

## Form B

Commonwealth of Australia

*Trade Practices Act 1974 — Sub-section 88(1)*

FILE No:

DOC:

MARS/PRISM:

### AGREEMENTS AFFECTING COMPETITION: APPLICATION FOR AUTHORISATION

To the Australian Competition and Consumer Commission:

Application is hereby made under sub-section 88(1) of the *Trade Practices Act 1974* for an authorisation under that sub-section to make a contact or arrangement, or arrive at an understanding, a provision of which would have the purpose, or would have or might have the effect, of substantially lessening competition within the meaning of section 45 of that Act.

#### 1. (a) Name of Applicants

The following five councils are joint applicants:

The Council of Camden, of 37 John Street, Camden NSW 2570.

Campbelltown City Council, Corner of Queen and Broughton Streets, Campbelltown NSW 2560

Liverpool City Council, 1 Hoxton Park Road, Liverpool NSW 1871

Wollondilly Shire Council, 62-64 Menangle Street, Picton NSW 2571

Wingecarribee Shire Council, Elizabeth Street, Moss Vale NSW 2577

#### (b) Short description of business carried on by applicant

The applicants are all local councils as defined by the *Local Government Act (1993)* acting in accordance with the councils charter s(8). One of the service functions of councils is the provision, management or operation of waste removal, treatment and disposal services and facilities.

#### (c) Address in Australia for service of documents on the applicant

Resource NSW, Level 2, 1 Fitzwilliam Street, Parramatta NSW 2124, attention John Harley.

Please note that Resource NSW has recently become the Sustainable Program Division of the NSW Department of Environment and Conservation. All references to Resource NSW in this application and its attachments should now be read as being references to the Sustainable Program Division.

#### 2. (a) Brief description of contract, arrangement or understanding and, where already made, its date

It is proposed that the Councils will collaboratively tender for the services of qualified contractors, able to process, market or otherwise dispose of kerbside collected waste materials. The result of this tender process will be two (or if applicable three) contracts jointly signed by the Councils and the contractor. The contracts will be managed by a committee with representatives from each Council and a nominated chairperson.

Further details are contained in Attachment A.

#### (b) Names and addresses of other parties or proposed parties to contract, arrangement or understanding

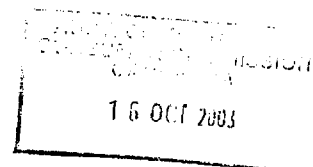
Only the applicants and the successful contractor will be party to the contract.

#### 3. Names and addresses (where known) of parties and other persons on whose behalf application is made

Not applicable

#### 4. (a) Grounds for grant of authorisation

See Attachment A.



(b) Facts and contentions relied upon in support of those grounds

See Attachment A.

5. This application for authorisation may be expressed to be made also in relation to other contracts, arrangements or understandings or proposed contracts, arrangements or understandings, that are or will be in similar terms to the above mentioned contract, arrangement or understanding.

(a) Is this application to be so expressed?

No.

(b) If so, the following information is to be furnished:

(i) the names of the parties to each other contract, arrangement or understanding

Not applicable.

(ii) the names of the parties to each other proposed contract, arrangement or understanding which names are known at the date of this application

Not applicable.

(See Direction 5 and Notice 2 on the back of this Form)

6. (a) Does this application deal with a matter relating to a joint venture (See section 4J of the *Trade Practices Act 1974*)

No.

(b) If so, are any other applications being made simultaneously with this application in relation to that joint venture

Not applicable.

(c) If so, by whom or on whose behalf are those other applications being made

Not applicable.

7. Name and address of person authorised by the applicant to provide additional information in relation to this application.....

Angus Johnston  
New Resource Solutions  
PO Box 221, Alexandria NSW 2015

Ph: (02) 9565 2788

Fax: (02) 8569 1004

Dated 13 October 2003, 19 Signed by/on behalf of the applicant

Angus Johnston  
.....  
(Signature)

Angus Johnston  
.....  
(Full Name)

Consultant to five Applicants  
.....  
(Description)

## **ATTACHMENT A**

### **TO APPLICATION FOR AUTHORISATION BY CAMDEN, CAMPBELLTOWN, LIVERPOOL, WOLLONDILLY AND WINGECARRIBEE COUNCILS UNDER SECTION 88(1) OF THE TRADE PRACTICES ACT 1974**

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## BACKGROUND TO APPLICATION

Camden, Campbelltown, Wollondilly and Wingecarribee were formerly constituent Councils of the Macarthur Waste Board, a statutory body under the now repealed *Waste Minimisation and Management Act (1995)*. Recognising the benefits of regional arrangements for processing and sale of Dry Recyclable Material (DRM), the Councils, with the assistance of the Board, called for expressions of interest in September 2001. Three apparently viable contractors responded, which resulted in councils resolving to call for tenders in March of 2002. This tender process was suspended in July 2002 in order to resolve the issue of anti-competitive behaviour under the *Trade Practices Act*.

