



# The NSW Government Standing Committee on Public Works Inquiry into Municipal Waste Management in NSW

Submission by  
Southern Sydney Regional Organisation of Councils (SSROC)

## Executive Summary

This submission is a response to the terms of reference for the Parliamentary Inquiry into Municipal Waste Management in NSW, identified by the Standing Committee on Public Works. These terms of reference are:

1. The effectiveness and appropriateness of current municipal waste management
2. Impediments and incentives to best practice municipal waste management
3. Best practice methods, including cost effectiveness, of planning and providing municipal waste management services
4. The development of new technology and industries associated with waste management
5. Minimising harm to the environment in the provision of waste management services

SSROC assumes that the Committee defines the term 'municipal' as the commonly known meaning, which relates directly and solely to local government. As such, SSROC understands that the Inquiry will be focussed only on local government waste management.

The SSROC submission responds to the terms of reference by identifying the key issues for local government in southern Sydney relating to each term, providing evidence to support the positions held and reaching certain conclusions based on this evidence.

In the first reference area, the submission identifies the legal responsibilities guiding local government, the changes that have occurred in these responsibilities over the past 30 years, how this has shaped the current municipal waste services and what future options lie ahead for councils.

The second area explores the meaning of 'best practice' in the context of municipal waste management and goes on to identify how the incentives and impediments to this management approach allow or limit the ability of councils to achieve beneficial outcomes for the local communities which they serve.

The third area identifies the need for a strategic approach to resource recovery and that the rigour of 'process' is the necessary structure underpinning best practice methodology. Member councils have seen that this is one of the most appropriate ways to deliver beneficial outcomes.

SSROC believes that the importance of new technology, the fourth area under review, needs to be seen in the context of an integrated infrastructure strategy for the Sydney metropolitan area as a whole. The implementation of such a strategy will require continued leadership from the State Government. If strong strategic pathways are

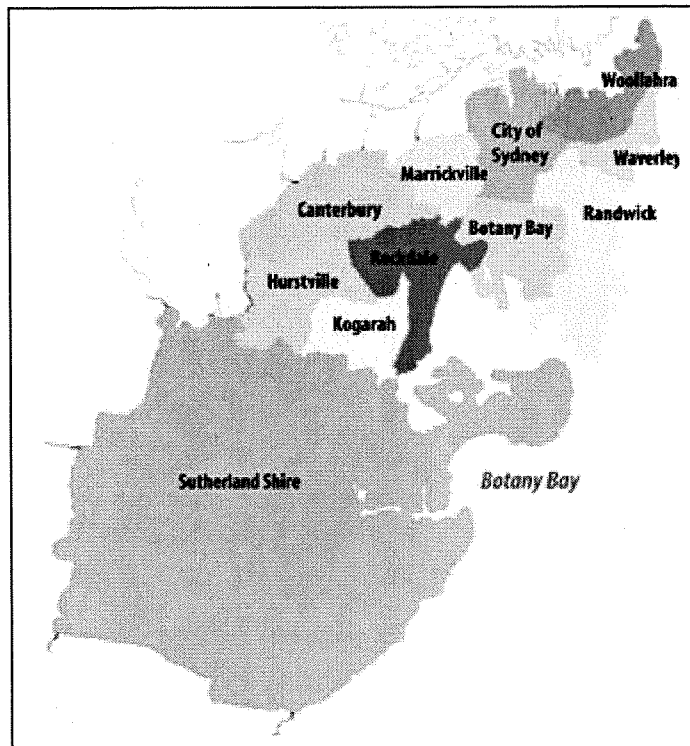
developed to maximise best practice management systems for municipal waste services, there needs to be an equally strong infrastructure planning framework within which such pathways can be delivered.

In the final reference area, local councils are very much aware of their responsibilities relating to protection of the environment. The submission outlines how local councils successfully manage these responsibilities within the context of waste management, and identifies where vulnerable areas of environmental protection fail to be addressed as a result of poor regulatory structures or management by other jurisdictions.

## Introduction

This submission is a group response presented by the member councils of the Southern Sydney Regional Organisation of Councils SSROC. SSROC is an association of eleven local councils located in the southern Sydney region. The councils represented by SSROC are:

- City of Botany Bay
- Canterbury City
- City of Sydney
- Hurstville City
- Kogarah
- Marrickville
- Randwick City
- Rockdale City
- Sutherland Shire
- Waverley
- Woollahra



SSROC provides a forum for member councils to develop common policies and approaches to the challenges facing the southern Sydney region through resource sharing, shared policy development and advocacy.

Since the abolition of the NSW Waste Boards in 2001, SSROC has assisted member councils at a regional level to develop collective strategies and implement the aims and objectives of the NSW Waste Avoidance and Resource Recovery Strategy 2003, to the benefit of local communities in the southern Sydney region.

## **SECTION 1     The Effectiveness and Appropriateness of Current Municipal Waste Management**

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This first section provides a background to municipal waste management in local government and goes on to describe in detail the current operations undertaken by member councils. Analysis of these current services provides reasons why these operations have taken their current form.

### **1.1 Background**

In Australia, local government has been the traditional custodian of public health, cleansing, prevention of disease, supply of clean water and the systematic removal of waste and used product from the public realm.

Local councils in NSW continue to have the legal responsibility, under the Local Government Act 1993, to collect and dispose of waste material from residential households in their Local Government Areas (LGAs). Some member councils also operate commercial waste services where it is the interest of their communities to do so.

