



I RECYCLE:

A GUIDE TO KERBSIDE RECYCLING IN SYDNEY

I RECYCLE SUMMARY AND INTRODUCTION

Following extensive research, 1300RUBBISH Pty Ltd is now proud to introduce “**I RECYCLE**”, a recycling education initiative that aims to reduce the amount of recyclable materials going to landfill by increasing the awareness and knowledge of recycling best practices.

1300RUBBISH is a waste logistics Company that collects and transports building and demolition materials plus bulky unwanted items such as fridges, lounges and other household or office furniture. By Jan 2007, 1300RUBBISH will have built a franchised national network covering Australia’s seven most populated cities.

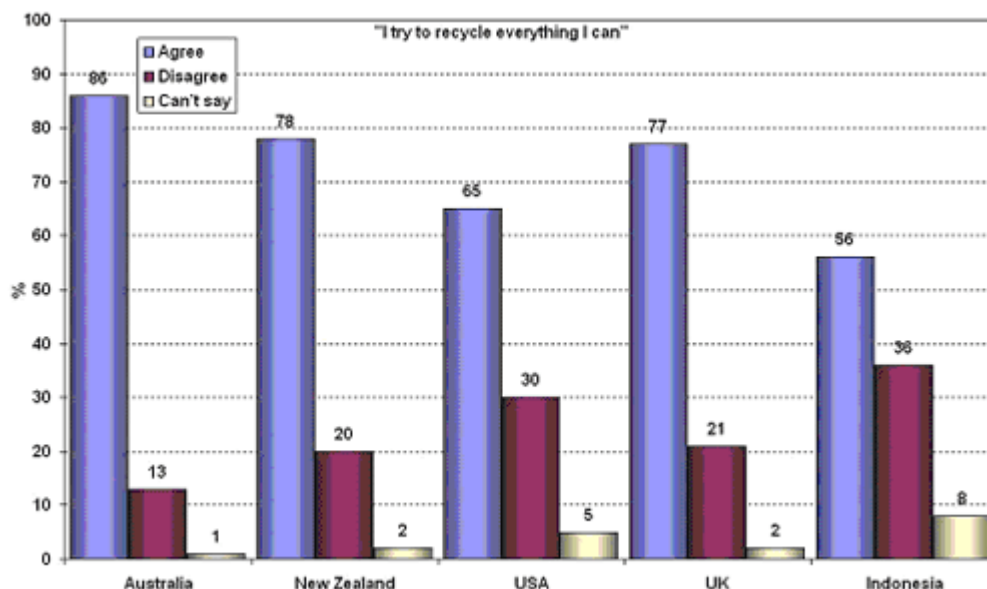
1300RUBBISH makes a concerted effort to recycle as much rubbish as possible to help the environment but also to keep spiraling tipping costs down.

This new initiative grew from the Company’s recognition that recycling requires change and an active effort and one key ingredient – knowledge of what can and can’t be recycled.

I RECYCLE’s first area of investigation is **Kerbside Recycling in Sydney**.

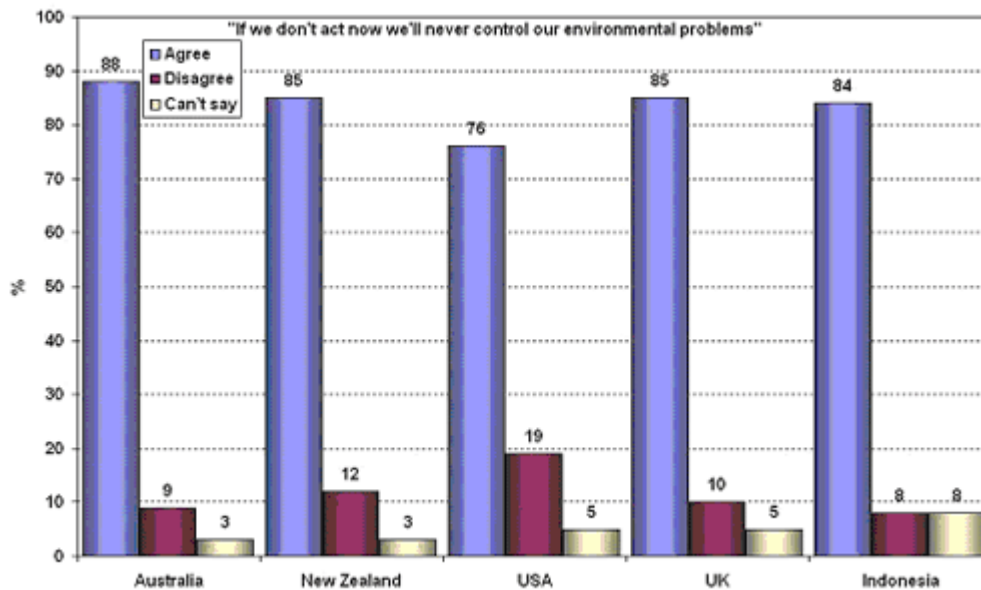
An overwhelming majority of Australians think recycling is very important for the environment but unfortunately with Sydneysiders recycling less than half of what they can recycle, most don’t know what can be recycled.