During the same period the *Waste Avoidance and Resource Recovery Act (2001)* came into effect and the Boards were replaced by a new state wide agency, Resource NSW. One of Resource NSW's functions is to assist local communities enter into arrangements for regionally-based secondary resource recovery from waste. To this end Resource NSW supports regional arrangements for the recovery, processing and selling kerbside collected materials where appropriate.

Since July 2002 the four Councils of the Macarthur region have both reconsidered their approach to regional contracts and commenced discussions with Liverpool City Council, a Council bordering both the Campbelltown and Camden Local Government Areas (LGAs). The five Councils are now considering a collaborative tendering process for all kerbside collected waste material (excluding bulky wastes). The preparation and approval of an application for authorisation is seen by all Councils as an important prerequisite to proceeding with the collaborative tender process. Conditions arising from any authorisation will influence both the substance and form of the eventual contract.

The local government areas of Camden, Campbelltown, Liverpool, Wollondilly and Wingecarribee (the Councils) have a regional population of approximately 426,000 (refer to Table 1) and in the financial year 2002/2003 collected over 156,000 tonnes of waste material through kerbside collection services to rate payers (excluding bulky wastes).

**Table 1 Population by Local Government Area**

Local Government Area	Population
Camden	47198
Campbelltown	146736
Liverpool	154287
Wollondilly	37123
Wingecarribee	40840
Total	426184

## **PREVIOUS APPLICATIONS**

The Councils' application is made with reference to two previous Applications for Authorisation, one made by Resource NSW, on behalf of the Southern Sydney group of Councils, and one made by the Inner Sydney Group of Councils with the assistance of Resource NSW (authorization numbers A90861 (A30204) and A90856 (A30205) respectively). The ACCC determined that the proposed conduct of these two applicants 'is likely to result in a benefit to the public' and 'that benefit is sufficient to outweigh the detriment to the public constituted by any lessening of competition resulting from the proposed arrangements'. As a result the Commission granted authorisation for the applicants to proceed with their proposed conduct for a contract term of up to ten years.

The scope of the collaborative tendering process now proposed by the Councils is wider than described in the two applications mentioned above. In addition to tendering for the processing and marketing of DRM it is proposed that a separate but simultaneous tender be called for processing of both organic and residual waste. These additional waste material streams increase the size of the tender significantly as they represent a much larger quantity of material at a higher cost per tonne to process.

It is submitted that the Application for Authorisation being made by the Councils is, in terms of DRM portion of the material, substantially similar to those made by Resource NSW and the Inner Sydney Group of Councils. At the same time it is recognised that the wider scope of this application requires examination of the public benefit and competition implications of a collaborative tender for processing and marketing of the remaining material. As in previous applications of this nature the Councils seek authorisation for a contract term of 10 years and a collective tender process of at least nine months.

## **THE PROPOSED CONTRACTS**

The Councils wish to participate in a regional tender for the receipt, processing and sale of kerbside collected waste materials. It is intended that individual councils will continue to remain responsible for the collection and transportation of waste materials to the receiving facilities nominated during the tender process.

It is proposed that tenders be sought for two separate groups of materials: Dry Recyclable Material (DRM); and, all remaining kerbside collected waste materials, excluding bulky wastes. Tenders are to be advertised separately but simultaneously, recognising that at least two streams of waste material should be separated at source by residents. Depending on the submissions received, the Councils may enter into agreements with up to three different service providers.

The contractor(s) will be responsible for the processing and sale (or disposal) of the waste material delivered to their receiving facility. A representative from each of the Councils (notionally the Council Waste Manager) will deal with the Contractor on matters specific to the respective councils. A committee will work with the Contractor on contractual issues that apply to the entire region. Transfer from existing contracts will be phased to occur as existing arrangements permit.

Tenders will be assessed based on price and the reported performance (in achieving the objectives of the tender) of the processing and marketing solutions offered. This approach allows the Councils to make key decisions when fully informed by the tenders submitted, rather than when preparing the tender documents. These decisions include:

- How should the materials be collected and streamed?
- Should the gate fee for accepting waste materials vary with level of contamination?
- If so, how should the level of contamination be measured?
- How many receiving points are required and where will they be located?
- What combination of processing technologies are most appropriate to the Councils needs?
- What products can or should be created from the waste materials collected by the Councils?

In the event that any Council chooses not to participate in the contract, the remaining Councils may seek a second round offer from the contractors based on those Councils which have agreed to accept the tender bid. In this event contractors will be able to either:

- offer a revised schedule of rates for services, or
- withdraw from the tender.

The aim is for the parties to agree that they will work together under this contract to achieve the greatest possible diversion of material from landfill by converting it into a viable resource input for the economy.