Local councils in NSW also have indirect responsibilities for waste management, primarily under the provisions of the Waste Avoidance and Resource Recovery Act 2001, and regulatory responsibilities under the Protection of the Environment Operations Act 1997.

Up until the 1970's, many urban councils in Sydney owned and operated their own landfills for the disposal of household waste. Such landfills in NSW have the regulatory status as a Class 1 category facility. However, the responsibility of Class 1 landfill ownership and operations in Sydney reverted to State Government control and subsequent management by the State owned corporation of WSN Environmental Solutions. Member councils are aware of the poor environmental legacy resulting from these urban landfill sites. This point is discussed in more detail, later in this submission.

### **1.2 Profile of the current Waste Management Services in Southern Sydney**

This submission focuses on the municipal waste services provided by member councils, relating to the collection and recovery/disposal of solid waste product generated from residential households within each council area. However, member councils also manage waste from other council services, such as their road repair and parks / gardens operations, and generate waste through accommodation of administrative buildings and community facilities such as libraries and swimming pools.

With regard to the municipal sector, waste management in the Southern Sydney region principally relates to:

- The current collection systems and contractual arrangements (where applicable) of individual councils;
- The Waste Resource and Recovery Act of 2001, which incorporates the government's waste strategy and targets; and,

- The individual and collective education strategies of SSROC Councils that are aimed to achieve those targets as well as cater for the needs and expectations of their communities.

Attachment 1 outlines the range, type and size of service provision that member councils undertake in southern Sydney. The total value of business turnover is in excess of \$26 million per annum.

The residential collection systems of the majority of SSROC Councils have four primary components (or streams):

- General or Putrescible Waste
- Recycling
- Green Waste
- Clean Up

The form and frequency of these services vary according to the type of residential premises serviced, eg, single dwellings, villa and townhouse buildings, or home units.

Collection systems are provided either on a day labour or contracted-out basis.

#### ***General or Putrescible Waste Services***

All Councils provide waste services collected in containers provided to households. The majority of the containers are mobile garbage bins (MGBs), ranging in size from 55 litre to 240 litre. Services vary in frequency from twice weekly to weekly for all types of residential premises.

#### ***Recycling Services***

All Councils provide recycling services via containers provided to households, the majority of which are in MGBs, ranging in size from 50 litre to 240 litre. Services vary in frequency from weekly to fortnightly for all types of residential premises.

#### ***Green Waste***

The majority of Councils provide a green waste service and an MGB varying in size from 115 litres to 240 litres, and either on a weekly or fortnightly service. Not all councils provide this scheduled service.

#### ***Clean Up Services***

The majority of Councils provide dry hard waste collections commonly referred to as 'the Council Clean Up'. These services are provided on a varying basis; either as a scheduled service offering collections at four per year, biannually or yearly, or alternatively offering an 'at-call' service for collections booked on an individual household basis. Generally residents are permitted to put out the equivalent of two cubic metres in waste per collection.

The majority of collections take place through the use of side loading collection vehicles, although rear loaders are still used, particularly in the inner suburbs, and also for clean up collections.

In general all general or putrescible **waste** and **clean up** materials are currently transported to a facility for disposal - ie permanent non-recoverable burial at landfill. The **recycling** materials are collected and transported to materials recovery facilities (MRFs)

for sorting prior to on-delivery to other facilities for reprocessing. The **green waste** material is also aggregated through the regular bin service and periodic clean up services for delivery to organics recovery centres for reprocessing and preparation for on-sale for commercial horticultural reuse.

### 1.3 Community Acceptance and Satisfaction

It is clear from community surveys that, to a large degree, the types of services provided satisfy the needs and expectations of most residents. Council waste services enjoy consistently high community satisfaction levels and it is clear that the SSROC councils are providing an effective and efficient set of services to the communities they serve.

In moving from the old 55 litre steel bin to the 240 litre MGB during the 1980s and 1990s, through to the current era of the three bin system, local councils have been charged with the responsibility of community education and leadership. In the majority of cases, new services have been introduced with great acceptance by local residents, primarily because of balanced and practical education and information programs that have targeted specific and relevant issues.

In managing the needs and expectations of the community, and delivering over 900,000 services throughout the region every week, the Councils of the region receive a minimal number of complaints, which by and large are dealt with through dedicated 'Call Centres', specifically established to deal with all manner of inquiry.

### 1.4 Analysis of the Current Services

From the late 1980's, there has been common agreement between State and local government that the extent and type of waste product disposed to landfill is unsustainable, both in relation to the community's growing resistance to landfill operations in urban areas, and the historical problems of the poor environmental management of such sites. Working in parallel with these policy positions have been the movement of some sectors of industry which have identified that certain waste products, such as paper and cardboard, have a value to their manufacturing operations - if recovered in efficient ways.

Out of this consensus has grown a major shift in the way in which residential waste has been collected, resulting in the present day collection systems, which have been described in sub-section 1.2 above. It is important to note that the municipal sector has made considerable commitments in both investment and infrastructure, embracing the application of resource recovery, compared to the waste producers of the industrial and commercial sector. The business sector, understandably, takes a different position in relation to resource recovery. If the internalised cost to business exceeds the commercial benefit, or return, for introducing a recovery system, such a system will not be introduced. As a result, there has been little change in recovery practices across the commercial sector over the past two decades, because there is little incentive to change. Perhaps there should be a comparable government inquiry of recovery practices by the commercial and industrial sectors, which could help to provide a balanced analysis and comparison with local government practices being undertaken by this current inquiry.

