



**WASTE MANAGEMENT AND RESOURCE  
RECOVERY PLAN 2009-2014**

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## **Executive summary**

### **The Waste Management and Resource Recovery Plan 2009 – 2014**

establishes a framework for the delivery of the City of Port Phillip's waste management services and achieving effective resource recovery over the next five years.

The effective management of waste is, and will remain, a key issue for local communities and their governments. At state level Victorian households sent over 1.8 million tonnes of waste to landfill on 2007-08 alone. With a quickly growing Australian population this figure can be expected to increase accordingly.

If we are to be a sustainable community, the efficient and effective management of waste, using the principles of the waste minimisation hierarchy, will play a vital role. Effective waste management can have a substantial impact in key areas of sustainability including; resource efficiency, greenhouse gas abatement, environmental amenity and a community's overall quality of life.

This plan uses several state and local government publications to provide an overarching framework and definition of what best practice in waste management for the City of Port Phillip will look like over the next 5 years. These documents include:

- The Metropolitan Waste and Resource Recovery Strategic Plan (2008)
- The Victorian Government's Towards Zero Waste Strategy (2005)
- Port Phillip's Council Plan (2009 – 2013)
- Port Phillip's Towards Zero –Sustainable environment Strategy (2007)

This plan is strongly aligned to all of the above plans and incorporates all state and local government targets for waste diversion and minimization.

Further to this the City of Port Phillip recognises that, to effectively deliver its waste management programs and services, partnerships with the local community, schools and businesses are vital. To this end the plan places a strong value on providing innovative and effective services that the community need as well as providing comprehensive waste and litter education campaign.

In fulfilling its role as a leader and facilitator of waste and environmental policy and management, the City of Port Phillip recognises that setting one's own house in order is essential when seeking to govern and regulate the actions of others. This strategy re-enforces Council's commitment to the Waste Wise program to ensure that Council's in-house waste management can provide a positive example to the rest of the community.

This plan is designed to achieve the best possible management of waste for the City of Port Phillip now and into the future. In pursuit of this, 10 key goals have been adopted as follows:

10 WASTE MANAGEMENT GOALS	COUNCIL'S ROLE
1. To play an active role, as a member council of the Metropolitan Waste Management Group, in pursuing new and improved waste management and waste reduction technologies and practices on a regional basis; including A.R.R.T and Green organic treatment facilities	COUNCIL AS A REGIONAL LEADER
2. To lobby state and federal government bodies to take action to reduce levels of resource use, consumption and waste production on a state and national basis. Furthermore, to advocate for and facilitate (via education programs) reduced consumption and waste generation on a local level - with a goal of a 5% per annum decrease in waste generated per household.	
3. To achieve the State government 'Towards Zero' targets of 65% municipal solid waste diverted from landfill and a 25% improvement in litter behaviour (on 2003 levels) by 2014.	COUNCIL SERVICES AND COMMITMENTS
4. To achieve the targets set out in Port Phillip's 'Towards Zero Strategy' including an 80% reduction in Councils in-house waste to landfill and a reduction of 75% of residential Municipal Solid waste to Landfill by 2020.	
5. To support the Council Plan (2009-2013) by continuing to deliver a high quality waste management service to the community, while also investigating and extending the waste management services offered to the community,	
6. Reduce the environmental impact of waste management operations, transport and disposal - especially in regard to greenhouse gas emissions.	
7. In line with the Waste Wise and Resource Smart organisation models, facilitate best practice waste management and purchasing within all of Council's own and contracted operations including maintenance, infrastructure, and Office areas.	INTERNAL PROCESSES

8. Facilitate greater involvement and understanding of Resource recovery within the local businesses and the community via education programs and activities	EDUCATION AND COMMUNITY ENGAGEMENT
9. To explore and promote opportunities to assist in the reduction of consumption levels within the broader community (including Businesses and schools)	
10. Facilitate and implement strategies and education programs, through the Litter Prevention Taskforce, to reduce litter in public space and roadsides.	

A detailed action plan will outline how these goals will be achieved by 2014. This plan will be the framework through which the City of Port Phillip can achieve a truly sustainable, world class waste management and resource recovery service.

## **Introduction**

**The Waste Management and Resource Recovery Plan 2009 – 2014** establishes a framework for the City of Port Phillip's Waste Management Services and sets a clear policy direction as a basis for action over the next five years. This timeline coincides well with the current council plan as well as several Local, State and Federal government waste management targets.

The effective management of waste is, and will remain, a key issue for local communities and their governments. At state level Victorian households sent over 1.8 million tonnes of waste to landfill in 2007-08 alone. This figure can be expected to increase in proportion to increasing population.

If we are to become a sustainable community, it is essential that waste is managed efficiently and effectively in a manner that is consistent with the principals of the waste hierarchy. Effective waste management can have a substantial impact in key areas of sustainability including; resource efficiency, greenhouse gas abatement, environmental amenity and the community's overall quality of life.

The City of Port Phillip is firmly committed to achieving a truly sustainable waste management system and aims to play a leading role in waste management innovation within the Metropolitan region.

## Local Context

The City of Port Phillip is an inner Metropolitan Municipality, located on the northern shore of Port Phillip Bay to the south of the Melbourne CBD. It includes the suburbs of Albert Park, Balaclava, Elwood, Middle Park, Port Melbourne (part), Ripponlea, South Melbourne, St Kilda, St Kilda East (part), St Kilda West and part of the St Kilda Road area. The city has experienced a significant amount of residential development over the past 15 years particularly around areas close to the foreshore. With a population of approximately 93,000<sup>1</sup> (increasing at around 2% per annum) the City of Port Phillip is one of the most densely settled areas of Victoria. There are 40 persons per hectare, which is approximately 10 times the Melbourne metropolitan average and over 40% of residents live in high density dwellings<sup>2</sup>.

**FIGURE 1: Map of the City of Port Phillip**



The municipality covers 20.62 square km of land adjacent to Port Phillip Bay, including 9.3 kilometres of beach frontage. The City's geographic location and natural features attract visitors and residents in adjoining cities as well as international tourists. The beach is also the discharge point for storm water from catchments both within the city and extending beyond into other municipalities. This results in many external forces that impact on the local environment, such as storm water pollution, litter and transport issues.

In short Port Phillip is a densely populated, highly developed and frequently visited area. As such, waste management within the municipality requires a flexible service that can deal with multiple waste and litter issues in a quick and efficient manner.