The objectives of the proposed regional arrangements are to ensure that:

- the principles of Ecologically Sustainable Development are applied;
- maximum avoidance, reduction and diversion of waste materials from landfill is achieved;
- the greatest quantity of recoverable material and/or energy is obtained from waste materials collected at kerbside;
- the material recovered is recycled or reused at their highest resource value;
- there is transparency of information relating to the gross and net through-puts of waste materials;
- overall transportation and materials handling efficiencies are improved (to provide improved long-term economic and environmental outcomes);
- reliable markets for recovered materials are supported and the Councils are not exposed to price variations in the market place during the contract period;
- residents are fully and regularly informed about how to source separate waste materials, what to source separate and the outcome of their resource recovery efforts;
- value for money is obtained.

It is likely that some of these objectives will need to be balanced against others when designing the optimum processing and marketing solution for kerbside collected waste materials.

## QUANTITY OF WASTE MATERIALS

Approximately 170,000 tonnes of waste material was generated within the five Council LGA's during the financial year 2002/2003.. The quantity of paper and cardboard collected in Wingecaribee was derived from waste composition data and total quantity of commingled DRM. All other quantities were measured directly using weighbridges.

**Table 2 Quantity of waste collected, by waste stream (tonne/yr)**

	DRM		Garden Organics	Residual Waste	Total
	Paper & Cardboard	Containers			
Camden	2861	2028	5079	10189	20157
Campbelltown	8109	5333	14073	29729	57244
Liverpool†	5106	3858		50034	58998
Wollondilly	1062	927		8146	17544
Wingecaribee	2161	1689		5209	16587
<b>Total</b>	<b>19299</b>	<b>13835</b>	<b>34089</b>	<b>103307</b>	<b>170530</b>

† Quantities are for the calendar year 2002. All data sourced from respective councils internal statistics.

## GARDEN ORGANICS

Liverpool, Wollondilly and Wingecaribee do not provide a kerbside collection service for garden organics at this time (shaded part of Table 2 refer to resident drop-off to council facilities), instead they direct residents to appropriate drop-off points. The two rural councils, Wollondilly and Wingecaribee, are unlikely to adopt a kerbside collection service for garden organics due to travel distances and resident satisfaction with current drop-off facilities. Liverpool will consider the introduction of a Mobile Garbage Bin (MGB) based kerbside garden organics collection under the proposed contract, particularly as a strategy to reduce residual waste generation. Since Liverpool does not operate waste management centres in its LGA, there is no data available on the quantity of garden organics generated by its residents.

## RESIDUAL WASTE

Residual waste generation rates typically depend upon a number of variables. Properties housing young families produce significantly more waste materials than those housing an old couple or housing that acts as a weekend holiday home. Conscientious recyclers will divert around 20% of material they generate to the recycling stream. Home composting and worm farming will also reduce waste generation at the kerbside. Finally the size and number of bins provided for waste disposal appears to make a large difference to waste generation. Smaller garbage bins tend to reduce the waste collected through kerbside collection. There is potential for this 'avoided waste' to either contaminate the recycling and garden organics bins or to be dumped illegally.

**Table 3 Average residual waste generation rates, by council**

	Services	Residual Waste t/yr	Waste Generation t/hh/yr
Camden	14,123	10189	0.72
Campbelltown	51,013	29729	0.58
Liverpool	52,338	50034	0.96
Wollondilly	12,861	8146	0.63
Wingecaribee	15,000	5209	0.35
<b>Total</b>	<b>145,835</b>	<b>103307</b>	<b>0.71</b>



All data sourced from respective councils' internal statistics

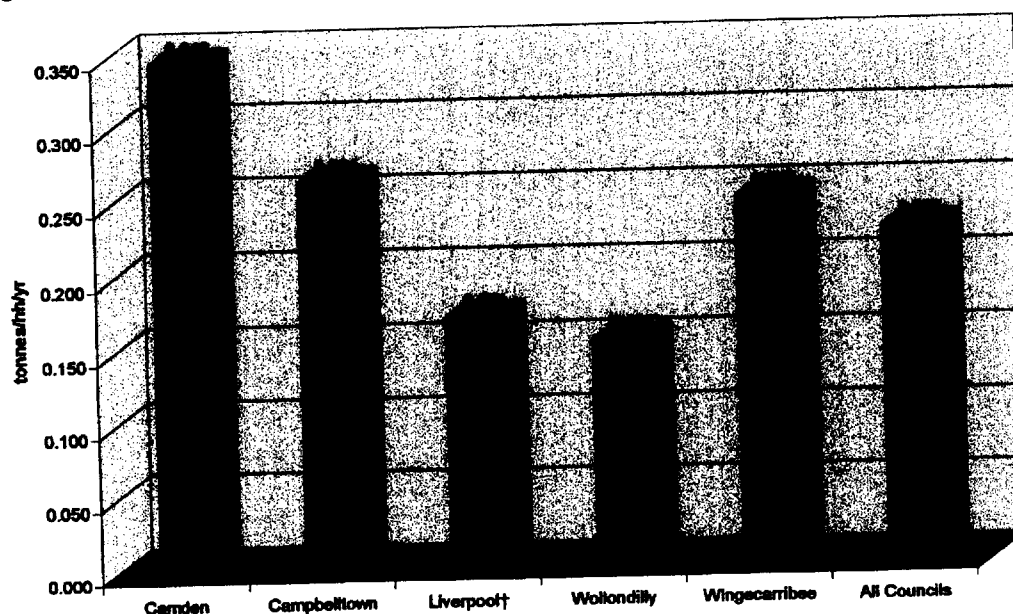
While the average residual waste generation is around 0.7 tonnes/household/year, Liverpool has an unusually high waste generation rate and Wingecarribee has achieved an unusually low rate. Wingecarribee has had a small garbage bin for many years and a low presentation rate due to absent landlords and an older population. In contrast Liverpool has a young growing population with a large MGB (240 litres) and no garden organics collection service.

