \$100	*14.0	18.9	26.1	23.3	21.1	*12.2	21.1
\$100 to less than \$150	*3.1	5.2	6.6	12.4	14.4	*4.6	9.5
\$150 to less than \$200	—	*1.6	*6.1	*9.1	9.2	*2.5	6.4
\$200 to less than \$250	*3.6	*1.7	*3.3	*6.0	7.9	*3.0	5.0
\$250 or more	*11.5	*0.7	*2.8	*4.1	9.7	*2.2	5.1
Don't know	*11.5	18.7	22.3	14.2	21.6	34.5	20.5

## TOTAL STATE / TERRITORY

Less than \$25	30.0	20.0	14.1	11.2	7.3	13.8	13.6
\$25 to less than \$50	23.7	33.2	17.5	14.3	8.9	14.3	17.4
\$50 to less than \$100	*15.0	20.8	29.8	25.6	17.8	15.8	22.2
\$100 to less than \$150	*3.8	5.6	11.5	12.8	15.9	7.0	11.0
\$150 to less than \$200	*1.1	*2.2	5.2	11.7	8.6	*3.1	6.5
\$200 to less than \$250	*1.6	*1.4	4.3	4.5	10.1	*3.2	5.0
\$250 or more	*4.7	*1.0	*2.3	4.8	11.3	*1.3	4.8
Don't know	20.0	15.8	15.3	15.1	20.0	41.5	19.6

\* estimate is subject to sampling variability too high for most practical purposes

— nil or rounded to zero (including null cells)

(a) Amount spent on electricity in the last 12 months prior to survey.

Note: Data covers only states and territories that are participating in the *National Green Power Accreditation Program*.



## RELIABILITY OF ESTIMATES

- 9** The two types of error possible in an estimate based on a sample survey are:
- Non-sampling error which arises from inaccuracies in collecting, recording and processing the data. The most significant of these errors are:
    - misreporting of data items
    - deficiencies in coverage
    - non-response
    - processing errors

Every effort is made to minimise these errors by the careful design of questionnaires, intensive training and supervision of interviewers and efficient data processing procedures.
  - Sampling error which occurs because a sample, rather than the entire population is surveyed. One measure of the likely difference resulting from not including all persons in the survey is given by the standard error (please consult the Technical Note - Data Quality section).

## RELATED PUBLICATIONS

- 10** Users may also wish to refer to the following ABS publications:
- Environmental Issues: People's Views and Practices* (cat. no. 4602.0) – 1994, 1999, and 2002 issues.
- Energy and Greenhouse Gas Emission Accounts* (cat. no. 4604.0) – 2001 issue
- Detailed Energy Statistics, Australia* (cat. no. 4648.0.55.001) – 2004 issue
- 11** Further key references on energy use and conservation can be found through the following websites:
- Australian Bureau of Agricultural and Resource Economics  
(<http://www.abareconomics.com/index.html>)
- Australian Greenhouse Office (<http://www.greenhouse.gov.au>)
- Department of Energy, Utilities and Sustainability (<http://www.deus.nsw.gov.au>)
- National Green Power Accreditation Program (<http://www.greenpower.gov.au>)
- Sustainable Energy Development Office (<http://www1.sedo.energy.wa.gov.au>)
- 12** Current publications produced by the ABS are listed in the *Catalogue of Publications and Products* (cat. no.1101.0). The catalogue is available from any ABS office or the ABS website <<http://www.abs.gov.au>>. The ABS also issues a daily Release Advice on the website which details products to be released in the week ahead.

## ABBREVIATIONS

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AGO	Australian Greenhouse Office
Aust.	Australia
CAI	computer assisted interviewing
DEUS	New South Wales Government Department of Energy, Utilities and Sustainability
LPG	liquefied petroleum gas
NGPAP	National Green Power Accreditation Program
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
RSE	relative standard error
SA	South Australia
SE	standard error
Tas.	Tasmania

Vic. Victoria

WA Western Australia

INTRODUCTION

**1** Since the estimates in this publication are based on information obtained from occupants of a sample of dwellings, they are subject to sampling variability. That is, they may differ from those estimates that would have been produced if all dwellings had been included in the survey. One measure of the likely difference is given by the standard error (SE), which indicates the extent to which an estimate might have varied by chance because only a sample of dwellings was included. There are about 2 chances in 3 (67%) that a sample estimate will differ by less than one SE from the number that would have been obtained if all dwellings had been included, and about 19 chances in 20 (95%) that the difference will be less than two SEs. Another measure of the likely difference is the relative standard error (RSE), which is obtained by expressing the SE as a percentage of the estimate.

