



**Australian Social Trends  
2007**

**Article: Household waste**



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## Article: Household waste

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## SYMBOLS AND USAGES

billion	1,000 million
kg	kilogram
m	metre
n.a.	not available
n.e.c	not elsewhere classified
n.p.	not published
n.y.a.	not yet available
no.	number
'000	thousand
'000m	thousand million
\$	dollar
\$m	million dollars
\$b	billion dollars
\$US	American dollar
%	per cent
*	estimate has a relative standard error of 25% to 50% and should be used with caution
**	estimate has a relative standard error of greater than 50% and is considered too unreliable for general use
. .	not applicable
—	nil or rounded to zero (including null cells)

Where figures have been rounded, discrepancies may occur between the sums of the component items and totals.

# Household waste

**In 1992, 85% of households said that they recycled some of their waste. In 2006, 99% of households reported that they had recycled or reused some of their waste within the past year.**

Over recent decades there has been a trend away from burning and burying waste in favour of recycling and reusing it. Since the 1970s, backyard incineration and open burning at landfills has been declining because of concern for the impact on human and environmental health. Less burning resulted in more landfilling, reducing the intake capability of existing landfills and creating demand for new ones.

Communities often object to proposed sites for landfills. This method of waste disposal is perceived by some to pose hazards for human and environmental health from possible soil and water contamination, greenhouse gas emissions and disease-carrying pests. Odours and visual aesthetics also contribute to the difficulty in establishing new landfills.

Since the early 1990s, conservation and sustainable development ideals have led to waste management policies seeking to minimise the disposal of waste by reducing its generation, and by reusing and recycling. In recent years, resource recovery has extended to extracting energy from waste, with some landfill gas being captured for fuel or electricity generation.

## Waste generated from all sources

While there are no national, comprehensive, comparable data on the amount of waste generated by households in Australia, there are indicative data on the total amount of solid waste generated from all sources and how it has changed over time.

In 2002–03, an estimated 32 million tonnes of solid waste was generated from all sources in Australia (excluding Tasmania and the Northern Territory). Solid waste generation has risen at

## Data sources and definitions

Most of the data in this article are from the ABS Survey of Waste Management and Transport Use. Data on the amount of waste generated are from the Department of Environment and Heritage, as published in the Productivity Commission Inquiry Report on Waste Management in October 2006.<sup>1</sup>

A *household* is one or more persons, at least one of whom is at least 18 years of age, usually resident in the same private dwelling.

*Waste* is generally defined as any product or substance that has no further use for the person or organisation that generated it, and which is, or will be, discarded. It may be solid, liquid or gaseous.

*Hazardous waste* contains corrosive, toxic, ignitable, or reactive ingredients.

*Reuse* is recovering value from a discarded item without reprocessing or remanufacture. This typically involves using an item again for its originally intended purpose. An item can receive minor treatment such as washing, reconditioning or painting prior to reuse.

*Recycling* is the recovery of used products and their reformation for use as raw materials in the manufacture of new products, which may or may not be similar to the original.

A *landfill* is an area (usually a pit) into which solid waste is placed for permanent burial.

around 6% a year on average from an estimated 23 million tonnes in 1996–97. Increases in population and in consumption levels over the period are likely to have contributed to this increase. The estimated resident population of Australia increased by just over 1% a year between the start of 1997 and the end of 2002, while real household final consumption expenditure per person rose by almost 3% per year between 1996–97

## Generation and treatment of solid waste from all sources(a)

	Total			Per person		
	1996–97 megatonnes	2002–03 megatonnes	Change %	1996–97 kilograms	2002–03 kilograms	Change %
Waste to landfill	21.2	17.4	-19	1 150	880	-23
Waste recycled	1.5	15.0	825	80	759	849
<b>Total waste generated</b>	<b>22.7</b>	<b>32.4</b>	<b>42</b>	<b>1 230</b>	<b>1 639</b>	<b>33</b>

(a) Figures should be regarded as indicative. Data are not complete for every state and territory and are not strictly comparable between time periods. Estimates for 1996–97 are considered less reliable than estimates for 2002–03.