Liverpool, Campbelltown and Camden Councils contain higher proportions of urban housing development, while Wollondilly and Wingecarribee are essentially rural areas with villages and small towns. The Councils are experiencing growing populations as Sydney expands into the south and west. In particular Camden and Liverpool have been identified for further housing development by the State Government, thus increasing the overall quantity of domestic waste that they will produce.

### DRY RECYCLABLE MATERIAL

The residents of Camden LGA are the most successful recycler in terms of quantity of materials recycled per capita at 0.346 tonne/hh/yr (2002/2003). The yield (recyclables per person) generally increases the longer a collection system is in place. Established automated collection systems based on the 240 litre MGB are known to produce in the order of 104 kg/c/yr or about 0.3 tonne/hh/yr. If each of the five councils were to achieve such a recycling rate a total of 44,140 tonne/yr of DRM would require processing and sale based on 2002/2003 population estimates.

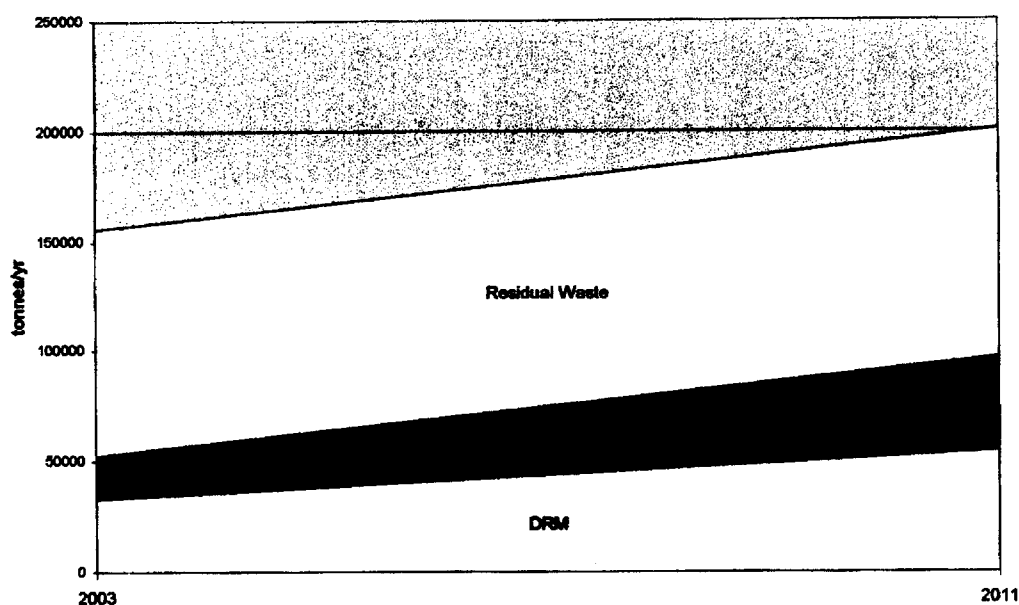
Figure 1 Dry Recyclable Material Yield, by council (tonnes/hh/yr)



Source: The respective councils' internal statistics

It is likely that population in the applicants' LGA will increase and the pattern of waste generation will change over the duration of the contract. Figure 2 illustrates the likely waste generation trend. While the overall waste generated will increase in line with population growth, further materials will be diverted to the DRM and garden organics stream. Under this model there remains considerable opportunity to divert around 60% of the residual waste through recovery of other organic waste (mainly food waste) either through an Alternative Waste Technology (AWT) or increased source separation of organics.

**Figure 2 Projected Growth in kerbside collected material, by waste stream (tonne/yr)**



Source: The council's internal statistic and NSW Department of Planning, Infrastructure and Natural Resource Management.

The following assumptions were made in the preparation of this chart:

- Population growth estimates published by state government are realised;
- DRM diversion is maximized at 104 kg/capita/yr by all councils;
- Garden organics are diverted in Camden, Campbelltown and Liverpool at similar rates to those currently experienced by Camden and Campbelltown (100 kg/c/yr);
- Garden organics will not be collected at kerbside by Wingecarribee and Wollondilly Councils; and
- Residual waste generation will be an average 200 kg/capita/yr (0.6 tonne/hh/yr) across the five LGA.