The source separation collection methods used by member councils in their kerbside services have come at a cost, which the councils on behalf of their communities have borne. With the introduction of additional bins to cover all 'streams', detailed in sub-section 1.2, the number of vehicles required to provide these services has increased markedly. This has obviously had an impact on transport, traffic movements and infrastructure. It has also had a very significant impact on the base cost of introducing separate collection services for dedicated waste streams, which has been absorbed, almost exclusively, by the residential sector. This burden of cost has been borne by all householders, whether or not an individual householder has consumed and discarded retail products/materials in the kerbside service for collection. If a product levy system was introduced to assist councils in the recovery cost of those materials which have a recovery value, a more equitable process of shared responsibility would emerge with product manufacturers and consumers of such products, and the local councils providing the collection services.

A growing dilemma for both local and State Government, is the question of which system of waste management is more sustainable. Is the ongoing investment in infrastructure to maintain, and perhaps expand the separation of materials at the source ie at the household, a more sustainable option than aggregating all materials into one container and providing downstream source separation, thus reducing the current and increasing stress on the local community infrastructure? This question needs to be addressed as Sydney continues to grow in size and density of population. This line of argument is developed further, in Section 3 of this submission.

Given the changes that have occurred, particularly over the past 10 to 15 years, the current systems of waste management services that local Councils provide are effective, efficient, and appropriate; particularly in the context of the modern environment. Although new service components have had an obvious impact on costs, waste charges in the SSROC region still remain relatively low, and are currently between \$4.43 and \$6.89 per Council per household per week, inclusive of all collection costs over all streams, disposal, and administrative costs.

## **1.5 Changes to the Status Quo**

The cost of service, as mentioned above, has continued to rise. Under the provisions of the Local Government Act, councils are able to recover the full cost of these services through a separate domestic waste charge. However, these services still come at a direct cost to the community and contribute to the overall financial cost to councils in operating such services.

Since the abolition of the NSW Waste Boards in 2001, SSROC has provided opportunities to assist member councils improve the value of recovery services provided to residents. A collective approach to resource recovery has been adopted where it has been seen to be in the interests of the communities of each member council to participate in such an approach.

At a strategic level, member councils have agreed to work together towards better economic, social and environmental outcomes by approaching long-term sustainable improvement in two steps, or stages.

### **Stage 1**

Over the past four years, member councils have been engaged in a number of group procurement processes, which have provided significant benefit to their communities. These benefits have included improvements in standards of service, better value-for-money, and the benefits of economies-of-scale, where specific service specifications can more accurately deliver the outcomes required of that service. Member Councils have been using this approach to adopt recovery/disposal arrangements downstream of the collection service. The outcomes and subsequent benefits achieved through these group arrangements are set out in more detail in the first part of Section 3, below.

### **Stage 2**

The current average diversion rate for recycled materials and green waste from the kerbside services of SSROC councils is 43.3%. According to information provided to SSROC, the industry average is 40.0%. It will be challenging indeed for further diversion rates to be achieved unless significant structural changes are made to existing waste management systems. Decision makers need to acknowledge two principles which will determine the future success, or otherwise, of recovery processes.

Firstly, the recovery of a wider range of waste products through source separation at kerbside, such as for food waste and mixed plastics, needs to be undertaken in those areas of the community where it is achievable. This is a developing idea which SSROC is exploring further, particularly where member councils have sub-regional similarities. This approach is discussed in more detail in the later part of Section 3, below.

Secondly, local councils do not have the capability to go beyond current waste management systems and practices without the introduction of viable, efficient and proven technologies that will allow a wider range of collected waste materials to be reprocessed and blended with virgin material into the manufacturing system. It is beyond the responsibility of local government to address these pressing issues. It is becoming increasingly evident that the higher levels of State and Federal governments need to work in partnership with local government to provide such strategic direction in clear and viable ways. This argument is pursued further in Section 4, below.

## **SECTION 2      Impediments and Incentives to best practice municipal waste management**

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### **2.1 Best Practice**

The definition of best practice is likely to be different for different sectors of the waste industry. The priorities for local councils have changed through recent years. During the 1980s and 1990s, the main focus was to improve quality management systems, such as occupational healthy and safety and focus on reducing injuries and improving worker safety and process efficiencies. In recent years the definition of 'best practice for waste management' has widened to include maximising the diversion of waste from landfill. This shift in emphasis has caused local government to recognise that the introduction or improvement of best practice management has a direct impact and effect both up and down the supply chain. This approach is explored in more detail in Section 3.

To member councils, best practice means the delivery of the best quality of service possible by blending triple bottom line performance to ensure that there is a minimal trade off between economic, social and environmental outcomes. Underpinning this approach, councils are required to consider what the community wants, and they are required to administer an operational service that works within the NSW local government political and legislative framework.

What is seen by one area of the waste industry as an impediment could also become an incentive to another. For example, the source separation of materials at the kerbside helps to add value for downstream processors, but also creates significant increases in vehicle movements in local residential areas. Councils need to assess the benefits of a one-bin system with one vehicle passing against a source separated three-bin system with a three vehicle passes, which tend to create road safety, health and environmental costs to householders.

## 2.2 'One Size' Thinking

From a council perspective, one of the main planning impediments towards resource recovery is the assumption that one solution can fit all residential households in all council areas. The southern Sydney region, like most urban centres, is made up of a variety of property types, including single and multi-unit dwellings. Topographically, the region is served by a variety of road networks both wide and narrow streets, main highways and trunk routes. These differences can also occur within an individual LGA.