Roy Morgan Research <http://www.roymorgan.com> featured in The Australian, 4 May 2006 shows that Australians consider themselves very active recyclers. 86% of Australians agreed that, “I try to recycle everything I can”.





In the same Roy Morgan survey 88% of Australians agreed that, "If we don't act now we'll never control our environmental problems".



However, in 2005 a Roy Morgan Research Survey (<http://www.ecovoice.com.au>) commissioned by Planet Ark (www.planetark.com.au) found that 48% of Australians were confused about what they could recycle. As a result, people are sending recyclable resources into bins destined for landfill and non-recyclable material such as drinking glasses and plastic bags are wrongly being put into recycling bins, causing the C word, contamination.

Resource NSW (<http://www.resource.nsw.gov.au>) is targeting that 66% of municipal waste is recovered and reutilized in Sydney by 2014.

The latest figures from the NSW Department of Local Government (<http://www.dlg.nsw.gov.au>) show that 37% of Sydney household waste is recycled. If people recycled better this figure could go as high as 80% under the current Council Kerbside collection systems.

The good news is that progress has been made. In 1995 only 18% of household waste was recycled. For households, Kerbside collections are the front line so Councils deserve recognition for what they've achieved to date. However, the bad news is the World's resources are precious and limited and recycling levels have plateaued in recent years so now it's the time for the householder to assume greater responsibility for disposing of each piece of rubbish in the most sustainable way.

One of the contributors to householders inefficient recycling is the fact that every Council has their own unique set of **recycling guidelines**. **IRECYCLE**'s utopian aim was to develop a one-page waste and recycling tip sheet to which every Sydneysider could refer. Our conclusion was that a one-page reference was not feasible due to the high number of Kerbside recycling differences so we settled on a one-page reference for each Council. The **IRECYCLE** tips for your Council can be found [here](#).

We all should see our recyclables as a renewable source of raw materials where everyone can make a difference and choose to contribute to our world's resources.

Next time you dispose of rubbish, ask yourself - what can **IRECYCLE**?



I RECYCLE RESEARCH METHODOLOGY:

A GUIDE TO SYDNEY KERBSIDE RECYCLING

- Single Dwellings

STEP 1: INFORMATION SEARCH

Determine the current **similarities** and **differences** in recycling practices for the sample of 43 Greater Sydney Councils. Planet Ark (<http://www.recyclingnearyou.com.au>), which has a recycling search tool for Councils Australia-wide, was used as a central reference.

Our Search Engine research information search led us to the NSW Department of Local Government (<http://www.dlg.nsw.gov.au>), which publishes data on the amount of waste and the recovery rates of recyclables for each Council.

STEP 2: VERIFICATION

All Councils were contacted directly to seek confirmation of the accuracy of Planet Ark's data. Initially Councils were emailed and those Councils who did not reply were followed-up.

STEP 3: ONGOING RESEARCH

Recycling is a dynamic, highly innovative area in a relatively immature life cycle phase. Major drivers to this change include Government legislation and commercially viable recycling technologies. **I RECYCLE** researchers will endeavour to report changes as information becomes public knowledge and Council practice.



I RECYCLE RESEARCH FINDINGS

COUNCILS HAVE THEIR OWN RECYCLING RULES

There is no standardised Kerbside recycling system across Sydney Councils at this stage. Numerous differences are noted in Table 1.

TABLE 1: Kerbside Recycling by Sydney Council

Category	Category detail	Amey	Ashfield	Bayside	Berrima	Bushy Park	Camden	Canterbury	Castlereagh	Cumberland	Georges	Hornsby	Kangaroo	Knocklyon	Leichhardt	Liverpool	Maitland	Manly	Marrickville	Merriam	Merryland	Mosman	North Sydney	North West	Parramatta	Peterborough	Penrith	Rockdale	Shoeburynah	Sydney	Tamworth	Wentworth	Wollstonecraft	% Councils Allow
Glass	Brown & Green glass only (remove lids)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Glass	Household wine & beer bottles Glass, Light Green, Drinking Glass, White & Frosted Glass, Pizza Glass	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Cardboard or paper	Newspapers, Magazines, Office Paper, Phone books, Soft covers (with or without staples)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Cardboard or paper	Food Boxes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Cardboard or paper	Flap Top Paperboard	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Cardboard or paper	Flap Top Paperboard	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Cardboard or paper	Remove lids	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Cardboard or paper	Remove lids	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black & Aluminium	Remove lids	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black & Aluminium	Remove lids	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black & Aluminium	Remove lids	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black	Black & W	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black	Black & W	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black	Black & W	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black	Black & W	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black	Black & W	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black	Black & W	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Black	Black & W	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100	
Green waste	Household Rubbish, including soft collection	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
Green waste	Green Waste Collection Bag	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
Green waste	Household Rubbish, including soft collection	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
Green waste	Household Rubbish, including soft collection	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
Green waste	Household Rubbish, including soft collection	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
Green waste	Household Rubbish, including soft collection	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100
Green waste	Household Rubbish, including soft collection	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	100

Source: Planet Ark; Sydney Councils

Why the difference in Recycling collection systems?