## TYPE OF WASTE MATERIALS TO BE RECOVERED AND DISPOSED

There are up to three streams of material collected separately from the kerbside on a weekly or fortnightly basis. They are:

1. Dry Recyclable Material (DRM);
2. Organic waste (mainly plant material from gardens); and
3. Residual waste.

This section details the types of material within each material stream.

### DRY RECYCLABLE MATERIAL

The Councils collect DRM in two streams, usually fibres (paper & cardboard) and containers. To reduce glass breakage and increase the value of the recovered resource, Wingecaribee collects its glass in crates (sorting it by colour at the kerbside) and collects all other DRM in a MGB. The current industry trend is toward a fully commingled DRM collection (one stream collected in one MGB at the kerbside), however the decision to implement a full commingled collection system will take into consideration the processing and marketing solutions offered.

**Table 4 Dry recyclable material, by type**

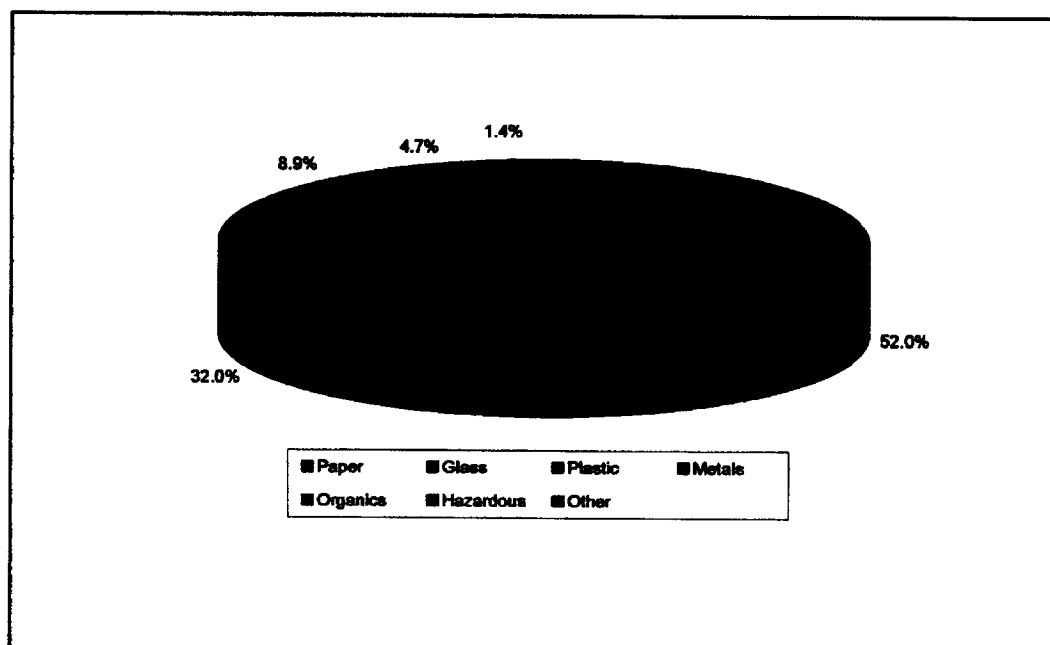
Paper Products:	Newsprint, cardboard, other paper generated by households (telephone books, all cardboard boxes, white paper etc.). Paper products are sorted into three streams: newspaper; cardboard; and mixed paper. Paper is transported to market in bales of 500kg to 750kg each.
Glass Products:	All glass bottles and jars such as beverage and other food containers of all colours and sizes. Window glass, light bulbs and other non-food containers are not collected. Glass is sorted, according to colour, into three streams described as amber, green and flint or clear glass. Other glass colours such as blue and red are mixed in with the three main colour streams in small quantities. Amber and green glass can be contaminated with up to 10% other glass while flint is limited to 1% contamination. Sorted glass is transported in bulk haul vehicles to market.
Metal Products:	Only food and beverage containers made of steel and aluminium are accepted. Metals are sorted into steel and aluminum streams
Plastic Products:	All plastic food and beverage containers and other containers (for example oil, shampoo and laundry products) of polymer types 1,2,3 and 5 are collected at present. Polymers 4,6 and 7 are not supported by market demand and are not currently collected. Plastics are sorted according to polymer type, baled and transported to market in bales. PET and HDPE containers are sorted into clear and coloured streams and baled accordingly.
Composite Products:	The other form of packaging material collected in kerbside recycling