Source: Department of Environment and Heritage (DEH) 2006 submission to the Productivity Commission Inquiry into Waste Generation and Resource Efficiency; DEH data published in the Productivity Commission 2006, Waste Management, Report no. 38, Canberra.

### Solid waste generated by source(a) — 2002–03

Source of waste	Waste to landfill megatonnes	Waste recycled megatonnes	Total waste generated megatonnes	Proportion of waste recycled %
Municipal	6.2	2.7	8.9	30
Commercial and industrial	5.3	4.2	9.5	44
Construction and demolition	5.9	7.8	13.7	57
<b>Total</b>	<b>17.4</b>	<b>14.9</b>	<b>32.4</b>	<b>46</b>

(a) Figures should be regarded as indicative. Data are not complete for every state and territory.

Source: DEH data published in Productivity Commission 2006, Waste Management, Report no. 38, Canberra.

and 2002–03 (see *Australian Social Trends 2007*, Trends in Household Consumption, pp. 158–163).

In the absence of national statistics, Victorian and ACT data suggest that waste generation has continued to increase since 2002–03. Between 2002–03 and 2004–05, total solid waste generation rose from about 1.8 to 2.0 tonnes per person in Victoria, and from around 2.1 to 2.3 tonnes per person in the ACT. The average annual increase during this two year period was 6% in both jurisdictions.<sup>1</sup>

Despite the apparent sizeable increase in the amount of solid waste being generated, the overall trend is towards reduced landfilling and increased recycling of waste. An estimated 19% less solid waste was buried as landfill in Australia (excluding Tasmania and the Northern Territory) during 2002–03 (17 million tonnes) than during 1996–97 (21 million tonnes). This was accompanied by a strong increase in the amount of solid

waste recycled, from an estimated 80 kilograms per person during 1996–97 to 759 kilograms per person during 2002–03.

### ...municipal waste

Just over one quarter (27% or 8.9 megatonnes) of the solid waste generated in 2002–03 was municipal waste, that is, waste collected and treated by or for municipalities. Most of the municipal waste was generated by households, but some would also have come from commercial activities, offices, institutions and some small businesses. On a per person basis, Australians generated 450 kilograms of municipal waste per person in 2002–03.

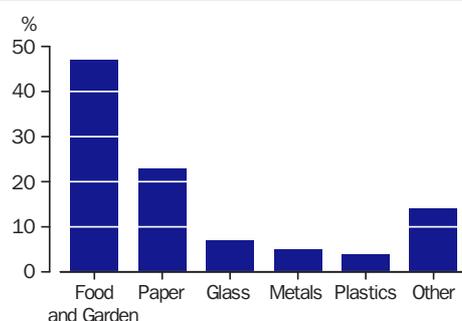
A smaller proportion of municipal waste was recycled compared with waste from other sources. Less than a third (30%) of municipal waste was recycled compared with 44% of commercial and industrial waste and 57% of construction and demolition waste.

One reason for the lower level of recycling of municipal waste compared with waste from other sources is the greater prevalence of food and garden waste in municipal waste. The presence of food and garden waste in waste streams can make extraction of recyclable materials more difficult to reprocess, without first having it sorted by householders. In 2002–03, nearly half (47%) of Australian municipal waste generated was food and garden waste. In comparison 13% of commercial and industrial waste, and 1% of construction and demolition waste was food and garden waste.

### Treatment of household waste

Recycling of household waste appears to have become more commonly practised since the early 1990s. In May 1992, 85% of households said that they recycled at least one of the waste materials listed in the following graph. In March 2006, 99% of households reported that they had recycled or reused one or more of the listed waste materials within the past year.