There are many different factors considered with Kerbside recycling systems such as economics, population density, geographic location, local infrastructure and end markets available as well as the recycling contractors servicing the area.

For example, low populations might mean certain materials cannot be recovered to the volumes required for recycling in an area while locations far away for end markets might mean transport costs are too high for some Councils to consider.

Kerbside recycling is also a relatively new industry, only evolving into its current system in the last 20 years as community awareness has grown. Parts of the system are unsynchronized and incomplete which is another reason why we currently have so many different systems.

Source: <http://www.ecorecycle.sustainability.vic.gov.au>



Where do the Recyclable Materials end up?

Recyclables are taken to a Materials Recycling Facility (MRF). This is where the load is sorted into different materials and baled for transport to recycling companies such as Visy, Australian Paper, BlueScope Steel and Coca-Cola Amatil who want to purchase these raw materials for reprocessing into new products.

Source: <http://www.abc.net.au/science/features/recyclingreality/default.htm>

CONSISTENCIES ACROSS ALL COUNCILS

All Sydney Councils recycle the following items:

- Clear, brown and green glass bottles and jars (NOTE: remove all lids and no white glass)
 - Cardboard and Egg Cartons, Newspapers, Magazines, Office Paper, Phone books, Envelopes (windows OK)
 - Steel and Aluminium Cans
 - Plastic #1
 - Plastic #2
-



WHAT CAN I RECYCLE?

Materials that can be recycled fall into 4 broad categories:

- Glass: clear, brown or green glass only
- Plastic bottles and containers with numbers
- Paper and cardboard based products
- Steel and aluminium

Organic materials are compostable and can be diverted from landfill by introducing a compost bin or **worm farm system**.

PLASTICS

Plastic Bottles and Containers are numbered 1-7, with each number indicating the plastic resin from which the bottle is made. Other items such as foam, meat trays and some plastic bags may also be marked with these symbols although they are not accepted in kerbside collections.

The recycling symbol around each number is there for sorting purposes and does not represent whether the item can be recycled.



Source: <http://www.packaginggraphics.net/plastic-recycle-logos.htm>

Plastic Bags are NOT RECYCLABLE even if they have a numbered symbol!

For now at least it's best to accept that plastic bags are **NOT RECYCLABLE**. They have been identified as the main contaminant in Kerbside recycling.

Plastic meat trays and foam are also **NOT RECYCLABLE** even if they have a number.

Plastic Bottles and Containers numbers are up

There is a trend towards Councils recycling more types of plastic bottles and containers. Almost half the Councils (19 out of 43) now recycle all 7 plastics versus just 12 Councils last year. A further 7 Councils have increased the plastics numbers they recycle since last year (see Table 2).

Bottle and Jar Lids to be REMOVED

Lids of Plastic Bottles and Containers must be removed and placed in the general garbage bin. Lids cannot be Recycled because they are too small.



TABLE 2: Changes to Plastic Bottle and Container Recycling within past 12 months by Sydney Council

Plastic Type:	#1	#2	#3	#4	#5	#6	#7
Ashfield	R	R	R	R	R	R	R
Auburn	R	R	R	R	R	R	R
Bankstown	R	R	NR	NR	NR	NR	NR
Baulkham Hills	R	R	R	R	R	R	R
Blacktown	R	R	R	R	R	R	R
Blue Mountains	R	R	R	NR	R	NR	NR
Botany Bay	R	R	R	R	R	NR	NR
Burwood	R	R	NR	NR	NR	NR	NR
Camden	R	R	NR	NR	R	NR	NR
Campbelltown	R	R	R	R	R	R	R
Canada	R	R	R	R	R	R	R
Canterbury	R	R	R	R	R	NR	NR
Fairfield	R	R	R	NR	R	NR	NR
Gosford	R	R	R	NR	R	NR	NR
Hawkesbury	R	R	R	R	R	R	R
Holroyd	R	R	R	NR	R	NR	NR
Hornsby	R	R	R	R	R	R	R
Hunters Hill	R	R	R	NR	NR	NR	NR
Hurstville	R	R	R	R	R	R	R
Kogarah	R	R	R	R	R	R	R
Ku-ring-gai	R	R	R	R	R	R	NR
Lane Cove	R	R	NR	NR	NR	NR	NR
Leichhardt	R	R	R	R	R	R	R
Liverpool	R	R	R	NR	NR	NR	NR
Manly	R	R	R	R	R	NR	NR
Marrickville	R	R	R	R	R	R	R
Mosman	R	R	NR	NR	NR	NR	NR
North Sydney	R	R	R	NR	NR	NR	NR
Parramatta	R	R	R	NR	NR	NR	NR
Penrith	R	R	R	R	R	R	R
Pittwater	R	R	R	R	R	R	R
Randwick	R	R	R	R	R	R	R
Rockdale	R	R	R	R	R	R	R
Ryde	R	R	R	R	R	R	R
Strathfield	R	R	R	R	R	R	R
Sutherland	R	R	R	NR	R	NR	NR
Sydney	R	R	R	NR	NR	NR	NR
Warringah	R	R	R	R	R	NR	NR
Waverley	R	R	R	R	R	R	R
Willoughby	R	R	R	NR	R	NR	NR
Wollondilly	R	R	R	R	R	R	R
Woollahra	R	R	R	R	R	NR	NR
Wyong	R	R	R	NR	R	NR	NR