<sup>1</sup> <http://forecast.id.com.au>

<sup>2</sup> 2006 Australian Bureau of Statistics Census

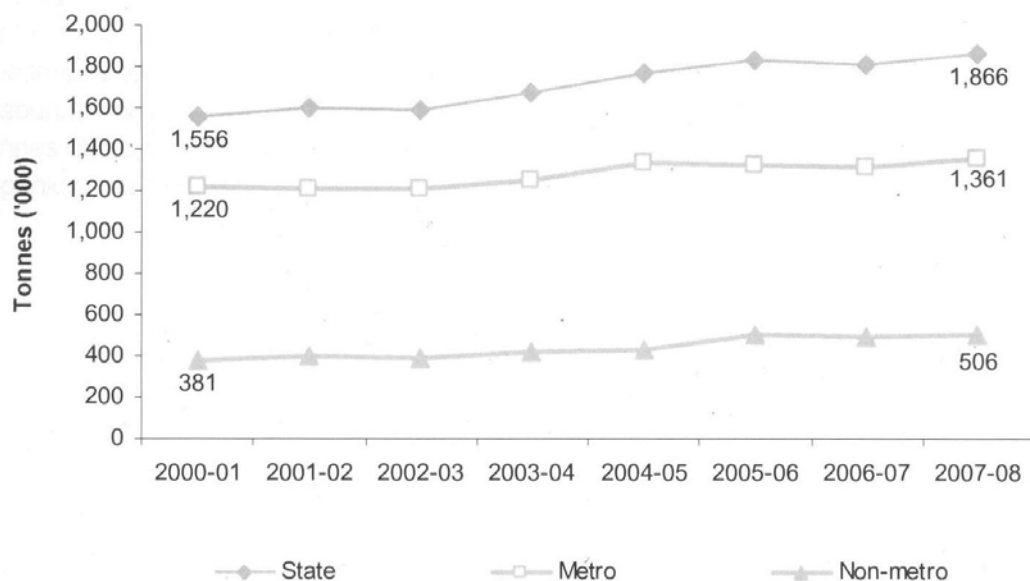
Further to this the municipality has a history of playing a lead role in waste and environmental management. This leadership role is strongly driven by the expectations of residents and It is therefore crucial that Port Phillip’s waste management practices not only meet service level requirements, but that they do so in the most sustainable and innovative way possible.

## Waste trends in Victoria

Australia collects the second most waste per capita per annum (600-700 kg) in the Westernised world, following closely behind the United States (700+kgs)<sup>3</sup>. This figure is growing. Whilst a few countries, such as Germany, have succeeded in reducing solid waste generation per capita over the last 20 years, the overwhelming general trend here is one of annual waste per capita increasing over time. Victoria (indeed all of Australia) is no exception.

Victorian households generated over 1.8 million tonnes of kerbside domestic waste (around 930kg per household) during the 2007-08 financial year. Approximately 45% of this waste stream is recycled<sup>4</sup>. As Figure 2 shows, while there have been significant gains made in the amount of material recycled and composted, there has been a 20% increase in domestic waste generation from 2001 to 2008.

**FIGURE 2: Waste Generation\* Victoria 2000-01 to 2007-08**



\*Waste generation includes garbage, recyclables and green organics

Source: Sustainability Victoria *Victorian Local Government Annual Survey, 2007-2008*

While diversion from landfill has increased and actual garbage generation has decreased slightly over this time, it is clear via the increased total waste generated, that our level of consumption as a state is not decreasing.

<sup>3</sup> OECD Environmental Data Compendium: 2002

<sup>4</sup> Sustainability Victoria *Victorian Local Government Annual Survey, 2007-2008*

However, considering that, by weight, around 50% of the garbage stream consists of food, organics and some residual recyclables there is a substantial opportunity for further diversion of waste from landfill.

There are therefore three main elements to consider for Victorian waste management:

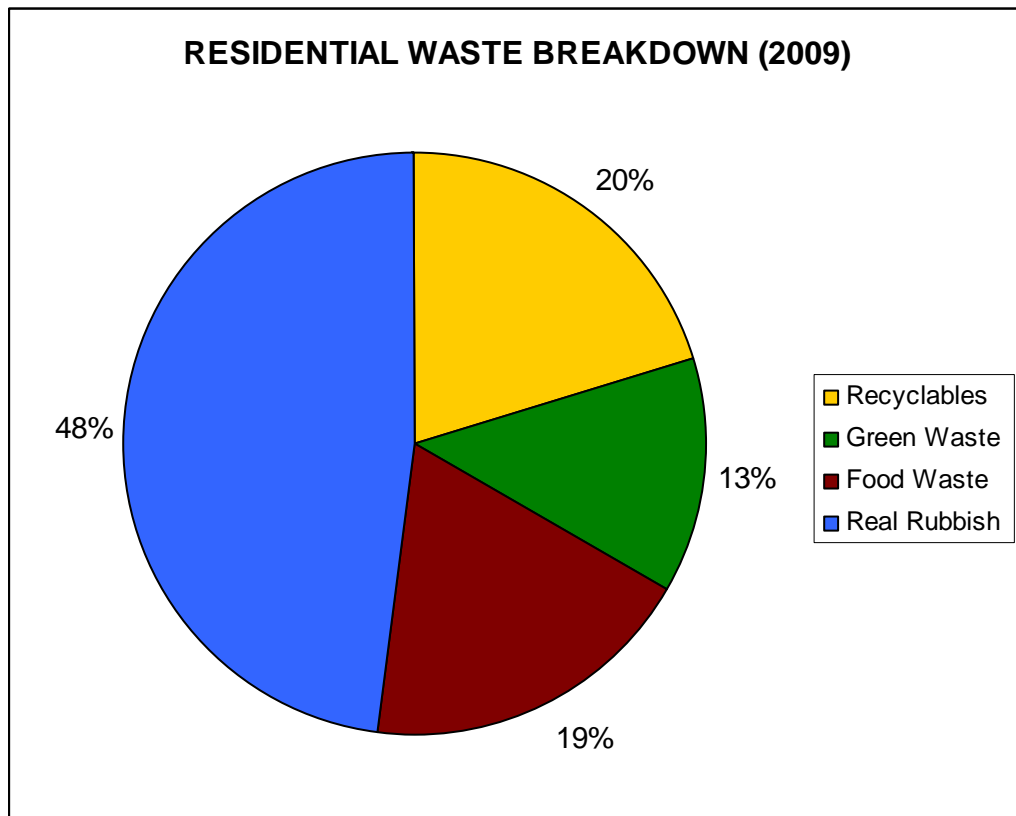
1. There is a clear need to address waste production. Avoidance of waste production should be a priority objective (see the waste hierarchy figure 3) in achieving sustainable Waste management. This will require action from all levels of government and a strong commitment from businesses and the community.
2. There is still room for vast gains in the recycling of generated waste. This element is more closely aligned with the services provided by Councils and therefore offers perhaps the most direct and immediate course of action towards more sustainable outcomes.
3. How Council's address the issue of diverting green and organic waste from landfill will present the main challenge in waste management and resource recovery over the next 4 years