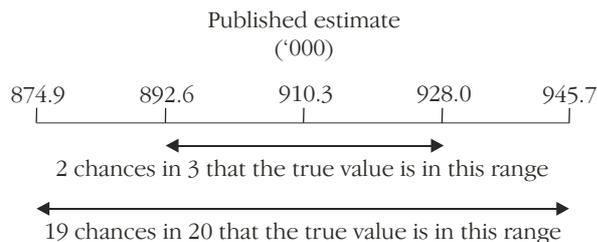
**2** Due to space limitations, it is impractical to print the SE of each estimate in the publication. Instead, a table of SEs is provided to enable readers to determine the SE for an estimate from the size of that estimate (see table T1). The SE table is derived from a mathematical model, referred to as the "SE model", which is created using the data collected in this survey. It should be noted that the SE model only gives an approximate value for the SE for any particular estimate, since there is some minor variation between SEs for different estimates of the same size.

CALCULATION OF STANDARD ERROR

**3** An example of the calculation and the use of SEs in relation to estimates of households is as follows. Table 5.3 shows that the estimated number of households in Victoria that have a dishwasher was 910,300. Since this estimate is between 500,000 and 1,000,000, table T1 shows that the SE for Victoria will lie between 15,150 and 18,300 and can be approximated by interpolation using the following general formula:

$$\begin{aligned}
 SE \text{ of estimate} &= \text{lower SE} + \left[ \left( \frac{\text{size of estimate} - \text{lower estimate}}{\text{upper estimate} - \text{lower estimate}} \right) \right] \times (\text{upper SE} - \text{lower SE}) \\
 &= 15,150 + \left( \frac{910,300 - 500,000}{1,000,000 - 500,000} \right) \times (18,300 - 15,150) \\
 &= 17,734 \\
 &= 17,700 \text{ (rounded to the nearest 100)}
 \end{aligned}$$

**4** Therefore, there are about 2 chances in 3 that the value that would have been produced if all persons had been included in the survey will fall within the range 892,600 to 928,000 and about 19 chances in 20 that the value will fall within the range 874,900 to 945,700. This example is illustrated in the diagram below.



CALCULATION OF STANDARD ERROR *continued*

**5** In general, the size of the SE increases as the size of the estimate increases. Conversely, the RSE decreases as the size of the estimate increases. Very small estimates are thus subject to such high RSEs so that their value for most practical purposes is unreliable. In the tables in this publication, only estimates with RSEs of less than 25% are considered reliable for most purposes. Estimates with RSEs of 25% and greater are preceded by an asterisk (e.g. \*1.8) to indicate they are subject to high SEs and should be used with caution.

PROPORTIONS AND PERCENTAGES

**6** Proportions and percentages formed from the ratio of two estimates are also subject to sampling errors. The size of the error depends on the accuracy of both the numerator and the denominator. A formula to approximate the RSE of a proportion is given below. This formula is only valid when x is a subset of y.

$$RSE\left(\frac{x}{y}\right) = \sqrt{[RSE(x)^2] - [RSE(y)^2]}$$

**7** For example, in table 5.3, the estimate for the total number of dwellings in Victoria is 1,916,400. The estimated number of dwellings in Victoria which have a dishwasher was 910,300, so the proportion of dwellings in Victoria which have dishwashers is 910,300/1,916,400 or 47.5%. The SE of the total number of dwellings in Victoria may be calculated by interpolation as 21,141 or 21,100 rounded to the nearest 100. To convert this to a RSE we express the SE as a percentage of the estimate, or 21,100/1,916,400 = 1.1%. The SE for the number of dwellings in Victoria that have a dishwasher was calculated above as 17,700, which converted to a RSE is 17,700/910,300 = 1.9%. Applying the above formula, the RSE of the proportion is  $RSE = \sqrt{(1.9)^2 - (1.1)^2} = 1.5\%$  giving a SE for the proportion (47.5%) of 0.7 percentage points (=47.5x .015).

**8** Therefore, there are about 2 chances in 3 that the proportion of dwellings in Victoria that have a dishwasher is between 46.8% and 48.2% and 19 chances in 20 that the proportion is within the range 45.1% to 48.9%.

DIFFERENCES

**9** Published estimates may also be used to calculate the difference between two survey estimates (of numbers or percentages). Such an estimate is subject to sampling error. The sampling error of the difference between two estimates depends on their SEs and the relationship (correlation) between them. An approximate SE of the difference between two estimates (x-y) may be calculated by the following formula:

$$SE(x-y) = \sqrt{[SE(x)]^2 + [SE(y)]^2}$$

**10** While this formula will only be exact for differences between separate and uncorrelated characteristics or subpopulations, it is expected to provide a good approximation for all differences likely to be of interest in this publication.

NON-SAMPLING ERROR

**11** The imprecision due to sampling variability, which is measured by the SE, should not be confused with inaccuracies that may occur because of imperfect reporting by respondents, errors made in collection such as in recording and coding data, and errors made in processing the data. Inaccuracies of this kind are referred to as non-sampling error, and they may occur in any enumeration, whether it be a full count or a sample. It is not possible to quantify non-sampling error, but every effort is made to reduce it to a minimum. This is done by careful design of questionnaires, intensive training and supervision of interviewers, and efficient operating procedures.