NOTE: R = Recyclable (gold colour indicates only recyclable within past 12 months); NR = Not Recyclable. Sources: Planet Ark; Sydney Councils



PAPER AND CARDBOARD

Paper and Cardboard recycling is high but there are three qualifications

All Councils recycle paper and cardboard but there are differences relating to recycling practices for Pizza Boxes and Shredded Paper.

1. Pizza Boxes with food waste cause contamination

As food waste in Pizza Boxes can contaminate an entire load of cardboard, some Sydney Councils recommend removing the lid of the Pizza Box for cardboard recycling and disposing of the base separately, preferably in the compost or green waste bin.

Parramatta, Warringah and Woollahra Councils currently do not even recycle Clean Pizza Boxes due to fears of food contamination. Warringah Council advises residents to place dirty pizza boxes in either the green waste bin or in the compost and Parramatta Council will be considering the issue of pizza boxes this Winter when a new waste contract is tendered. Visy have indicated they will accept greased pizza boxes, just scrap away food remains.

2. Shredded Paper can fly-away unless contained in a recyclable package

Most Councils advised they will accept shredded paper for recycling, provided the paper is contained – either within the “wheelie” bin or within a recyclable container – to prevent fly-aways, particularly in Council areas with crate collection systems.

However some councils do not recycle shredded paper as fly-always are possible at the drop off end when trucks are unloading paper and also the truck mechanics can be clogged by smaller strips of paper.

3. Phone Books can confuse the recycling robots due to their weight.

Phone books are recycled into kitty litter! Some advice one Council recommended was splitting apart phone books into smaller portions as the weight of large phone books can confuse the sensors at sorting yards.

NOTE: Envelopes with windows and stapled paper are OK to recycle in all Councils

TETRA

Tetra Packs, Milk and Juice Cartons (liquid-paperboard) bin type varies

Take note of which bin your Tetra Packs are placed with (see Table 3). Of those Councils noted that do not use commingled bin systems, 8 Councils recycle with paper products and 12 with mixed recyclables. Wyong Council appears to be the only Council that does not recycle tetra material.



TABLE 3: Tetra Recycling by Sydney Council bin system

Council	Recycle Bin Type	Where Tetra belongs
Ashfield	Comingled	comingled
Auburn	Comingled	comingled
Bankstown	Comingled	comingled
Baulkham Hills	Comingled	comingled
Blacktown	Comingled	comingled
Blue Mountains	Crates - paper & mixed	with paper
Botany Bay	Split Bin	with plastics
Burwood	Comingled	comingled
Camden	Split Bin	with plastics
Campbelltown	Split Bin	with plastics
Canada	Comingled	comingled
Canterbury	Comingled	comingled
Fairfield	Split Bin	with plastics
Gosford	Comingled	comingled
Hawkesbury	Comingled	comingled
Holroyd	Split Bin	with plastics
Hornsby	Comingled	comingled
Hunters Hill	MGBs - paper & mixed	with plastics
Hurstville	Comingled	comingled
Kogarah	Comingled	comingled
Ku-ring-gai	MGBs - paper & mixed	with paper
Lane Cove	MGBs - paper & mixed	with paper
Leichhardt	MGB's & Crates	with paper
Liverpool	Crates - paper & mixed	with plastics (no silver lining)
Manly	MGBs - paper & mixed	with plastics
Marrickville	Comingled	comingled
Mosman	MGB's & Crates	with plastics
North Sydney	Crates - paper & mixed	with paper
Parramatta	Comingled	comingled
Penrith	Split Bin	with plastics
Pittwater	Crates - paper & mixed	with plastics
Randwick	Split Bin	with paper
Rockdale	Comingled	comingled
Ryde	Split Bin	with plastics (no silver lining)
Strathfield	Comingled	comingled
Sutherland	Comingled	comingled
Sydney	Crates - paper & mixed	with plastics
Warringah	MGBs - paper & mixed	with plastics
Waverley	MGBs - paper & mixed	with paper
Willoughby	Comingled	comingled
Woollahra	Crates - paper & mixed	with paper
Wollondilly	Comingled	comingled
Wyong	Split Bin	no tetra containers

Source: Sydney Councils



MISCELLANEOUS RECYCLABLE ITEMS

Aerosol Cans feared to explode in the Mountains

Blue Mountains are the only Council which currently does not recycle aerosol cans. This is a safety issue as they collect recyclables in crates and these are manually handled.