## **Waste and Litter Trends in Port Phillip**

As priority issues for Port Phillip, waste and litter levels and composition are frequently audited and assessed. From data gathered the following current statistics and trends can be seen:

### **Waste and Recycling**

- Currently Port Phillip annually delivers just over 19,755 tonnes of waste to the Wyndham landfill and around 13,623 tonnes of Recyclable product to the S.K.M processing plant, resulting in a domestic diversion rate of 41% by weight.
- The diversion of recyclables has increased steadily overtime from 36% in 2006 to 39.3% in 2007, 39.4% in 2008 and 41% in 2009
- Contamination within the recycling stream has reduced to minimal levels in recent years, with the main concern an operational one (over compaction of loads) as opposed to behavioural.
- Overall the general desire and expectation of residents to be able to recycle more of their waste products is increasing. This is primarily due to effective waste education and a general increase in awareness within the community.
- The composition of the domestic waste stream (see below) contains significant room for improvement. Recyclable materials still make up 20% of the waste stream and organic material (primarily food waste) accounts for 32% of the waste in domestic bins.



- Current levels of garden waste, otherwise known as green waste (e.g. garden clippings, leaves etc) still represent a relatively small portion of the waste stream in comparison to other municipalities. This is primarily due to the higher density of residential living within Port Phillip.

#### **Litter / Dumped Rubbish**

- Litter remains an issue for the municipality, particularly in the months from October to May (a result of warmer weather and increased visitation numbers)
- Cigarette butts remain the most numerous litter item
- There are several major litter 'hotspots' identified in the Municipality including – Acland and Fitzroy Streets and O'Donnell gardens St. Kilda, Bay St Port Melbourne and several Foreshore Area. Several of these are being addressed via increased cleaning and litter collection regimes (Fitzroy and Acland St Precincts).
- Litter remains an important and passionate issue for residents, with a strong level of support identified for anti-litter campaigns such as 'Summer in the City'.
- Dumped Rubbish remains a significant issue for the City, however newly introduced services have made a markedly positive impact.

## **Current Waste management and resource recovery – Port Phillip’s progress from 2006-2009**

The previous Waste Wise strategy (2006-2009) was the driving force behind waste management in the City of Port Phillip over the past 4 years. Similar to this plan, it set out a clear set of actions and achievements for waste management services and the city of Port Phillip. Below is a table summarising the major service improvements and milestones achieved during the life of the 2006-2009 strategy.

### **WASTE MANAGEMENT AND RESOURCE RECOVERY ACHIEVEMENTS IN 2006-2009**

#### **Residential Kerbside Collection Service**

- Achieving a diversion rate of rubbish from landfill of 41% (up from 36% in 2006)
- Achieved an excellent community satisfaction survey results, with over 60% of all residents surveyed rating the service as excellent and over 80% rating it as satisfactory or better
- Implementation of reporting on all contractor carbon emissions
- Provision and maintenance of the cities 64, 441 mobile garbage bins (M.G.Bs)

#### **Hard and Green Waste booking service**

- Maintenance of a best practice hard and green waste booking service - providing residents 4 free booked collections per year.
- Resulting in the collection of over 883 tonnes of hard and green waste collected annually

#### **Dumped Rubbish Collection service**

- Maintenance of a best practice Dumped Rubbish collection service

#### **Street Litter bin provision, maintenance and disposal**

- Successful trial of public place recycling bins in Elwood and South Melbourne Beach
- Procurement of Euro 5 standard trucks for litter bin collection to reduce emissions.

#### **Street and Beach Cleaning Services**

- Successful implementation of an increased cleaning regime over the summer period, focussed on visitation hotspots such as the St. Kilda shopping precinct.
- Awarded several ‘Clean Beach’ and ‘Keep Australia Beautiful’ awards for street and beach cleaning.

#### **Transfer Station operations**

- Delivered an increase in the amount and type of materials accepted for disposal and recycling at the transfer station, including electronic waste, mattresses, paint, fluorescent tubes and household batteries.
- Procurement of Euro 5 standard hook truck (reducing emissions) for the transportation of waste to landfill/recovery facilities

### **In-house Waste management**

- Achieved certification as a Waste Wise (Silver) organisation with the installation of composting facilities at Council buildings and high levels of in-house waste diverted from landfill.

### **Waste and Recycling Education**

- The provision of School programs including Streetwatch - an anti-litter and waterways protection program, and the Australian Sustainable Schools Initiative (AuSSI), a whole of curriculum sustainability program.
- Provision of waste and recycling information to all residents including the production and distribution of the yearly waste and recycling services booklet and maintenance of easy to use and up-to-date Online communications
- Operational and educational support for waste management at community events
- Operational support and promotion of National, state and local waste and recycling education campaigns such as the 'Recycle right at home' program
- Support and often leadership of litter and recycling campaigns such as Clean up Australia Day, the Butt free cities campaign, Don't be a Tosser anti cigarette butt litter campaign, Summer in the City/Summer Litter Blitz and Waste Wise events.

## **Community consultation and feedback**

Port Phillip recently undertook a public consultation/feedback process to gather information and ideas from residents. The process consisted of provision of an online and hardcopy survey/feedback form being made available to all residents for a period of 6 weeks. This survey was advertised online, in local press, via Council publications and in town halls. With nearly 150 responses the survey yielded fantastic feedback in regard to port Phillip's current services and some terrific ideas for the future management of waste in the city. Some of the key results from the survey are listed below.

- Over 74% of respondents rated the household collection service as good or excellent with 20% stating it needs improvement.
- 91% of respondents stated that their understanding of what can and cannot be recycled was good or excellent.
- 79% of respondents supported a ban and/ or reduction scheme on disposable plastic bags

When asked what would help households recycle more responses focuses upon -

- Improvement of services to Multiple unit dwellings
- Increased levels of educational material provided (what can and cannot be recycled))

- Increased range of services to recycle different materials i.e. E-waste, light bulbs etc.
- Reduced amounts of packaging on products – also clearer labelling of the materials

When asked for suggestions to improve waste management in the city respondents focused upon –

- Returning to a twice-yearly, set-date collection of hard/Green waste
- Increasing and improving public place recycling
- The need for more regular chemical/ hazardous waste collections
- The need for more educational material/programs distributed to combat anti-social littering behaviour and poor recycling practices,

All of these responses have been highly valued and will be taken into account when adapting operational procedures or designing the goals listed in this plan.