	<p>programs is called 'liquid-paper-board' (LPB). These containers are mainly gable topped milk and juice cartons that consist of cardboard with a polyethylene lining, or aseptic containers (tetra paks) made of aluminium, cardboard and polyethylene lining (for example juice containers with drinking straws attached).</p> <p>LPB is either sorted for baling and transportation or mixed with the cardboard stream described above (in very small quantities).</p> <p>Aseptic containers are not recycled at present.</p>
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**Table 5 Identification of plastic containers, by polymer type**

Polymer Number	Common Name	Technical Name	Typical Example of Containers
1	PET	Polyethylene Terephthalate	Carbonated soft drink, spring water, fruit juice, sports drink.
2	HDPE	High Density Polyethylene	Milk packaging, dish washing liquid, shampoo, household cleaners.
3	PVC	Polyvinyl Chloride	Cordial bottles.
4	LDPE	Low Density Polyethylene	Garbage bin liners and bags, ice cream container lids.
5	PP	Polypropylene	Ice cream containers (not lids), some cordial containers.
6	PS	Polystyrene	Plastic cutlery, protective packaging.
7		Other Plastics	Includes all other resins and multi materials; laminated plastics; some car parts.

**Figure 3 Composition of dry recyclable material**



Source: Domestic Waste Audit of Campbelltown, Camden and Wollondilly, September 1999, Macarthur Waste Board.

## **ORGANIC WASTE**

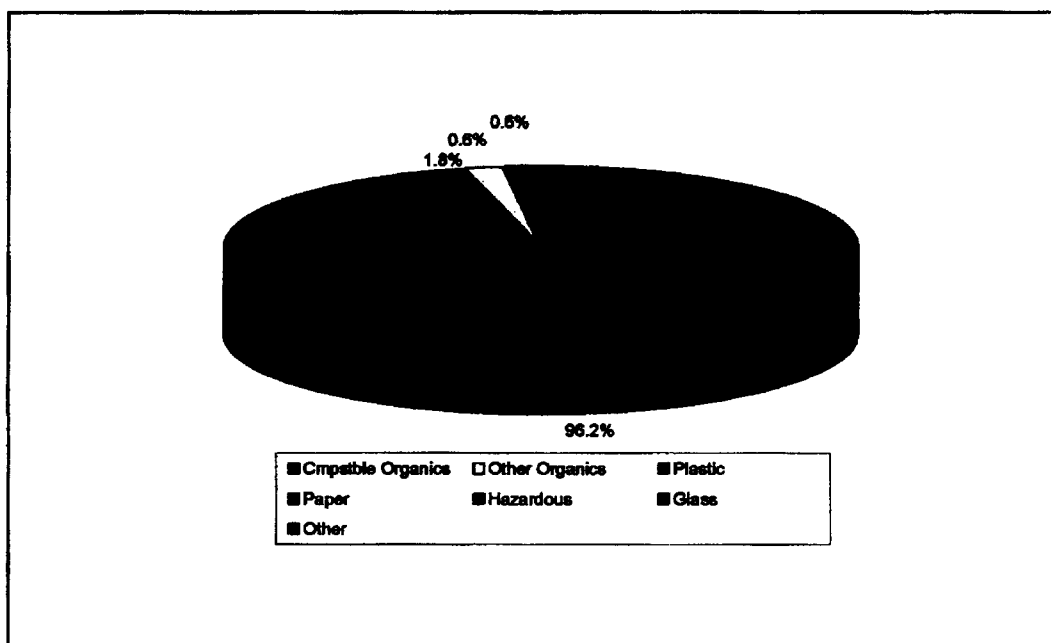
Material placed in the organics stream must be compostable (biodegradable through aerobic decay). Acceptable material is usually termed 'garden organics' and consists of: putrescible garden organics (grass clippings); non-woody garden organics; woody garden organics; trees and limbs; and stumps and rootballs. Although plastics are organic they are not compatible with composting systems and are defined as a contaminant when found in the organic waste stream. Other common contaminants include treated timber, garden hoses, garden pots (from pot plants) and bags of mixed waste (that didn't fit in the garbage bin). Overall contamination is approximately 5% in material collected from the kerbside and less than 1% in material dropped-off at supervised waste management centres.

Where an MGB is provided specifically for garden organics the size of woody materials is usually limited by the space available in the bin. In other cases residents may be asked to pay a fee or go to a private service provider for collection and/or disposal of limbs over a certain diameter.

Camden and Campbelltown Councils currently provide a MGB for their residents to recover of garden organics. Campbelltown also allows residents to drop-off garden organics at their Lynwood Road waste management facility. The remaining three Councils have provided facilities for residents to drop-off garden organics or direct their residents to waste management centres provided by Waste Service NSW. Residents in Liverpool, Wollondilly and Wingecarribee Local Government Areas (LGA) will tend to use their more convenient garbage bin (collected weekly), at least for smaller branches, leaves and grass clippings. This means that organic and residual waste streams in these LGA are effectively mixed.