Food waste on Foil can cause contamination

9 Councils do not recycle foil due to contamination by food waste.

Pots can cause contamination

7 Councils do not recycle pots because they can contain metals and materials other than 100% steel or aluminium which can cause contamination during the melting process.

Medical Waste is a real danger

Did you know that Material Recycling Facilities MRF's involve manual sorting as part of the separation processes of different materials? Syringes pose one of the greatest risks to the staff at MRF's and should be disposed of thoughtfully through programs like the pharmacy take back schemes. Ask your local doctor or pharmacist if you are in doubt.

GREEN WASTE

Green Waste collections are increasing

Table 4 reveals that 24 Councils supply green waste Mobile Garbage Bins (MGBs) to residents on standard or optional basis (a fee incurred for optional usage). Botany and Woollahra Councils offer weekly collections while 23 other Councils offer a fortnightly or monthly collection. 6 Councils offer a call up booking collection service while 5 Councils collect as part of bi-annual/ tri-annual household bulk rubbish collection days with no specific green waste service provided. Blue Mountains offer a scheduled Kerbside chipping service bi-annually.

TABLE 4: Green Waste Collection by Sydney Council

Council	Bin Colour	Green collection
Ashfield	MGB green lid	fortnightly
Auburn	MGB green lid	fortnightly
Bankstown	MGB green lid	fortnightly
Baulkham Hills	no bin - bundle	biannual collection
Blacktown	no bin - bundle	booked collection
Blue Mountains	no bin - bundle	biannual collection
Botany Bay	MGB green lid	weekly
Burwood	no bin - bundle	booked collection
Camden	MGB brown lid	fortnightly
Campbelltown	MGB green lid	fortnightly
Canada	MGB green lid	fortnightly
Canterbury	MGB green lid	fortnightly
Fairfield	no bin - bundle	biannual or booked collection
Gosford	MGB green lid	fortnightly



Hawkesbury	no service	no service
Holroyd	no bin - bundle	biannual or depot drop off (Sundays)
Hornsby	MGB green lid	fortnightly
Hunters Hill	no bin - bundle	bimonthly
Hurstville	MGB green lid	fortnightly
Kogarah	MGB green lid	fortnightly
Ku-ring-gai	MGB green lid	fortnightly
Lane Cove	MGB green lid	monthly
Leichhardt	MGB green lid	fortnightly
Liverpool	no bin - bundle	booked collection
Manly	no bin - bundle	monthly
Mosman	MGB green lid	monthly
Marrickville	MGB green lid	fortnightly
North Sydney	no bin - bundle	booked collection
Parramatta	MGB green lid	fortnightly
Penrith	no bin - bundle	biannual chipping service
Pittwater	MGB green lid	8 collections annually
Randwick	no bin - bundle	fortnightly
Rockdale	no bin - bundle	triannual collection
Ryde	no bin - bundle	booked collection
Strathfield	MGB green lid	fortnightly
Sutherland	Round black lid	fortnightly
Sydney	no bin - bundle	booked collection
Warringah	MGB green lid/ bundle	monthly
Waverley	no bin - bundle	fortnightly
Willoughby	MGB green/ maroon lid	weekly
Woollahra	MGB green lid or Crate	weekly
Wollondilly	MGB green lid	fortnightly
Wyong	MGB aqua lid	fortnightly

Source: Sydney Councils

RECENT COUNCIL INNOVATIONS

Woollahra Council is trialling a food scraps collection service

3,300 households in Vaucluse and Watsons Bay will be part of a two year trial, which, if successful, could be expanded across the entire Woollahra Council area. The residents will be asked to put all organic material – fish and fowl, fruit and vegetable, meat and dairy products from the kitchen, along with paper towel waste and tissues and all green waste – into their



garden waste bin for kerbside collection. The bin will be collected weekly by a recycling firm that makes organic fertiliser (*Source: Wentworth Courier, Apr 2006*).

Bankstown and Fairfield Councils have gone alternative with UR-3R Process

Whilst Bankstown and Fairfield Councils still have recycling systems, they are the most new age Councils when it comes to rubbish, which is processed at the special Alternative Waste Treatment facility at Eastern Creek, operating under the Patented **UR-3R Process** (see Figure 1). This facility sorts any recyclables incorrectly placed in the garbage bin, processes all food and garden components of the garbage into compost and generates green electricity by capturing greenhouse gas and using it as fuel.