However, by far and a way the most common response recorded in the survey to improve recycling rates and waste services was for **improvements to the Council's green waste services**. The most commonly listed desire from residents was the implementation of a regular green waste service – be it a kerbside collection or local skip-based drop off service. The topic of green waste collection and diversion from landfill is not only of very high importance not only to residents but will play a crucial role in the future of waste management state-wide and as such is discussed separately below.

## Dealing with Green Waste

Port Phillip residents frequently ask why council does not have a kerbside green waste collection system.

Port Phillip, like the cities of Melbourne and Yarra, is classified as an inner metropolitan council and as such maintains a two bin (garbage and recycling) domestic waste system. As outlined in the Metropolitan Waste and Resource Recovery Strategic Plan, inner metropolitan councils typically do not run kerbside green waste collections for the following reasons:

1. Practicality – due to a high density of development inner metropolitan councils typically have restricted vehicle access and limited space to both store bins and place them at the kerbside.
2. Reduced volume of green waste available - as a consequence of the relatively high density of development (Port Phillip has over 40% of residents living in High density or multiple occupancy residences) inner metropolitan council's have a relatively small amount of residential green waste to collect. In Port Phillip green waste makes up just over 10% of the household waste stream.
3. Lastly, installing and maintaining a third bin system would add significantly to council's waste related waste collection costs and greenhouse gas emissions.

In lieu of a kerbside collection service Port Phillip, like other inner metro councils, offers a smaller scale yet more flexible green waste system for its residents.

The current system for disposal of green waste includes:

- Free disposal of green waste at the transfer station for all residents
- 4 free bundled or bagged green waste collections per year via a booking system

This system currently provides a minimum cost, minimum environmental impact solution to disposal of Port Phillips Green waste.

However, it is recognised that this system is by no means perfect. Organic food and green wastes are seen as an important issue by the community, and will play an integral role as part of Port Phillip's waste management plan. To this end Port Phillip will continue to investigate options for improvement in the collection of green waste and adapt this, along with other services, to meet evolving trends and community demands within the City of Port Phillip.

The city of Port Phillip, in conjunction with the M.W.M.G, is currently in the process of investigating Alternate Waste Treatment and Advanced Resource Recovery Technologies (A.W.T's and A.R.R.T's). These systems have the potential to process all residential waste, including the recycling of organic food and green waste, and look to offer one of the most efficient solutions to the green waste issue. These technologies are discussed in detail on page 21.

## **Waste Policies and Commitments – Driving Change**

This plan uses several state and local government publications as an overarching framework and target set in achieving best practice in waste management for the City of Port Phillip into the next five years. These documents set several clear targets including:

- The Metropolitan Waste and Resource Recovery Strategy Plan (2008) strategic directions include the following goals:
  - To generate less waste
  - To increase the amount of materials for recycling and reprocessing;
  - To reduce the damage to our environment caused by waste
- The Victorian Government's Towards Zero Waste Strategy (2005)
  - Reduce the amount of waste generated, by 1.5 million tonnes per annum by 2014, compared to 2002/03
  - 65% diversion rate in Domestic waste by 2014
  - 25% improvement in littering behaviour (on 2003 levels) by 2014
- City of Port Phillip Council Plan (2009 – 2013)
  - 1.3 Commitment to Service - Continue to deliver an efficient and high quality waste management service to the community
  - 2.1 Reducing consumption and emissions – Improve waste fleet operations (reducing emissions) and public education on resource and waste efficiency
  - 2.3 Adapting and Sustaining - Further advance the move from Waste Management to Resource Recovery via investigating and extending the services offered in waste management
  - 4.3 Caring for our natural environment – improved litter management
- City of Port Phillip Toward Zero –Sustainable Environment Strategy (2007)
  - Achieve an 80% reduction in Councils in-house waste to landfill and a reduction of 75% of residential Municipal Solid waste to Landfill by 2020
  - 70% reduction in litter by 2066

This plan is strongly aligned to the documents above and is designed to achieve all the targets listed above. Other relevant documents and strategies which will help guide the implementation of waste management in Port Phillip include:

- The City of Port Phillip Water Plan (focusing on best practice storm water management, including litter management, in line with state targets)
- VARRI – (Victorian Advanced Resource Recovery Initiative) initiative instigated by the Victorian State Government to facilitate the development of Alternative Resource Recovery Treatment (ARRT) facilities in metropolitan Melbourne.

- The Environmental Protection Act (1970) – Victoria’s primary environmental protection legislation – with decision making principles including the precautionary principle, intergenerational equity and the waste Hierarchy
- National Packaging Covenant – Government/business agreement focused on reducing the impact of packaging (including resource efficiency and recycling)
- National Waste Policy (under development – due for release in November 2009)

## **Best practice Waste management – how will we do it?**

### ***New technology***

It is generally accepted that achieving the targets listed in the above policies will require the use of new waste and resource recovery technologies. The Metropolitan waste and resource recovery plan outlines a model for the technology most suited to inner metropolitan Melbourne, including the City of Port Phillip, where two bin collection systems are prevalent. These include:

- **Alternative Waste Treatment Facility (A.W.T)** – *Mixed waste processing facilities capable of recovering and or recycling a large component of the domestic residual waste stream including garden organics, recyclables and biodegradables such as textiles and food waste*
- **Material Recovery Facility (M.R.F)** – *Co-mingled recycling facility for the processing of the domestic recycling stream*
- **Organic Treatment Facility** – *An aerobic or anaerobic facility for the processing of green waste (including that sourced from the transfer station), street sweepings, seaweed and potentially food organics.*