Kitchen scraps and other highly putrescible wastes from around the home can be composted with garden organics, however they may cause environmental problems in some commercial scale composting systems. If the proportion of food organics is too high composting systems with insufficient environmental controls (typically non-enclosed systems) may generate excessive odour and leachate. Such problems will cause facilities to breach their license conditions. Therefore, while councils with MGB based collection systems have the capacity to divert putrescible organics through their organic waste stream it is not currently encouraged or advertised to the public.

**Figure 4 Composition of garden organics, Camden and Campbelltown LGAs**



Source: Domestic Waste Audit of Campbelltown, Camden and Wollondilly, September 1999, Macarthur Waste Board.

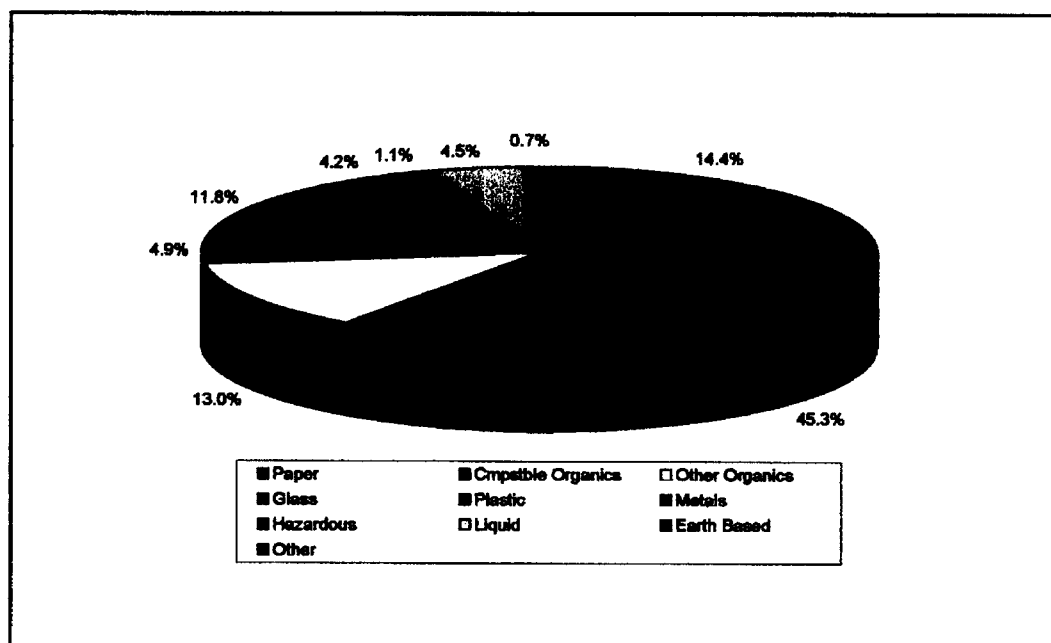
## RESIDUAL WASTE

The composition of residual waste is highly variable by residence. However, if measured over an entire LGA or region, an understanding of what 'on average' is in a garbage bin can be obtained. In many cases the MGB will contain a proportion of the DRM and garden organics that have not been separated into the appropriate bin or set aside for drop-off at a local waste management facility. In excess of the half the waste by weight is putrescible (food) organics, however this is mixed with film plastics, a large range of composite materials and more complex consumer goods.

Garbage bins are also the primary means of disposal for most household hazardous materials (batteries, paints, garden chemicals, cleaning chemicals, petroleum based products and pharmaceuticals). Disposal of these hazardous materials to the residual waste stream is discouraged by all Councils, but in many cases residents have no other disposal option. State government, with the assistance of local government, is trialing alternative public (free) services to provide a disposal alternative, however none of these services compete with convenience of a weekly MGB collection. It is likely that household hazardous materials will continue to be found in the residual waste stream, in low quantities (1% to 2% by weight), for the term of the proposed contract.

The following chart shows the composition of residual waste arising from the kerbside collected MGBs in Camden, Campbelltown and Wollondilly.

Figure 5 Composition of residual waste



Source: Domestic Waste Audit of Campbelltown, Camden and Wollondilly, September 1999, Macarthur Waste Board.

## **EXISTING PROCESSING INFRASTRUCTURE**

### **DRY RECYCLABLE MATERIAL**

Camden, Campbelltown and Wollondilly Councils currently use a MRF located at Jack Gully Waste Management Centre (see Attachment B). The Jacks Gully MRF accepts recyclables in two streams, paper/cardboard and containers, and sorts it into individual product streams, which are then compacted and transported to market. Liverpool Council delivers its containers stream to Visy's Blacktown MRF for sorting and aggregation. The paper stream is sent directly to Visy's Smithfield facility where, with a minimal amount of sorting, it is used as a feedstock for the production of new paper and cardboard products.

Wingecarribee Council transport commingled DRM, excluding glass, over 90 kilometers to Chullora MRF near Bankstown. Recognising that transporting glass with other DRM over long distances would result in glass breakage and reduced resource recovery Wingecarribee introduced a separate glass collection that included kerbside sorting of glass. Glass from Wingecarribee is therefore delivered directly to the manufacturer of glass beverage containers.