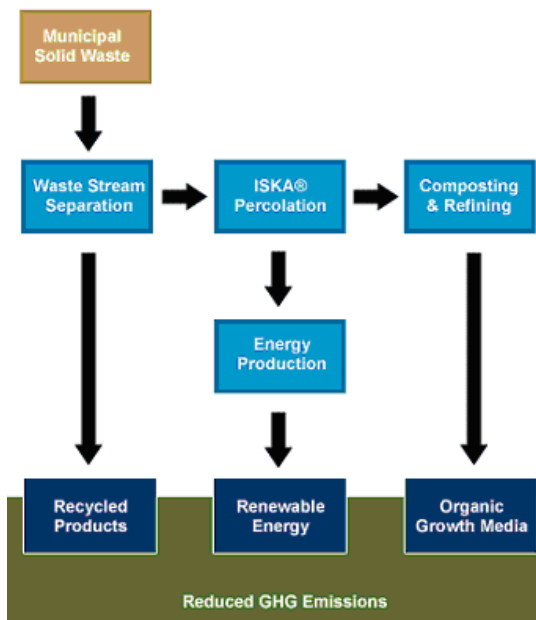
Fairfield and Bankstown Council do not offer a green bin service and all grass cuttings and garden prunings can be placed in the normal garbage bin.

The Eastern Creek facility even manages to salvage 95% of plastic bags in the waste stream. The plastic bags are ripped apart and picked up with wind sifting technology as part of the process. The plastics bags are bailed together and sold as raw material for plastics manufacturers.

FIGURE 1: GLOBAL RENEWABLES UR-3R Process[®] Description

Global Renewables has integrated a suite of the world's best commercially proven resource recovery technologies to create the Urban Resource - Reduction, Recovery and Recycling (UR-3R) Process[®].

UR-3R Process[®]



Source: <http://www.globalrenewables.com.au/en/ur3r-process/description/>



WASTE GOING TO LANDFILL / COMPOSTING AND WORM FARMS

Australia produces more municipal waste per person than any other country outside the USA.

Recycled and composted material should account for more by volume than general waste. On average the Australian household waste consists of:

- 40-50% compostable materials
- 30-40% recyclable materials
- 20% putrescible waste destined for your garbage bin

The figures reported in a *NSW Department of Local Government* Publication show that 63% of household waste goes to landfill – nowhere near reaching the 20% target set by Resource NSW – and the volume of waste per person is increasing.

(Source: <http://www.dlg.nsw.gov.au/dlg/dlghome/documents/comparatives/0304data.xls>)

Adopting a simple Compost system or worm farm for organic materials can halve the waste going to landfill which helps reduce landfill size and methane gas emissions that are produced by the waste at landfills. Organic waste is a valuable resource if managed correctly, be that through commercial compost operations or in the individuals backyard.

A selection of compost bins and worm farms designed for backyards, unit balconies or indoor use can be purchased through www.greentech.com.au and www.bokashi.com.au and some Council websites. Alternatively, most Councils offer information or free seminars to the public on how to compost or worm farm with some Councils also selling systems to residents.

Landfill is a dirty word so Councils and recycling Companies are constantly looking for new technologies for recycling of putrescible waste into energy, compost and other renewal materials.

There are signs we are heading in the right direction but there's still a long way to go to achieve optimum recycling rates. In 2003 the *NSW Department of Environment and Conservation* (Source: http://www.resource.nsw.gov.au/data/strategy/summary_v2.pdf) found there was a 7% reduction in the total amount of waste disposed in the Sydney region since 2000 with the single largest factor being lower volumes of commercial and industrial waste. This report also stated that Sydney Municipal Kerbside recycling performance had improved with 92kg being set aside for recycling (excluding garden organics) compared with 84kg in 2000 and 30kg in 1991. Garden organics recovered increased to 50% in 2003 versus 40% in 1998.

RECYCLING RATES FOR SYDNEY COUNCILS

Table 5 summarises recycling rates across Sydney's councils. Please note the data includes green waste and does not take into consideration those Councils recycling at alternative waste facilities for their non-recyclables

On average in 2004, Sydneysiders recycled 37% waste compared to 27% in 1999 and 18% in 1995. Some Councils have experienced enormous growth in recycling rates. For example Campbelltown Council increased from 7% in 1995 to 48% in 2004.