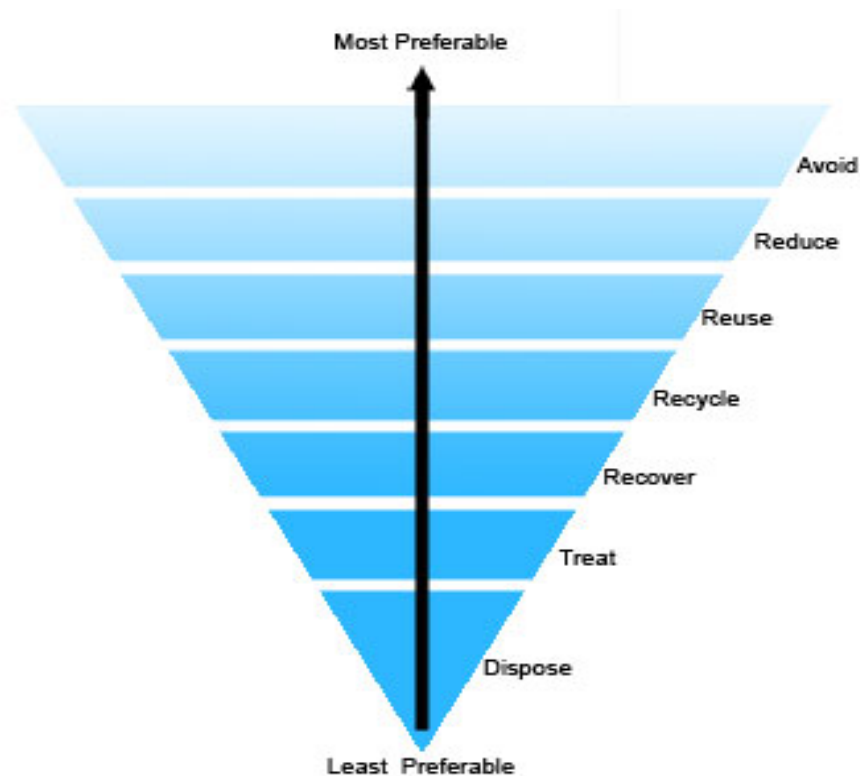
These three technologies are outlined in more detail on Page 21 under ‘Achieving Waste Diversion Rates’.

### ***Applying the Waste Hierarchy***

Whatever specific form of technological, behavioural or service-driven solutions are used to achieve the targets and goals listed in this strategy, Port Phillip’s choices in waste management will be firmly driven by the Waste Management Hierarchy. By ensuring that the hierarchy is reflected in the plan, the solutions to waste management in Port Phillip will be efficient and effective and address all the relevant issues.

The Hierarchy, shown in figure 3, is a seven tier management model, representing the preferred approach to all waste management.

**Figure 3: The Waste Hierarchy**



Most people are familiar with the simplest form of the waste hierarchy, commonly known as the ‘three R’s’ – Reduce, Reuse, Recycle, or even the ‘five R’s’, which include Rethink and Refuse at the top of the triangle.

Over time, the waste hierarchy has developed to include higher levels of treatment of waste, including the application of higher end technology, and accepting that there is always some level of waste that needs to be finally disposed. The waste hierarchy presented in Figure 1 provides the basis for the conversations around waste solutions in Port Phillip.

**Avoid** - (includes rethink and refuse) To avoid generating waste in the first place is the highest priority in any waste management plan.

**Reduce** – Reducing the amount of materials we use or consume

**Reuse** – Reusing products and materials. This option can save considerable amounts of embodied energy (manufacturing processing, transport etc)

**Recycle** – reprocessing of materials into new items/products. This lessens our environmental impact to a smaller degree than reducing or reusing, however conserves a significant amount of energy and raw materials,

**Recover** – Recovery of the embedded energy within products and materials, primarily achieved via energy generation

**Treat** – Involves treating of hazardous wastes to reduce or eliminate their threat to the environment

**Dispose** - (including containing) The least preferable option – including landfilling and storage of wastes

This hierarchy will form the basis for all decision making for waste management within the city of Port Phillip. This will result in a steady and consistent move away from simply managing waste towards a focus on waste avoidance and resource recovery.

## THE FUTURE OF WASTE MANAGEMENT AND RESOURCE RECOVERY: 2009 - 2014

Taking into account the current legislative requirements, Port Phillip's unique environmental and demographic profile, the strong commitment to sustainability from the community, businesses and Council and the current level of service (as outline previously) this plan has outlined the following 10 goals for sustainable waste management from 2009-2014:

10 WASTE MANAGEMENT GOALS	COUNCIL'S ROLE
1. To play an active role, as a member council of the Metropolitan Waste Management Group, in pursuing new and improved waste management and waste reduction technologies and practices on a regional basis; including A.R.R.T and Green organic treatment facilities	COUNCIL AS A REGIONAL LEADER
2. To lobby state and federal government bodies to take action to reduce levels of resource use, consumption and waste production on a state and national basis. Furthermore, to advocate for and facilitate (via education programs) reduced consumption and waste generation on a local level - with a goal of a 5% per annum decrease in waste generated per household.	
3. To achieve the state government 'Towards Zero' targets of 65% Municipal solid waste diverted from landfill and a 25% improvement in litter behaviour (on 2003 levels) by 2014.	COUNCIL SERVICES AND COMMITMENTS
4. To achieve the targets set out in the Port Phillip 'Towards Zero Strategy', including an 80% reduction in Council's in-house waste to landfill and a reduction of 75% of residential municipal solid waste to landfill by 2020.	
5. To support the Council Plan (2009-2013) by continuing to deliver a high quality waste management service to the community, while also investigating and extending the waste management services offered to the community.	
6. Reduce the environmental impact of waste management operations, transport and disposal - especially in regard to greenhouse gas emissions.	

7. In line with the Waste Wise and Resource Smart organisation models, facilitate best practice waste management and purchasing within all of Council's own and contracted operations including maintenance, infrastructure, and office areas.	INTERNAL PROCESSES
8. Facilitate greater involvement and understanding of resource recovery within local businesses and the community via education programs and activities	
9. To explore and promote opportunities to assist in the reduction of consumption levels within the broader community (including businesses and schools)	EDUCATION AND COMMUNITY ENGAGEMENT
10. Facilitate and implement strategies and education programs, through the Litter Prevention Taskforce, to reduce litter in public space and roadsides.	

The goals cover Council's roles as a regional leader (goals 1 and 2), a community service provider (goals 3, 4, 5 and 6), a responsible organisation (goal 7) and community educator (goals 8, 9 and 10). Achieving these goals will take full commitment from both Council and the community involving co-operation with numerous departments within the City of Port Phillip and partnerships with several external organisations.

Before outlining the action plan for achieving these ten goals, particular mention must be made of the diversion targets listed in goal number three.