There is a growing awareness within councils that there is no single operational system, such as one collection system or bin configuration, which is appropriate for all types of households. Member councils are considering a range of opportunities to introduce different collection systems to improve net returns. These opportunities are discussed further in the later part of Section 3, below.

## 2.3 Downstream Incentives

For a successful shift to occur from waste disposal to resource recovery, a variety of downstream processing systems need to be introduced across Sydney. Any upstream development in collection and sorting systems to increase resource recovery will be of little benefit unless downstream resource activities are encouraged and supported.

Of equal importance is the need to unblock actual or perceived blockages in existing processing markets. For example, most green waste vegetation is currently being composted, in open air windrow facilities. There are suggestions from industry that there tend to be unpredictable supply cycles of composted material in the processed organics market. The widening of organic product collection to include food waste could encourage the distribution of product to different downstream processing centres, such as energy recovery plants to reduce greenhouse gas emissions.

## 2.4 Waste Targets

Any recovery activities need to be measured against waste targets set by the State government in the 2003 Waste Strategy document. Such targets have provided a degree



of guidance, and assisted some councils to improve their diversion of waste from landfill. However, such targets can be a disincentive if there is not a supporting framework to make the targets realistic, measurable and attainable.

The ability to achieve beneficial resource recovery outcomes, and to be able to measure these outcomes, is dependent on the quality of information that is gathered to develop these future strategies.

The NSW Waste Boards realised the importance of data gathering to create benchmarks for progress in resource recovery activities. With the assistance of the Southern Sydney Waste Board, the SSROC member Councils carried out a number of waste audits to identify the composition of the waste streams and determine how residents have used these services and to understand what choices they have made in discarding waste material. The audits have focussed on the kerbside collection of the general waste stream and the kerbside collection of the recycling stream.

Through auditing processes, the councils have observed the pattern of diversion<sup>1</sup> of waste to the recycling system, on the one hand, and the pattern of contamination<sup>2</sup> on the other. In studying these patterns of behaviour, the Councils have used the data gathered to establish waste education programmes to help residents to correct and align their disposal habits in accordance with best practice recycling.

To obtain accurate data, the Councils have been guided, to date, by the 'The Waste Streams Data Collection Methodologies' drawn up by the NSW EPA in 1997. These guidelines describe the ways in which audit processes and procedures should be carried out.

In a regional audit undertaken last year, some member Councils found that there was significant variance between the data being recorded through their waste contracts, and the extrapolated figures produced through the audit process. SSROC believes that there is a need for a review of the methods, sampling sizes, data gathering techniques and other aspects such as the representative nature of the communities being audited. This review should also include the ways in which the resultant data can and should be interpreted. The application of these evaluation methods could provide a more accurate reflection of the performance in the delivery of waste services in all sectors of the waste industry.

## 2.5 Waste Levy

The increase in the waste levy, which comes into effect on 1 July 2006, provides an incentive for Councils to improve the rate of recovery of product from their waste services. Improvements may render them eligible to participate in the NSW Government's rebate scheme, as set out in the 'City and Country Environmental Restoration Program' managed by the Department of Environment and Conservation (DEC). The use of such a mechanism could become a significant incentive for councils to implement waste recovery initiatives. However, it is unclear at the present time how the rebate scheme will operate or what criteria councils will have to meet to receive the rebate. The Department will need to be careful how it drafts these criteria, as a misalignment of objectives could

<sup>1</sup> Diversion being the act of placing the material able to be recycled, into the recycling bin

<sup>2</sup> Contamination being the act of placing material which is not able to be recycled in the recycling bin

well prove an impediment to government and councils achieving the aims of the State Waste Strategy.

The Department is also concerned to limit the length of landfill disposal contracts to a maximum of 5 years. Such restrictions may not assist some councils to stabilise their downstream arrangements whilst securing medium to long-term acceptance of change from their residents and the communities they serve.

## **2.6 Siting of waste facilities and the planning process**

The most significant impediment to systemic change at a cross-regional level is the State Government's current unwillingness to apply the Waste Strategy within a Sydney-wide infrastructure implementation plan. Such a plan would determine a process for the siting of resource recovery and related facilities across the Sydney basin. The Department of Planning has recently assumed extensive powers over local councils to direct and implement local planning policy. A facilities siting plan should form an integral part of the Metropolitan Strategy for Sydney. The NSW Government needs to consult widely and take the lead in planning the siting of these facilities with the size of facility sites based on:

- The demand for municipal waste processing
- The likely requirements from the other waste sectors covering commercial, industrial, and construction wastes
- Access requirements for road and rail transport
- Proximity to and impact on residential areas
- Equity of siting decisions.

## **2.7 Lack of responsibility taken by product manufacturers**

A further impediment to best practice for municipal waste is the lack of responsibility taken by manufacturers in the choices provided to consumers in the disposal of containers outside of the kerbside collection process. Local councils should not be seen as the default service for collection of waste product in the public domain. Complementary initiatives, such as Container Deposit Legislation should be actively introduced to reduce littering and provide alternative systems to capture product and divert it from landfill.