TABLE 5: Recycling Rates by Sydney Council

% of Waste Recycled by Council	2003/04	1998/99	1994/95
Ku-ring-gai Council	59%	29%	25%
Warringah Council	54%	47%	41%
Gosford City Council	54%	16%	13%
Hawkesbury City Council	54%	42%	16%
Manly Council	53%	55%	41%
Sutherland Shire Council	50%	29%	18%
Hornsby, The Council of the Shire of	50%	22%	17%
Willoughby City Council	50%	44%	19%
Camden Council	48%	31%	14%
Campbelltown City Council	48%	43%	7%
Lane Cove Municipal Council	46%	45%	37%
North Sydney Council	46%	40%	37%
Bankstown City Council	45%	12%	10%
Mosman Municipal Council	45%	46%	27%
Woollahra Municipal Council	44%	31%	22%
Pittwater Council	44%	37%	32%
Leichhardt Municipal Council	44%	35%	22%
Kogarah Municipal Council	43%	18%	21%
Hurstville City Council	43%	19%	18%
Blue Mountains City Council	42%	16%	9%
Wyong Shire Council	41%	39%	8%
Rockdale City Council	37%	26%	17%
Canada Bay City Council	36%		
Randwick City Council	36%	24%	23%
Marrickville Council	36%	17%	13%
Burwood Council	36%	37%	24%
Parramatta City Council	35%	23%	13%
Hunters Hill, The Council of the Municipality of	34%	35%	25%
Waverley Council	30%	30%	21%
Ashfield, The Council of the Municipality of	30%	25%	15%
Canterbury City Council	30%	12%	13%
Botany Bay, The Council of the City of	27%	15%	15%
Baulkham Hills, The Council of the Shire of	23%	22%	14%
Ryde City Council	22%	20%	11%
Auburn Council	22%	8%	8%
Sydney, The City of	22%	14%	18%



Blacktown City Council	21%	14%	11%
Wollondilly Shire Council	20%	25%	7%
Strathfield Municipal Council	20%	15%	18%
Penrith City Council	19%	19%	13%
Holroyd City Council	19%	18%	11%
Liverpool City Council	16%	11%	12%
Fairfield City Council	12%	17%	9%
TOTAL SYDNEY	37%	27%	18%

Source: NSW Department of Local Government

<http://www.dlg.nsw.gov.au/dlg/dlghome/documents/comparatives/0304data.xls>

RECYCLING TIPS

Simple recycling tips to follow. Fight the WARR on Waste!

- To become a Best Practice Recycler ideally you'll need a three bin system in your kitchen. One for **COMPOST**. Another for **RECYCLABLES**. The final one for **WASTE**. Plastic bags are ideal for waste but not compost or recyclables.
- Go to www.IRECYCLE.com.au. Enter your local Councils name and print out your simple one page recycling guide. Unfortunately you can't search by suburb or postcode because 12% of suburbs are controlled by more than one Council. Once again proving it's not a perfect World – yet. Stick the tips on your fridge and follow them for each waste item you encounter. It only takes a couple of seconds until you learn the rules but it makes a difference.
- A greater variety of plastic bottles and containers are being recycled by more Councils. Check the container for a recycling symbol with a number in the middle. Compare this number with your **I RECYCLE** guide. Almost half of Sydney's Councils now collect numbers 1-7 with each number indicating the plastic resin from which the bottle is made.



- Clean out and rinse your containers to avoid contamination in the recycling process. So you don't waste water in the process use the dirty dish or bath water. Food waste = contamination = not recycled.
- Composting is at low levels but could really make a big reduction to the amount of unnecessary waste going to landfill as over 40% of all waste can be composted. Composting is suitable for non-citrus fruit and vegetable waste and grass clippings. Compost systems can be purchased at the **I RECYCLE** website or your local hardware store.



WHY RECYCLING AND REDUCING IS SO IMPORTANT

Recycling saves our precious and limited resources, extending the life cycle, rather than wasting resources forever to landfill. **By recycling our renewable resources we are saving our non-renewables.** Participation in recycling is extremely important for the preservation of our world.

A good example of the benefits of recycling, one tonne (1,000kgs) of recycled paper saves ...

- approx 13 trees
- 2.5 barrels of oil
- 4,100 KWH of electricity
- 4 cubic metres of landfill and
- 31,780 litres of water because recycled paper uses about 99% less water than is needed to produce white paper from wood chips

Source: Visy Industries http://www.visy.com.au/about/about_faqs.aspx

Waste should be viewed primarily as a resource to be utilised by current and future generations, rather than as material for which society has no further use. So when you dispose of rubbish, ask yourself what can **I Recycle?**

Scary Stats

- Prevention of waste or reduction of waste is even better than recycling! Just from their homes, each person in Sydney generates 400kg per person per year with 250kg of this going to landfill. That's a total of 1.7 billion kilograms per year being collected by your friendly local garbo!

(Source: www.dlg.nsw.gov.au)

- It is estimated that in 2000, almost 4.5 million tonnes of waste was disposed of in the Sydney Region to landfills. That's approximately 1,000kgs per year per person so Kerbside collection is only 40% of total waste per person.

(Source: Resource NSW Waste Avoidance and Resource Recovery Strategy 2003
<http://www.resource.nsw.gov.au/data/strategy/Strategy%202003%20web.pdf>)

- The NSW recycling rate of newspaper is 77% which is the Worlds best recovery rate but not so good when it comes to plastics and other recyclable materials such as glass, plastic, aluminium and steel.