## **ACHIEVING WASTE DIVERSION RATES**

Diversion of waste from landfill is currently the most achievable goal for Council's domestic waste management service (reducing waste production while higher in the hierarchy is currently less directly influenced by the local level of government). The targets set out in the Victorian Government's 'Towards Zero Waste Strategy' and Council's own 'Towards Zero Strategy' will require an increase in diversion rates of at least 25% by 2014 from current levels.

This is well over and above the slow but steady increases in diversion achieved by education-driven behaviour change (currently 41%). The latest audit results indicate that roughly 14% of the waste stream is co-mingled recyclable product that could be diverted from landfill. Education-driven behaviour change could well achieve this however, even if all co-mingled recycling product were to be removed from the waste stream Port Phillip would still be falling 9 -10% short of the 2014 target.

In order to achieve the required diversion rates, and achieve maximum resource efficiency, the diversion of the two other major elements present in the residual waste stream will need to be addressed. Organic food waste and organic green waste make up 19% and 13% of the domestic residual waste stream respectively.

As stated previously, the Metropolitan Waste and Resource Recovery Plan outlines a model for the technology most suited for inner metropolitan councils to achieve the required diversion rates and a best practice waste disposal system. Applying this model of technology to meet Council's specific circumstance, as outlined below, would not require extra infrastructure (mobile garbage bins and vehicles). This system would help minimise waste to landfill and maximise resource efficiency without the need for increased collection and transport impacts.

### ***Alternative waste treatment options (As modelled in the Metropolitan Waste and Resource Recovery Strategic Plan)***

Below are outlines of the two technologies, as modelled by the Metropolitan Waste Management Group, for use with a two bin collection system. These technologies (A.W.T and M.R.F) could potentially provide the most practical and efficient waste management system for inner city councils like the City of Port Phillip. Also listed is a third technology associated with the processing of green and organic waste, including street sweepings, seaweed and garden and food waste. This technology (called a green and food organics treatment facility), which is currently under regional procurement, may be a permanent or transitory one for Council, subject to developments made in any A.W.T facilities.

#### ***Alternative Waste Technology Facility (A.W.T) - including Advanced Resource Recovery Technology (A.R.R.T)***

The term A.W.T applies to any technology that is applied to mixed waste other than traditional methods, such as disposal to landfill. In general an A.W.T is a mixed waste processing facility capable of recovering and or

recycling a large component of the domestic residual waste stream including garden organics, recyclables and biodegradables such as textiles and food waste. This facility may also contain A.R.R.T which would extend the facilities abilities to also process solid waste, to recover resources such as energy or various components and parts for re-use and recycling

#### **Material Recovery Facility (M.R.F)**

Currently under successful operation throughout Victoria, M.R.F's are centres for the receipt, sorting and transfer of recyclable materials diverted from the waste stream. These facilities accept source-separated comingled recycling product from the domestic recycling stream.

#### **Green and Food Organics Treatment Facility**

An aerobic or anaerobic facility for the processing of green waste (including that sourced from the transfer station), street sweepings, seaweed and potentially food organics. As mentioned earlier, the Metropolitan Waste Management Group is currently in the process of procuring a facility of this type on behalf of the metropolitan region (of which Port Phillip is a member). The specific form that this technology takes is still to be determined, however, all technologies will have to accept the before mentioned materials and typically convert this into either compost, mulch or fertiliser and potentially energy (via methane extraction)

It is highly likely that these technologies will need to play a part in the future of Port Phillip's waste management should a diversion rate of 65% or over be achieved. Due to the large investment and commitment involved in any of these technologies a thorough investigation will need to be conducted before progressing. This investigation, along with many other actions, is outlined in the action plan listed below.

## **ACTION PLAN**

Below is the 2009-2014 Waste Management and Resource Recovery Action Plan. This plan incorporates all relevant targets and legislative requirements and lists all overall actions and year-specific tasks required to ensure Port Phillip takes a pro-active approach to achieving all 10 stated goals in this strategy. All items listed are currently budgeted for except for those listed as 'to be investigated'. This includes items such as Alternate Waste Treatment facilities, further Resource Recovery Centre upgrades and public place recycling, which will require funding over and above the current allocation should they be implemented.

The each action is aligned to both Council Plan key directions and to the 10 specific goals within this strategy. Further to this, key tasks for the current financial year are listed for each action as well as the responsible parties and current status. This document will be modified and updated as progress is made towards the 2014 targets.