# **SECTION 3 Best practice methods, including cost effectiveness, of planning and providing municipal waste management services**

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Member councils have recently reviewed the ways in which they operate their waste services. It is apparent that the councils could continue to operate their waste services and the disposal of waste on an individual council-by-council basis. However, the implications of this approach for most councils is, particularly for those with a small population base, that:

- The existing providers could offer contractual arrangements to individual councils, grading the attractiveness of the offer to each one commensurate with the likely

- benefits to both parties – in such areas as volume of waste available, and proximity of a council area to existing or proposed receival facilities for waste or recovered product
- The existing providers could secure medium / long term contracts, on an individual council basis, without the need to engage in a tender process, on the grounds that there appeared to be no viable competitor to provide an alternative service
  - Without a critical mass of product available large enough to secure capital investment commitment, no competitor to existing providers would be likely to invest resources in securing supply for smaller individual contracts, without setting a price premium on such a proposal
  - Without the promotion of new competitors in downstream sectors of the waste industry, fresh investment is unlikely to be introduced, resulting in the continued practice of landfilling waste and the serious degradation that will continue to damage the environment within the Sydney Metropolitan Area.

In light of these impediments, member councils, with the assistance of SSROC, have decided to work together, at an operational level, in areas of waste management where a collective approach is seen to be in the interests of the communities of each member council.

At a strategic level, member councils have also agreed to collaborate towards delivering better economic, social and environmental outcomes by approaching long-term sustainable improvement in two steps, or stages.

### **3.1 Stage 1**

This initial stage has short-term objectives, over an initial four to five year period, to:

- Stabilise and control the accelerating costs of continuing to provide best practice waste services in the community
- Move progressively towards an alignment of service delivery between member councils, where such alignment is in the interests of the communities of those councils
- Introduce secure contractual arrangements to provide more equitable terms and conditions between the councils and their service providers
- Encourage the provision of appropriate infrastructure which would not disadvantage or degrade the social or environmental conditions for the local communities of the southern Sydney region
- Attract new service providers into the local government sector
- Identify specific waste product streams that are detrimental to human health and require safer routes to disposal and destruction
- Work with other organisations to encourage recovery and reuse back into the local community.

Since 2002, these objectives have been delivered through the following regional projects and contracts.

#### ***Recyclable Material Recovery Contract***

In 2003, SSROC co-ordinated a tender for the processing of recyclable material recovered from councils' kerbside collection service for member councils willing and able to participate. The councils that were not committed to existing contractual arrangements

were Marrickville, Rockdale City and Waverley. A successful tender process resulted in the councils entering into a contract with Visy Recycling, which has allowed the service provider to locate new processing facilities closer to the source of supply. This outcome has created employment in the local area and produced operational cost savings to the councils in excess of \$2.5m per annum. These cost reductions are flowing from:

- Significant transport savings
- Reduced gate fee costs
- Shared costs for waste education programs
- A wider range of product for processing at lower cost, and
- Transaction cost sharing for procurement of these services.

The service provider has been able to generate a predictable cash-flow stream by receiving a regular material flow through its operations secured under agreed contractual arrangements.

### ***General Waste Contract***

In late 2004, there was an opening of competition for WSN Environmental Solutions in Class 1 waste disposal, when Collex commenced acceptance of Class 1 waste at its Woodlawn facility. With the successful outcomes of the recyclable material recovery contract, SSROC assisted member councils to prepare a similar group procurement process for general waste disposal.

The general waste tender, undertaken by almost all member councils resulted in the councils entering into a contract with WSN Environmental Solutions. This contract has produced a very competitive pricing structure for the disposal of waste tendered. It has introduced the opportunity for improved operational performance requirements through the conditions of contract.

The benefits have realised:

- The provision of a common disposal price for waste disposal for a fixed term
- The protection of councils from monopoly pricing
- The provision of a level of price stability which has allowed councils to plan and budget for the contracted services over the contract term, and
- The ability of the councils to pass on these benefits to their ratepayers through lower domestic waste charges.

### ***Community Sharps Disposal***

Needle stick injuries, through the unprotected disposal of needles, syringes and lancets (collectively known as 'medical sharps') into the domestic waste stream, have become an increasing health risk to waste management employees, and a growing liability to waste companies.

The NSW Department of Health and the NSW Local Government and Shires Association have also recognised this problem and have established a grant programme to assist local councils educate legitimate users of medical sharps and service providers (such as doctors and pharmacists) to apply safe disposal practices for these used products.

Member Councils have been successful in receiving a grant to set up such an initiative in the southern Sydney region. An education tool kit is currently being prepared to advise the medical profession and legitimate users on how to dispose of sharps safely. This tool kit will be distributed to the prescribers, suppliers and users.

Member Councils will be encouraging users to return the medical products in sealed puncture proof containers (preferably Australian Standard containers) to the pharmacies where they purchase their regular supply of sharps, or to community health centres, for safe disposal.

A procurement project is also being drawn up to select a licensed service provider specialising in the safe disposal of medical waste. The provider will carry out bin collections of sharps from the pharmacies or health centres participating in his take-back scheme. The member councils will jointly fund the collection cost of such bins.

The management of medical waste produced in the household is problematic, with regard to jurisdictional authority. The NSW State Health Department is reluctant to take responsibility for this growing waste stream, and the default waste stream to date has been the municipal waste service. This is not a satisfactory long-term situation for local government.

Introduction of Extended Producer Responsibility with the pharmaceutical industry would share the burden of disposal fairly across the authorities responsible for safe use and disposal of such product.

#### ***Product Reuse at a Local Community Level***

The Bower Reuse and Repair Centre is a non-government organisation, based in Marrickville. It specialises in the recovery from the waste stream of domestic household products for resale and reuse. It receives many calls from residents in the inner west and southern Sydney region who wish to donate or otherwise get rid of undamaged and serviceable household products that are no longer required. As a result, The Bower receives a significant over supply of products, much of which it is unable to receive and process.