Visy's Milperra MRF is well placed geographically (within Liverpool's LGA) to service Liverpool, Camden and Campbelltown but indications are that it has insufficient processing capacity to meet these Councils' needs (at this time). Thiess owns and operates a MRF at Kembla Grange, a south western suburb of Wollongong. Wingecarribee Shire is geographically close to the Thiess MRF, but the nature of the roads down the Illawarra escarpment necessitates a lengthy detour for large trucks. This makes the distance too great for DRM kerbside collection vehicles and a transfer station for bulking of mixed recyclables would therefore be required.

### **GARDEN ORGANICS**

Camden and Campbelltown Councils deliver kerbside collected garden organic material to Camden Soil Mix. Camden Soil Mix operate an open windrow composting facility located at Spring Farm immediately to the south of Jacks Gully Waste Management Centre (WMC). Liverpool Council provides no kerbside collection service for garden organics and directs their residents to Waste Service NSW and other private landfill facilities for disposal of garden organic material.

Wollondilly and Wingecarribee Councils provide garden organics drop-off facilities for their residents. When sufficient material has been stockpiled a contractor is employed to size reduce (chip) the garden organics collected. Each council then allows their residents to pick up this material, sometimes at a cost, and use it as a low quality mulch on their own properties. They may also use some of this material on their own parks and gardens.

Garden organics processing infrastructure varies from mobile size reduction units provided by small contractors (these generally come to the residents property) right through to large scale windrow composting facilities (where the organics must be delivered to a central location). Given the scale and nature of the proposed contract, it



will be the large scale processing facilities that compete for processing of kerbside collected garden organics. There are three such facilities within the combined boundary of the Councils: Camden Soil Mix; M Collins & Sons (Narellan); and Australian Native Landscapes (Badgery's Creek). The location of these facilities is shown in attachment B.

Australian Native Landscapes (ANL) is contracted by Waste Services NSW to process the large quantities of garden organics delivered to Waste Service NSW landfills and transfer stations throughout the Sydney Metropolitan Area (SMA). M Collins & Sons was originally a sand and soil mining business producing soil products for sports grounds and golf courses. They then expanded their business to the composting of (commercially collected) garden organic materials, both to generate an organic component for their soil products and as an alternative source of income. Camden Soil Mix's organics processing business expanded primarily to process kerbside collected organic waste from Camden and Campbelltown.

## **RESIDUAL WASTE**

Waste Service NSW owns all putrescible landfilling infrastructure in the Sydney Metropolitan Area (SMA). Jacks Gully WMC, Waste Service NSW south western Sydney facility, includes a Class 1 (solid waste) licensed landfill that currently receives all residual waste from Camden, Campbelltown, Wollondilly and Wingecarribee Councils' kerbside collections and part of the residual waste collected in Liverpool. Due to the location of Liverpool relative to the Waste Service NSW Eastern Creek and Lucas Heights WMC, parts of Liverpool's waste are also diverted to each of these sites in order to minimise transport distance.

While Waste Service NSW owns Jacks Gully and all infrastructure to the north and east of the Councils, there are further solid waste disposal facilities adjacent to the MRF at Kembla Grange (mentioned above). These facilities consist of a landfill owned and operated by Wollongong City Council and the Solid Waste to Energy Recovery Facility (SWERF) owned and operated by Brightstar Environmental. While the landfill has limited remaining capacity (pending further cell construction) the SWERF is designed to recover a range of inorganic resources, gasify the organic component of the waste and generate energy with the minimum of emissions to air. Unfortunately, although the facility has successfully processed garden organics, the owners have announced its temporary closure subject to finding an alternative investment partner.

The most significant private disposal infrastructure (not owned by Waste Service NSW) with the capacity to take significant amounts of Sydney's residual waste has been developed by Collex at Woodlawn, south east of Goulburn. The Woodlawn facility utilises wet bioreactor technology to accelerate degradation of the organic material in the waste, re-circulate leachate and capture the gas generated. Although Collex have successfully obtained approval for their bioreactor technology, their license allows limited tonnage, they have yet to secure significant long term supply of waste, and their Clyde inter-modal facility is caught up in the planning approval process.

In 2002 Waste Service NSW entered into an agreement with Global Renewables Limited (GRL) to construct their UR-3R plant at the Waste Service NSW, Eastern Creek WMC. This facility will employ a mechanical biological treatment system to

separate and process (mixed) solid waste. Although the plant will contain a mix of technologies never used together at this scale, the promotional literature boasts an 80% resource recovery rate from kerbside collected solid waste. Recovered resources include: traditional DRM; various 'non-recyclable' plastics; other ferrous and non-ferrous metals; low and high grade compost and energy. Waste Service plan to commission the plant in mid-2004. It will have the capacity to process 150,000 tonnes of waste per annum.