## City of Port Phillip Waste Management and Resource Recovery DETAILED Action Plan 2009-2014

COUNCIL ROLE	COUNCIL PLAN KEY DIRECTION	STRATEGY GOAL	OVERALL ACTION	SPECIFIC TASKS 2010	RESPONSIBLE PARTIES	CURRENT STATUS
COUNCIL AS A REGIONAL LEADER	2.3	1	Maintain active membership within the Metropolitan Waste Management Group and other relevant bodies (including M.A.V and W.M.A.A)	<ul style="list-style-type: none"> <li>Attend all relevant forums, meetings and planning sessions (currently including groups assessing Multi Unit Developments, the V.A.R.R.I project, Organic treatment plant tender process and the Metropolitan waste management Forum)</li> </ul>	Waste Management Services + Council litter champion + Regional board members	2010 (annual)
	1.3 2.3	1 2	Advocate and Lobby relevant government and non-government bodies for adoption of best practice waste management	<ul style="list-style-type: none"> <li>Continue to work with M.W.M.G, other councils and N.G.Os to initiate best practice schemes such as product stewardship (for the television and electronics industry in particular)</li> </ul>	Waste Management Services	Ongoing
				<ul style="list-style-type: none"> <li>Investigate and promote Alternate Waste Technologies to increase waste diversion rate</li> </ul>	Waste Management Services	Ongoing
				<ul style="list-style-type: none"> <li>Work towards best practice guidelines for Multi Unit Developments</li> </ul>	Waste Management Services	Baseline studies currently underway
	1.3 2.3	2	Work with and lobby all interested stakeholders to achieve reduced resource use and decrease waste production on a state level.	<ul style="list-style-type: none"> <li>Investigate and pursue options to achieve decreased resource consumption at a state and federal level.</li> </ul>	Waste Management Services	Awaiting V.A.R.R.I report outcome
				<ul style="list-style-type: none"> <li>Provide a best practice example on a national scale</li> </ul>	Waste Management Services + Sustainable Environment	Ongoing
	2.1 2.3	2	Work at the local level to reduce resource consumption and waste production within the community – primarily via education and behaviour change programs	<ul style="list-style-type: none"> <li>Investigate, promote and support campaigns such as 'plastic bag free towns' and other education campaigns addressing reduced resource consumption.</li> </ul>	Waste Management Services + Sustainable Environment	Ongoing investigations and implementation
				<ul style="list-style-type: none"> <li>Provide 'at cost' infrastructure to residents such as worm farms and compost bins.</li> </ul>	Waste Management Services	Ongoing
				<ul style="list-style-type: none"> <li>Maintain support for the Sustainable Living at Home (or equivalent) program(s)</li> </ul>	Waste Management Services + Sustainable Environment	Conducted annually
				<ul style="list-style-type: none"> <li>Maintain up to date online and printed information for the public to reduce resource use.</li> </ul>	Waste Management Services	Ongoing
	2.3	1	Maintain and expand partnerships with other Councils to facilitate regional wide projects	<ul style="list-style-type: none"> <li>Investigate possibilities for joint projects with other councils (in particular the local cluster including Stonington, Yarra, Melbourne and Maribyrnong) on topics such as Multi Unit development recycling campaigns, Summer litter education campaigns and well as Transfer station operation and expansion.</li> </ul>	Waste Management Services	Ongoing
	COUNCIL SERVICES AND COMMITMENTS	1.3 2.1 2.3 4.3	3	Investigate and aggressively pursue options in order to achieve the Targets for Waste diversion from Landfill set out in the State governments 'Towards Zero Strategy' and Councils own 'Towards Zero' sustainability strategy. In particular address the issue of diverting organic content from landfill	<ul style="list-style-type: none"> <li>Both autonomously and as part of the Metropolitan group, investigate and actively pursue Alternate Waste Technologies to increase waste diversion from landfill</li> </ul>	Waste Management Services + Regional partners
<ul style="list-style-type: none"> <li>Secure efficient disposal of Organic waste (Organic waste processing plant currently under tender via the M.W.M.G)</li> </ul>					Waste Management Services + Regional partners	End of 2010
<ul style="list-style-type: none"> <li>Continue to investigate and implement new recycling technologies at the South Melbourne resource recovery centre and throughout the city</li> </ul>					Waste Management Services	Ongoing
1.3		4	Monitor and Maintain excellent standards and value for money in Waste Management services (including Garbage, Recycling, Litter and Hard/Dumped rubbish collection, Street and Beach cleaning, Transfer station	<ul style="list-style-type: none"> <li>Maintain a comprehensive monitoring system on all relevant contracts (Waste and recycling collection, Hard, Green Waste and Dumped rubbish collection, street and beach cleaning) including O.H&amp;S, efficiency and performance reviews</li> </ul>	Waste Management Services	Weekly auditing and reporting via the Annual budget review
<ul style="list-style-type: none"> <li>Maintain efficient, safe and effective in house services (including litter bin collection and Resource recovery Station operation</li> </ul>	Waste Management Services	Weekly auditing and reporting via the Annual				

	1.3 2.1 2.3 2.4	5	operation)			budget review	
			<ul style="list-style-type: none"> <li>Maintain and enforce up-to date tenders and contracts for all relevant services</li> </ul>	Waste Management Services + Governance	Ongoing monitoring with monthly reviews		
			<ul style="list-style-type: none"> <li>Review current practices at the Resource Recovery Centre (including the potential for a resale centre)</li> </ul>	Waste Management Services	Review of site suitability and requirements underway		
			<ul style="list-style-type: none"> <li>Investigate opportunities to work in partnership with other Councils in regard to Multi unit developments and summer litter management</li> </ul>	Waste Management Services	Baseline study underway in C.o.P.P planning to follow		
			<ul style="list-style-type: none"> <li>Continue to improve Litter collection and management – Via maintenance of the Litter taskforce, further investigations into public place recycling and improvements to annual anti-litter campaigns</li> </ul>	Waste Management Services + Street and Beach Cleaning	Review of 2010 Summer litter campaign underway – public place recycling plan to be reviewed for next financial year		
	2.1	6	Investigate and aggressively pursue reductions in the Greenhouse gas emissions (70%) resulting from Councils in-house and contracted waste and litter management services	<ul style="list-style-type: none"> <li>Investigate opportunities to work in partnership with other Councils in regard to resource recovery stations (via the M.W.M.G working group)</li> </ul>	Waste Management Services + Regional partners	Metro working group meeting bimonthly – projects pending	
				<ul style="list-style-type: none"> <li>Maintain and improve the new contractor Carbon Emissions database</li> </ul>	Waste Management Services	Ongoing	
				<ul style="list-style-type: none"> <li>In conjunction with contractors, both current and future, implement CO2 emissions reduction schemes via trials and new tender requirements</li> </ul>	Waste Management Services + Sustainable Environment	Trials ongoing with enforced changes to be implemented with renewal of tenders	
	INTERNAL PROCESSES	2.1 2.3	7 3	Monitor and maintain Council's commitment to the Waste Wise program (or equivalent) and aim for achievement of the highest level of certification (for Waste wise organisation actions please see the C.o.P.Ps waste wise organisational plan attachment 1a)	<ul style="list-style-type: none"> <li>Continue to upgrade the port Phillip Waste management fleet to reduce all emissions (particulate and CO2)</li> </ul>	Waste Management Services	Changes as per lease agreements
					<ul style="list-style-type: none"> <li>Conduct Bi-Annual audits of waste generation from Council facilities</li> </ul>	Waste Management Services	To be re-instated on a 6-monthly basis from the 2010-11 financial year
<ul style="list-style-type: none"> <li>Ensure Council's involvement in the new Resource Smart Organisations program - pending its finalisation by Sustainability Victoria.</li> </ul>					Waste Management Services	Awaiting program replacement from Sustainability Victoria	
2.1 2.3 4.3	7 8 10	Encourage and assist where possible, the waste wise events process (or equivalent) with local events	<ul style="list-style-type: none"> <li>Support the implementation of a new 'Environmental Advocates' or similar green office program</li> </ul>	Waste Management Services + Building Maintenance + Sustainable Environment + General staff	Awaiting outcome of environment and planning's budget submission.		
			<ul style="list-style-type: none"> <li>Working with C.o.P.P's Festivals and Events Department - ensure all major events (including Council run events) have a comprehensive Waste management plan.</li> </ul>	Waste Management Services + Arts and Festivals	Planning underway – further to this awaiting release of new Resource smart events (sustainability Victoria program)		
			<ul style="list-style-type: none"> <li>Directly assist school and Community run events in the implementation of better waste management Practices via infrastructure provision and education</li> </ul>	Waste Management Services	As required		
2.1	3 7 9	Investigate and facilitate greater levels of staff education and involvement in the sustainable management of waste	<ul style="list-style-type: none"> <li>Support the implementation of a new 'Environmental Advocates' program</li> </ul>	Waste Management Services + Sustainable	Awaiting budget allocation		