Member councils and the councils of the inner west are assisting The Bower to set up a reuse referral service to address this problem of over supply and divert a greater proportion of donated product towards reuse. The service will be operated to give residents who call up the service, contact details of other specialist providers who could accept the product/s offered, thus bypassing the Bower.

The operation of this service will assist local councils to reduce the amount of material being discarded into their kerbside cleanup services and thus reduce the costs of disposal for councils.

The objective of the service will be to introduce resource recovery of consumer products within the cycle of the local economy of the region and encourage an increasing pattern of product reuse.

### **Organics Collection and Processing**

Despite the uncertainty in the accuracy of waste audit data emerging from the 2005 regional waste audit, there is sufficient evidence to suggest that the largest single material type by weight in the general waste stream is organically derived. This takes the form of food, food-related waste and garden, or green waste (where there is no separate green waste collection service).

Some member Councils are exploring opportunities for using existing kerbside services of garden organics (green waste) to include food waste material, which could be diverted to organic reprocessing facilities for the conversion of the methane into renewable energy and the recovery and reuse of the organic fraction as compost and soil conditioner for agricultural and horticultural use.

If trials of this service are carried out to test the capability of council services to recover household organics, a modelling exercise will also be undertaken to identify the degree of social, environmental, and financial benefit which is derived from this approach.

### **3.2 Stage 2**

With population growth and an increasing population density anticipated in the southern Sydney region over the next 25 years, member Councils are currently undertaking a systematic review of their waste management services to assess if new approaches to resource recovery can produce better triple bottom line outcomes for their communities. A summary of the results of these initial findings, is set out in Attachment 2.

After more detailed study, member Councils may consider that there is merit in modifying municipal waste services to:

- Operate new services to better respond to the consumption habits and lifestyles of residents
- Charge the resultant cost of the resource recovery service used by residents, by internalising the external (environmental and social) costs which currently are not calculated into the value of the service
- Provide resource recovery collection arrangements which respond to the location, ease of access and type of residence being serviced.

## **Section 4      Development of new technology and industries associated with waste management**

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The advent of alternate waste treatment technology (AWTT) has added a new dimension to the overall planning of waste management and resource recovery in NSW.

In the past, there was the option of landfilling with some minor resource recovery. MRFs have, since the early 90s, shown that the use of sorting technologies can segregate domestic recyclables that have been separated out of the waste stream, through a separate kerbside bin system.

The traditional processing of garden organics (green waste) through windrow composting has also meant that the source separation of green waste has allowed significant quantities of green waste to be diverted from landfill.

Three main “sub” streams of materials have emerged from the domestic waste stream:

- Garden organics
- Recyclables (glass and other containers, packaging, paper and cardboard), and
- Residual (putrescible and inert material which is currently not reprocessed)

Separated garden organics and separated recyclables can be processed using current technology. Treatment of the residual waste stream has until recently been limited to landfilling. Emerging types of AWTT have changed the way we can deal with, not only processing the material, but how the material is collected.

AWTT has the potential to recover more resources out of the residual waste stream and to stabilise the remainder. The residual waste stream contains up to 50% organic matter. This material can be reprocessed into compost, fertiliser and energy.

Also present in the residual stream are recoverable recyclables (glass and other containers, packaging, paper and cardboard) that have not been captured in the recycling collection system. These recyclables can now be recovered through the AWTT process.

If appropriate types of AWTT were introduced to process the discarded product from the domestic waste streams, the only material that need end up in landfill is an inert mix of non recoverable and non recyclable material.

As stated earlier, new and emerging forms of AWTT will not only impact on the way we process waste but will also impact on the way we collect discarded material.

Most residents now consider that source separated garden organics and source separated recyclables are not regarded as waste but as resources, because they can be recovered and recycled. With the emerging types of AWTT, only a small part of what is collected would become a resultant waste.

When developing new collection systems, some councils can now take into consideration the recently established processing facilities operating near or within their council boundaries. Existing facilities operating within, or servicing, the Sydney basin include the 3R-UR centre at Eastern Creek, the bio-reactor located at Woodlawn near Goulburn with access from a railhead at Clyde, and the anaerobic digester facility at Camellia (Parramatta).

The Eastern Creek facility can process the residual waste component of a one, two or three bin collection service and material with a high garden organics component. The facility can separate out and recover the recyclables (glass and other containers, packaging, paper and cardboard). The Woodlawn bioreactor has the ability to recover methane gas from putrescible waste streams, whereas the Camellia facility can recover all organic residues from the digestion process, by generating energy, and drawing off liquid fertiliser and solid organic compost from the separation process.

For those councils where the cost of contamination in a two or three bin collection system outweighs the benefit of source separation, the Eastern Creek facility is an example of an

AWTT, which provides an effective solution. Councils can now plan for and provide collection services that are more efficient because they have options that will recover more resources from the residual waste stream downstream of the collection process. For example, the councils of Fairfield and Blacktown in western Sydney have contracted the product from their waste streams to the AWTT facility at Eastern Creek.

Where a combined bin is seen by councils as the most appropriate method of collection, efficiency gains could lead to fewer truck numbers, less vehicle movements, savings in fuel consumption and a reduction in the number of bins required for manufacture, distribution, maintenance and replacement. This approach could reduce the full life cycle cost of the service.

The group of councils in south western Sydney which constitute the Macarthur Regional Organisation of Councils (MACROC) have recently signed a contract with a service provider to supply an AWTT facility at Jacks Gully. Where existing putrescible waste landfills reach the end of their license period and are located near to encroaching housing development – as in the case of Jacks Gully - processing capability for putrescible waste becomes a feasible alternative.