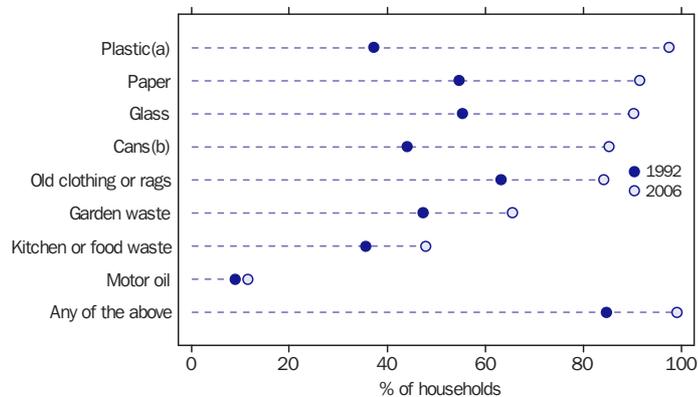
### Composition of municipal waste(a) — 2002–03



(a) Figures should be regarded as indicative. Data are for all states and territories except South Australia, the Northern Territory and Tasmania.

Source: Department of Environment and Heritage data published in Productivity Commission 2006, Waste Management, Report no. 38, Canberra.

## Rates of waste recycling/reuse by households



(a) Plastic in 1992 and plastic bottles or plastic bags in 2006.  
 (b) Cans in 1992 and aluminium cans or steel cans in 2006.

Source: *Environmental Issues: People's Views and Practices, May 1992, March 2000 and March 2006* editions (ABS cat. no. 4602.0); ABS 2006 Survey of Waste Management and Transport Use.

More widespread household recycling activity has been observed for a range of materials.

Notably, 92% of households recycled or reused paper in the year to March 2006, up from the 55% who declared themselves to be paper recyclers in May 1992. Over the same period, there was a similar increase in the proportion who recycled/reused glass (from 55% to 90%), and substantial but smaller rises in the proportions who recycled/reused old clothing or rags (63% to 84%), garden waste (47% to 66%), and kitchen or food waste (36% to 48%).

Of the other listed recyclable waste materials, there was a large increase in the proportion of households recycling/reusing cans between 1992 (44%) and 2006 (around 85%). Yet plastic was the material subject to the largest increase in the rate of recycling. In May 1992, when PET was the only type of plastic that could be recycled widely in Australia, 37% of households reported recycling plastic. In March 2006, when many types of plastic were being recycled, 97% of households reported having recycled or reused plastic bags or plastic bottles within the previous 12 months.

There are several possible explanations for increased rates of waste recycling/reuse between 1992 and 2006. Access to kerbside recycling in urban areas has greatly increased since the early 1990s. Kerbside collection methods have also improved with increased provision of easy use wheelie bins increasing yields of recyclable materials.

Rising commodity prices have raised the incentive to recover some used products for transformation into raw material for the manufacture of new products. At the same time, increased landfill levies in many states and territories have discouraged waste burial in favour of waste recycling. Recycling rates

## Motor oil

Used motor oil is considered to be a potentially hazardous waste as it is capable of polluting land, waterways, underground reservoirs and the marine environment. One litre of used oil has the capacity to contaminate up to one million litres of water. It can also pose a fire hazard if stored improperly.<sup>2</sup>

In March 2006, 12% of households reported recycling or reusing some motor oil in the previous 12 months. At the same time, 35% of households reported disposing of some motor oil, including car service oil change, in the previous 12 months.<sup>3</sup>

Of those households who reported disposing of motor oil, most (81%) disposed through a business or shop. Some (8%) disposed through a special area at a dump or waste transfer station, and 2% disposed at another central collection point. Only 1% used a special collection service, and less than 1% sold or gave it away. Similarly small proportions disposed of oil at a dump/waste transfer station's general area (2%) or via their usual household rubbish collection (2%), poured it down a drain, burnt or buried it (under 1%) or used another method (4%).<sup>3</sup>

Much of the motor oil disposed of by households is ultimately recycled or reused, as used oil can be cleaned and reused. Recycled oil can serve as industrial burner fuel or hydraulic oil, be re-refined back into new lubricating oil, or be incorporated into other products. Supported by the Australian Government's *Product Stewardship for Oil Program*, around 220 of the estimated 280 to 300 million litres of used oil generated by industry and the community in 2004–05 was recycled.<sup>2</sup>

for particular waste materials may also have been boosted by the introduction of industry product stewardships and/or campaigns encouraging householders to recycle.

## Reasons for not recycling/reusing

There are various reasons why households do not recycle or reuse waste materials that are recyclable or reusable. In 2006, the major reasons for not recycling or reusing waste varied according to the type of material.