NON-SAMPLING ERROR

*continued*

T1 STANDARD ERRORS FOR HOUSEHOLD LEVEL ESTIMATES

size of estimates	NSW	Vic.	Qld.	SA	WA	Tas.	NT	ACT	Aust.
	no.	no.	no.	no.	no.	no.	no.	no.	no.
100	130	110	80	80	100	80	50	70	130
200	230	190	150	160	180	150	120	140	220
300	320	270	220	220	260	200	190	200	290
500	460	400	340	330	390	300	330	290	410
700	590	510	450	430	500	380	450	380	520
1,000	750	660	610	560	640	470	600	480	660
1,500	980	880	830	750	850	610	820	620	860
2,000	1 190	1 070	1 030	900	1 030	720	990	740	1 030
2,500	1 350	1 250	1 200	1 050	1 200	800	1 150	850	1 200
3,000	1 550	1 400	1 400	1 150	1 300	900	1 250	950	1 350
3,500	1 700	1 550	1 550	1 300	1 450	950	1 350	1 000	1 450
4,000	1 850	1 650	1 650	1 400	1 550	1 050	1 450	1 050	1 600
5,000	2 100	1 900	1 950	1 600	1 800	1 150	1 600	1 200	1 800
7,000	2 550	2 350	2 400	1 900	2 150	1 300	1 800	1 400	2 200
10,000	3 150	2 850	2 950	2 300	2 550	1 550	1 950	1 600	2 750
15,000	3 900	3 550	3 750	2 800	3 100	1 750	2 100	1 850	3 450
20,000	4 550	4 150	4 350	3 150	3 550	1 950	2 100	2 000	4 000
30,000	5 600	5 050	5 350	3 750	4 200	2 150	2 100	2 250	5 000
40,000	6 450	5 800	6 150	4 150	4 700	2 300	2 050	2 400	5 800
50,000	7 150	6 450	6 750	4 500	5 100	2 450	1 950	2 500	6 550
100,000	9 800	8 650	8 950	5 600	6 350	2 700	1 600	2 700	9 250
150,000	11 650	10 100	10 350	6 200	7 050	2 850	1 350	2 800	11 200
200,000	13 100	11 250	11 350	6 650	7 550	2 900	1 150	2 800	12 800
300,000	15 300	12 900	12 800	7 200	8 200	2 900	—	2 750	15 400
500,000	18 400	15 150	14 550	7 750	8 900	2 850	—	—	19 250
1,000,000	23 100	18 300	16 600	8 250	9 600	—	—	—	25 600
2,000,000	28 300	21 400	18 200	8 400	9 850	—	—	—	33 400
5,000,000	35 500	25 050	19 150	—	—	—	—	—	46 250
10,000,000	—	—	—	—	—	—	—	—	57 900

— nil or rounded to zero (including null cells)

## BIBLIOGRAPHY .....

- ABARE (Australian Bureau of Agricultural and Resource Economics) 2005, *Energy Update 2005: Australian energy consumption and production, 1973-74 to 2003-04*, Accessed from  
<<http://www.abareonlineshop.com/product.asp?prodid=13166>> on 03 November 2005.
- AGO (Australian Greenhouse Office) 2005a, *Your Home Technical Manual, Chapter 4 Energy Use*, Accessed from  
<<http://www.greenhouse.gov.au/yourhome/technical/fs40.htm>> on 03 November 2005.
- AGO 2005b, *Your Home Technical Manual, Chapter 1 Passive Design, 1.6a Insulation: Overview*, Accessed from  
<<http://www.greenhouse.gov.au/yourhome/technical/pdf/fs16a.htm>> on 03 November 2005.
- AGO 2005c, *History of the labelling program in Australia*, Accessed from  
<<http://www.energyrating.gov.au/history.html>> on 03 November 2005.
- DEUS (New South Wales Department of Energy, Utilities and Sustainability) 2005a, *Lighting your home*, Accessed from  
<<http://www.energysmart.com.au/brochures/lighting.pdf>> on 03 November 2005.
- DEUS 2005b, *Windows in your home*, Accessed from  
<<http://www.energysmart.com.au/brochures/windows.pdf>> on 03 November 2005.
- DEUS 2005c, *National Green Power Accreditation Program: Quarterly Status Report, 1 January - 31 March, 2005*, Accessed from  
<<http://www.greenpower.com.au/images/dl/2005Q1Reportfinal.pdf>> on 03 November 2005.
- NAEEEC (National Appliance and Equipment Energy Efficiency Committee) 2002, *Standby Power Consumption: A long-term strategy to achieve Australia's One-Watt Goal 2002 to 2012*, Accessed from  
<<http://www.energyrating.gov.au/library/details200209-standby.html>> on 03 November 2005.



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