Councils are also mindful of the technical failure of the recent Brightstar facility near Wollongong and the garden organics treatment facility in Hornsby Shire. Councils need to manage risk effectively and most do not wish to become partners in any infrastructure projects where they do not have the capability or the contractual control to manage the risk.

The introduction of Extended Producer Responsibility (EPR) has opened up a potential funding source for infrastructure. A pre-disposal levy on products (collected at any stage in the supply chain and ultimately payable by the consumer) could be used to fund such infrastructure. This would take the burden away from the traditional funding source, the ratepayer.

## **Section 5 Minimising harm to the environment in the provision of waste management services**

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Collection and disposal of municipal waste has traditionally been considered a health related issue. If such waste was not collected and disposed of in an organised and regular manner, the resultant harm to community health and the environment would be significant. Accordingly, the *Local Government Act (1993)* mandates that local councils provide a municipal waste collection service and levy ratepayers for the services provided. The *Waste Avoidance and Resource Recovery Act (2001)* places further obligations on councils to implement ecologically sustainability principles in the collection and disposal of municipal waste, increasing the emphasis on environmental protection.

Waste disposal has become a closely regulated activity, and, for metropolitan councils such as the SSROC group of councils, an activity that is managed by other parties, particularly State Government and private industry. Councils maintain interest in the method of disposal and the environmental harm caused by waste generated in their LGAs.



### ***Collection Services***

Given that the primary objective is to collect municipal waste, the question becomes how to perform the collection of waste and at the same time reduce harm to the environment. Earlier in this submission reference has been made to the use of multiple bins for the collection of different categories of waste. Provision of such bins creates a number of problems. It should be re-emphasised that each type of bin has to be collected separately, meaning more truck movements leading to traffic congestion, noise and air pollution. If this is applied on a wide scale there can be significant environmental impacts. In addition, presentation of multiple bins on the kerb has a visual impact and affects the amenity of the street. Often there is insufficient space available at the kerbside to present the size and type of bins in current use, particularly in higher population density areas.

### ***Public Place Responsibilities***

Municipal waste services also extend to the public place in the management of litter and illegal dumping.

The mobility of the general population has increased with greater car ownership and usage, and the affluence of the population has also increased with a greater disposable income for spending on goods and services. These changing patterns of activity have tended to encourage a greater patronage of public places, such as parkland, gardens and beaches and the greater consumption of pre-packaged food and drink in these places. These activities have created a greater volume of waste for collection by the local council. The discarding of such waste by out-of-area visitors is growing, and much of this waste is discarded in the form of windblown litter causing pollution in waterways and stormwater drains.

The introduction of a levy system, such as Container Deposit Legislation, would greatly assist in the reduction of litter and litter related activities. If containers were to have a value, as experienced in South Australia, there would be an opportunity for small businesses to establish take-back operations to recover discarded bottles and containers. The emergence of independent recovery operators would reduce the burden placed on local councils to manage and pay for this increasing problem.

### ***Illegal Dumping***

With the recent accelerating rise in landfill charges, greater mobility of the population using rented housing and the increased turnover of consumer goods, the prevalence of illegal dumping is growing. The Protection of the Environment Operations Act provides both local and State government with the regulatory powers to police illegal dumping activities. However, many councils have found it difficult to use these powers effectively to prosecute such offenders, because of lack of proof and the costly regulatory process required to proceed with a prosecution.

SSROC acknowledges the research recently carried out by the DEC, which has studied illegal dumping related to tenancies within multi-occupancy housing, indicating that much of this dumping activity is caused by ignorance. Targeted community education programs may help to address the problem in this sector, however commercial and deliberate dumping is an ongoing problem and many councils are still looking to State government to find better solutions to address this problem.

## **Concluding remarks**

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There is strong evidence to suggest that local government in NSW is at the forefront of changes in waste management practice. Recovery rates in local government recycling services are continuing to improve. Groups of councils across Sydney and beyond are beginning to work collectively to generate economies of scale which will create the market conditions whereby used materials can be reprocessed and redirected back into new product.

There needs to be greater public understanding and awareness of the linkage between greater consumption levels, caused by the shorter lifecycle of consumer products and the increased level of energy and water consumption created by this demand for access and turnover in goods and products.

The future for improving recovery practices in local government will be further enhanced if the State and Federal Governments provide more practical assistance to support the direction being taken by local government in promoting more sustainable living.

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## **Further contact**

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### ATTACHMENT 1. Domestic Waste Services Provided by SSROC Councils