Just over half (52%) of all Australian households did not recycle or reuse kitchen or food waste between March 2005 and March 2006. Not producing any or enough kitchen or food waste to warrant recycling or reusing it was the most commonly cited reason (38%). One-fifth (21%) were not interested in recycling or reusing such waste, or felt that too much effort was required to do so. A similar proportion did not recycle or reuse kitchen or food waste because a recycling service or facility was either unavailable, inadequate or unknown to them. Some (10%) did not recycle or reuse kitchen or food waste because there was no room in

## Reasons households do not recycle or reuse selected waste materials — 2006

	Kitchen or food waste	Garden waste	Old clothing or rags	Glass	Paper
	%	%	%	%	%
Don't have any or enough waste	38.1	60.0	67.9	35.5	23.6
No service or facilities available	13.0	7.0	3.2	36.3	46.0
Inadequate services or facilities	3.8	1.9	*0.6	4.2	4.7
Uncertain of services or facilities	2.1	1.3	2.1	2.6	2.1
Not interested or too much effort	20.6	12.4	12.4	15.7	17.5
No storage area at home	10.0	5.9	*0.3	*0.9	*0.7
Other reason	7.0	7.2	5.6	3.2	4.1
No reason given	8.6	6.1	8.6	4.8	4.8
<b>Total(a)</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Proportion of all households not recycling or reusing the selected waste material	52.1	34.4	15.8	9.7	8.5

(a) Reasons may sum to more than 100% as a household may have more than one reason for not recycling/reusing a material.

Source: *Environmental Issues: People's Views and Practices, March 2006* (ABS cat. no. 4602.0).

their dwelling or yard to compost organic matter (e.g. households living in units without yards).

Just over one-third (34%) of Australian households did not recycle or reuse garden waste between March 2005 and March 2006. Most (60%) of them did not recycle or reuse garden waste because they did not generate any, or enough, to make it worthwhile. Many households do not have a garden, and therefore generate little or no garden waste.

Only 16% of households did not recycle or reuse old clothing or rags between March 2005 and March 2006. Of these households, 68% did not have any or enough old clothing or rags to warrant doing so. About 12% either lacked interest in recycling or reusing this waste material or felt that too much effort was needed to do so.

Relatively small proportions of households did not recycle or reuse glass (10%) or paper (8%) between March 2005 and March 2006. The most frequently nominated reason for not recycling or reusing these waste materials was the unavailability, inadequacy or lack of awareness of recycling services and facilities.

### Differences between jurisdictions

Some of the reasons households do not recycle or reuse various waste materials partly explain observed differences in waste material recycling/reuse rates among Australian states and territories, and among local councils within these areas. The availability of kerbside recycling as part of regular household garbage collection is a major determinant of

recycling/reuse rates. Recycling services and facilities are more likely to be available in jurisdictions with a higher population density than in those with a lower density, as kerbside recycling schemes are more expensive to introduce and maintain in rural areas than in urban areas.<sup>2</sup> For example, the costs and benefits of collecting newspapers in a city could favour their recycling, whereas it might not be cost effective to do so in more sparsely populated areas.

Between March 2005 and March 2006, households in the Australian Capital Territory and Victoria were those most likely to recycle or reuse paper products, glass, plastic bottles, and aluminium and steel cans. These items are typically collected from kerbside wheeler bins dedicated to recyclable materials.

Tasmanian households were most likely to recycle or reuse kitchen or food waste (63%) while those in New South Wales were least likely to do so (44%). Households in New South Wales were also less likely to recycle or reuse garden waste than Tasmanian households, reflecting the greater proportion of households living in medium and high density housing in New South Wales.

### Endnotes

- 1 Productivity Commission 2006, *Waste Management*, Report no. 38, Canberra.
- 2 Australian Bureau of Statistics 2006, *Australia's Environment: Issues and Trends 2006*, cat. no. 4613.0, ABS, Canberra.
- 3 Australian Bureau of Statistics 2006, *Environmental Issues: People's Views and Practices, March 2006*, cat. no. 4602.0, ABS, Canberra.



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