			in both day to day activities and contract management		Environment	
				<ul style="list-style-type: none"> <li>Investigate methods of better including waste management considerations in areas such as planning, building maintenance and civil works</li> </ul>	Waste Management Services	Review of current practices options analysis to commence in 2010-11 financial year
	2.3	3 7 9	Maintain membership and/or support for relevant Waste-focused programs such as Eco buy, Keep Australia Beautiful and Waste Wise (or equivalent)	<ul style="list-style-type: none"> <li>Ensure up to date registrations to relevant groups (Keep Australia Beautiful, Eco-Buy, Waste wise/Resource Smart etc.)</li> </ul>	Waste Management Services + Sustainable Environment	Annual renewal of memberships
				<ul style="list-style-type: none"> <li>Attend relevant workshops and networking opportunities to ensure up-to date knowledge of best practice and involvement in regional projects</li> </ul>	Waste Management Services	Ongoing as required
	2.3	3 7 9	Investigate and pursue opportunities to work on joint projects with other council departments - promoting cross council cooperation on waste management	<ul style="list-style-type: none"> <li>Continue to pursue opportunities, particularly in regard to litter, via the Lower Yarra Litter Strategy Group, C.o.P.P designed projects (such as summer in the city) and partnerships formed via the Metropolitan Waste Management group.</li> </ul>	Waste Management Services	Ongoing
EDUCATION AND COMMUNITY ENGAGEMENT	1.3 2.1	8 9 10	Maintain and promote up-to-date information on waste management services and resource recovery to the community (including Businesses and Schools) via online resources, print media (including annual brochures), and face to face interaction and education.	<ul style="list-style-type: none"> <li>Update, Distribute and promote the 2010 waste management and resource recovery Guide</li> </ul>	Waste Management Services	Annually (April 2010)
				<ul style="list-style-type: none"> <li>Update and maintain Port Phillip's Waste management online information – in particular the development of a 20 frequently asked Questions and answers for the web site</li> </ul>	Waste Management Services	Ongoing
				<ul style="list-style-type: none"> <li>Advertise (when and where appropriate) new and existing services and events to the general public</li> </ul>	Waste Management Services	Ongoing (currently includes Resource recovery centre promotion)
				<ul style="list-style-type: none"> <li>Maintain a open line of communication to the public, Businesses and schools via accessible phone and face-to-face contact</li> </ul>	Waste Management Services	Ongoing with Monthly reviews
				<ul style="list-style-type: none"> <li>Maintain a friendly and accessible waste management reception area</li> </ul>	Waste Management Services	Ongoing with monthly reviews via team meeting and satisfaction surveys
	2.3 4.3	3 8 9 10	Educate and positively influence waste and litter practices within the community, with the aim of achieving all relevant state and local targets. To be achieved via educational campaigns and programs including; Summer in the city/ Summer litter blitz campaigns, Australian Sustainable Schools initiative, Clean Up Australia Day, Waste Wise Events, The Lower Yarra Litter Strategy, Keep Australia Beautiful events, plastic bag free campaigns and other sustainability programs	<ul style="list-style-type: none"> <li>Maintain, review and upgrade current waste and litter education campaigns including the Australian Sustainable Schools Initiative, Summer in the City/Summer Litter Blitz program (via the Lower Yarra Litter Strategy group), Sustainable living at Home and Plastic bag free campaigns</li> </ul>	Waste Management Services + Sustainable Environment	Ongoing
				<ul style="list-style-type: none"> <li>Investigate new campaigns to further education on waste, recycling and litter</li> </ul>	Waste Management Services	Investigations ongoing
				<ul style="list-style-type: none"> <li>Support and assist in external campaigns such as Clean up Australia Day, Keep Australia Beautiful Events and Resource smart (Schools, Businesses and events)</li> </ul>	Waste Management Services	Clean up Australia Day completed March 2010 – other campaigns as required
	1.3 2.3	7 8 9 10	Provide a leading example and support (both infrastructure and expertise) to Schools, Businesses and Community groups striving for better waste practices	<ul style="list-style-type: none"> <li>Provide a leading example to Schools, businesses and the community via case studies, new projects and infrastructure assistance.</li> </ul>	Waste Management Services	Ongoing trials (battery and phone recycling) and site visits as required
				<ul style="list-style-type: none"> <li>Continue to support the Australian Sustainable schools teacher network</li> </ul>	Waste Management Services + Sustainable Environment	Annually reviewed

## COMMUNICATIONS STRATEGY

Communications for this strategy and any resulting actions will be conducted under the City of Port Phillip's Communications Strategy. This will ensure a consistent message and a council representation of the goals and actions set out in the strategy.

## IMPLEMENTING THE PLAN, MONITORING AND EVALUATION

Monitoring and evaluation will, as for all plans/strategies, be vitally important to the success of this document. This plan will form the basis for a detailed work plan designed specifically to guide day to day actions towards Port Phillip's the larger waste and recycling goals. To this end Waste Management services will maintain accurate and effective records of numerous indicators to determine the success or failure of actions taken as a result of this plan. These will include:

Key Indicators:

- Waste generation rates (total and per household)
- Waste diversion rates
- Litter auditing results
- Service delivery audit results
- Effective delivery of litter and waste education projects
- Direct Community feedback (via Pathway requests and direct contact)
- Community satisfaction survey results
- Contractor monthly reports

These indicators will be monitored monthly and will form the basis of reports, not only to Council and the Executive team, but also to both State and Federal governments and the broader Community.

## LIST OF DEFINITIONS

<b>A.R.R.T</b>	Advanced Resource Recovery Treatment Facility
<b>A.W.T</b>	Alternative Waste Treatment
<b>C&amp;D</b>	Construction and Demolition Waste
<b>C&amp;I</b>	Commercial and Industrial Waste
<b>M.G.B</b>	Mobile Garbage Bin
<b>M.R.F</b>	Materials Recovery Facility
<b>M.S.W</b>	Municipal Solid Waste
<b>M.U.D</b>	Multi Unit Development
<b>M.W.M.G</b>	Metropolitan Waste Management Group
<b>P.P.R</b>	Public Place Recycling
<b>T.Z.W</b>	Towards Zero Waste Strategy (Victoria)
<b>V.A.R.R.I</b>	Victorian Advanced Resource Recovery Initiative