(Source: Resource NSW Monitoring Progress in Waste Avoidance and Resource Recovery in NSW http://www.resource.nsw.gov.au/data/strategy/summary_v2.pdf)

- 20 million Australians use an estimated 6 billion plastic check out bags every year. That is nearly 1 plastic bag per person per day or 300 bags per person per year. Less than 3% of plastic bags are currently being recycled.

(Source: www.deh.gov.au/settlements/publications/waste/plastic-bags/planet-ark/reducing.html)



- At least 80 million plastic bags end up as litter on our beaches, streets and parks each year.

(Source: Planet Ark <http://www.arrowcomputers.com.au/planetark.php>)

- When one tonne of organic waste is diverted from landfill, nearly a third of a tonne of greenhouse gas emissions is saved.

(Source: www.acfonline.org.au/news.asp?news_id=154)

- Green waste combined with general rubbish produces methane gas at landfill sites. Methane is 23 times more potent than carbon dioxide as a greenhouse gas.

(Source: www.acfonline.org.au/news.asp?news_id=154)

- A small piece of non-reusable glass the size of a 20 cent piece from light bulbs, wine glasses, ceramic plates, mirrors or window glass incorrectly placed in your recycling bin can result in contaminating over one tonne (1,000kgs) of glass

(Source: <http://www.abc.net.au/science/features/recyclingreality/default.htm>)

- According to research from the *Paper Recycling Action Group of Australia*, 9 out of every ten sheets of office paper are thrown away. This creates the ridiculous situation of recycled toilet paper manufacturers having to import used white paper!
- Packaging used by people in public places represents more than 80% of the items collected on Clean Up Australia Day. In 2004, paper and cardboard items accounted for nearly 13% of the rubbish collected, plastic 37%, glass 12% and cans 13%

(Source: <http://www.abc.net.au/science/features/recyclingreality/default.htm>)

- Indeed around half of all our beverage containers - bottles and cans - are used and then tossed at food premises, shopping centres and entertainment and sporting venues where there are limited recycling services, no incentives to recycle and not much information on how to recycle.

(Source: <http://www.abc.net.au/science/features/recyclingreality/default.htm>)

- 33% of containers are recovered in NSW for recycling compared with 88-90% of containers recovered in SA where Container Deposit Legislation is in place. The review of Container Deposit Legislation in NSW found that a deposit-refund system would be likely to enhance Kerbside recycling in terms of improved financial performance rather than act as a hindrance.

(Source: www.abc.net.au/7.30/content/2005/s1287472.htm)

(Source: UTS Beyond Recycling. An Intergrated Waste Manaagement Framework for Local Government)



REDUCING CONSUMPTION OF RESOURCES

- A no junk mail sticker on your mail box saves 1,000 pieces of junk mail each year! Australians on average receive 8.2 billion unaddressed flyers, leaflets and catalogues in their letterboxes every year. Give no junk mail stickers to your friends too. (Source: www.acfonline.org.au/news.asp?news_id=154)
 - Addressed junk mail is also a waste problem but you can stop it by using the Australian Direct Marketing Association's Do Not Contact Service Register at <http://www.adma.com.au/asp/index.asp?pqid=1999>
 - AVOID consuming non-recyclable materials and help break the cycle between waste generation and economic growth:
 - Buy only quality, long lasting necessities and avoid disposables. Always ask yourself, "**DO I REALLY NEED THIS?**"
 - Avoid unnecessary packaging and opt for recyclable packaging if possible.
 - Bring your own calico bags shopping and refuse plastic bags for single items like milk
 - Set your printer to at least 2 pages and draft quality to save paper and maximise the life of the printer cartridge but remember to change the settings for presentations
 - Reuse office paper by printing on the blank side
 - Offices have a lower recycling rate than households because there a lot of offices have only one general waste bin. There are generally three waste stream in offices so you'll need 3 bins to start an office recycling system. Worm farms work well in office environments for managing food waste.
 1. paper
 2. recyclable packaging: plastic bottles and containers plus steel and aluminium tins
 3. food waste and non recyclable packaging
 - Buy 2nd hand products from ebay, freecycle or charity stores and offer hand-me-downs to family members and friends
 - Try to repair electrical goods rather than throwing them away
 - When you can, take packaging home for recycling instead of disposing of in general waste bins when you are out.
 - Always remember that **RECYCLING IS EXTREMELY IMPORTANT AND EVERYONE CAN MAKE A DIFFERENCE.**
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- Kilograms of Recycling and Waste per Person by Council (1994-2004)
 - Total Kilograms of Waste Collected by Council (1994-2004)
 - Total Kilograms of Recycling Collected by Council (1994-2004)
 - Waste as Percentage of Kerbside Collections by Council (1994-2004)
 - Recycling as Percentage of Kerbside Collections by Council (1994-2004)
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