Service			No. of Councils <sup>1</sup>	No. of Services	\$ Value pa
<b>General Waste:</b>	Set-out (single dwellings)	- 80/120 L MGB	1	411 739	15 573 326
		- 120/140 L MGB	8		
		- 240 L MGB	2		
	Service Freq. (single dwellings)	- Weekly	10		
		- > Weekly	1		
	Destination	- Transfer Station	8		
		- Landfill	3		
Provider	- Contract	5			
	- Day Labour	6			
<b>Recycling:</b>	Set-out (single dwellings)	- Crate	4	411 823	4 266 780
		- 240 L co-mingled	7		
	Service Freq. (single dwellings)	- Weekly	5		
		- Fortnightly	6		
	Destination	- Tarren Point	5		
		- Chullora	2		
		- Alexandria	4		
	Provider	- Contract	7		
		- Day Labour	4		
	<b>Green Waste:</b>	Set-out (single dwellings)	- 115/120/140 L MGB		
- 240 L MGB			5		
- Bundled			3		
- Bundled			3		
Service Freq. (single dwellings)		- Weekly	3		
		- Fortnightly	7		
		- On-call/Drop-off	1		
Destination <sup>1</sup>		- Randwick	3		
		- Lucas Heights	4		
		- Rockdale	2		
	- Botany	1			
Provider	- Contract	3			
	- Day Labour	8			
<b>Clean-Up:</b>	Set-out (single dwellings)	- Kerbside piles	11	2 994 810	
		- Kerbside piles	11		
	Service Freq. <sup>2</sup> (single dwellings)	- On-Call	3		
		- Fixed: 2 p.a.	3		
		- Fixed: 2 p.a. + OC	2		
		- Fixed: 3 p.a. + OC	1		
	Destination <sup>3</sup>	- Lucas Heights	3		
		- Botany	4		
		- Greenacre	1		
		- Rockdale	1		
Provider	- Contract	2			
	- Day Labour	9			

**Note:** 1. Destination data from one Council was not provided.  
 2. Service data from two Councils was not provided.  
 3. Destination data from two Councils was not provided.

## ATTACHMENT 2 The Findings of a Review of Member Councils Municipal Waste Services

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Set out below, are six areas of service operation which could benefit from closer review and potential change to improve social, environmental and financial outcomes to communities across southern Sydney

<b>Fleet productivity:</b>	<p>Each council currently operates a collection fleet, whether in-house or by external contract, which best suits the overall requirements of the community across the council area. This tends to result in the trading off of using a type of vehicle which can for example, negotiate different topographies – such as narrow congested streets and wide open avenues, and also operate a collection mode which can both collect single bins from single dwellings and multiple banks of bins from multi unit and high rise dwellings.</p> <p>As a result of analysing the conflicting requirements of collection operations under varying conditions, a fleet capacity utilisation formula has been developed to explain what effect these variations have on fleet efficiency. The key results indicate that operational issues, such as congested streetscapes and work practices have a significant effect on the productivity of the collection service.</p> <p>Further studies may be carried out to identify why fleet utilisation levels vary across the region and to develop metrics for measuring and monitoring fleet productivity against benchmark performance metrics. This approach could assist in improving work practices.</p>
<b>Bulk systems in high-rise:</b>	<p>Data gathered on high-rise households (multi dwelling units of more than three stories in height) identify pockets of intense service delivery within most member council services. For a group of councils within the northern sector of the region, this represents a significant proportion of services for each Council ranging from 41% to 69%. Restricted access to these sites and the presentation of a great number of bins on the kerbside present significant logistical and congestion problems.</p> <p>Whilst not all of these dwellings would be either suitable or suitably located for a dedicated service, there could be scope to construct a “composite run” collection service that traverses LGA boundaries to achieve a scale that is both economic to operate and a sustainable alternative to the current services. Such a service could employ collection technologies specifically targeted to the needs and challenges presented by these buildings and their streetscape settings.</p> <p>Further studies may be carried out to investigate suitable technologies and establish costs associated with installation and operation of a composite service.</p>
<b>Mini systems in low-rise congested areas:</b>	<p>There is anecdotal evidence to indicate a group of relatively large, definable areas in both the central and northern parts of southern Sydney, where congested streetscape environments in low-rise dwelling regions present major challenges in waste collection services.</p> <p>In these circumstances Councils have moved to smaller vehicles, multi-member crews and rear load compaction vehicles to accommodate the demands of the streetscape. And in at least two Council areas multiple services for general waste are provided within a week.</p> <p>This configuration and service demand could well be suited to mini-collection</p>

	<p>vehicles which could be ride-on or involve the operator walking beside the vehicle with remote control. The vehicles would most likely be battery powered, quiet, and suitable for negotiating footpaths and small lanes and provide a high level of flexibility for the service operator.</p> <p>To support these vehicles it would be necessary to have mobile transfer vehicles, similar to those envisaged by a Sydney equipment manufacturer for servicing Olympic facilities in 2000. Such a fleet, operating “fishing fleet style” may well produce improved service, cost and environmental outcomes relative to the services of today.</p>
<p><b>Travel to drop-off locations:</b></p>	<p>Throughout the region, the amount of travel by collection vehicles in transferring general waste from the LGA to the drop-off point for processing or disposal is relatively ranging from 33% to 39% of the total distance travelled per day.</p> <p>The impact of this non-productive time is quite considerable given that a significant proportion of the vehicle fleet across the whole region, consist of rear load compactor vehicles with multi-member crews, thereby increasing the labour cost associated with this non-productive transfer activity.</p> <p>This situation could raise opportunities for investigating types of facilities which could be suitable and appropriate for siting within the region.</p>
<p><b>Shared services in low-rise areas:</b></p>	<p>As with the high-rise dwelling situation, there may well be a case to introduce dedicated single dwelling services that cut across LGA boundaries and use plant and crews best suited for single dwellings – i.e. single operator, side loading vehicles in place of the current equipment.</p>
<p><b>Communal systems in new developments:</b></p>	<p>Planning guidelines could be developed to encourage, or compel, inclusion of communal waste management systems within new developments, involving multi-dwelling building configurations.</p> <p>Several technologies are potentially suitable for these concentrated developments and they can be significant in reducing the burden on Councils involved in extending existing waste services into the new developments. Indeed, if a technology such as bulk bins or vacuum extraction systems were employed, the waste service demands of these new developments could be accommodated without impact on existing fleets and crews.</p>

