REPORT

Latrobe City Council
Waste Management Strategy 2010 – 2017

Prepared For

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EXECUTIVE SUMMARY

Latrobe City Council has created this *Waste Management Strategy* (*WMS*) to provide sustainable solutions to the collection, disposal and resource recovery of waste. The *WMS* describes strategies and actions to be undertaken by Council over the next seven years (2010 – 2017) and its key aims are to guide the development and improvement of current waste management practices.

The future directions of waste management within the municipality need to be consistent and work towards those of the Gippsland region and Victoria as a whole. As such, the key drivers for the strategy are:

- Government policies and commitments relating to the targets set down in the Towards Zero Waste Strategy[1];
- The need to deal with the projected population increases and economic growth of Latrobe City, the Gippsland region and Victoria in terms of sustainable outcomes for waste and materials recovery; and
- Government policies seeking to increase energy generation from renewable sources.

The management of waste, including kerbside collection and disposal, hard waste, green waste, litter and street litter bins, landfill and waste education is a major component of the Council's annual budget. The WMS provides a structure for waste management in Latrobe City to be undertaken in an appropriate and transparent manner.

To create an informed WMS, analysis of the current waste management system was undertaken. This includes a review of the contracts, costs and tonnages arising from each area across the Latrobe City waste collection and disposal systems. The information was used to provide a range of predictions for both cost and tonnages of waste and recyclables across Latrobe City until 2020. Based upon the review of the current system and the implications of the future predictions key issues were identified that Latrobe City Council should focus upon.

The WMS focuses on key areas for the Council to achieve its goals as set out in Latrobe 2026: The Community Vision for Latrobe Valley. Principal amongst these are sustainability, liveability and the provision of collaborative and inclusive leadership. Each area of waste management activity is discussed and an action plan developed from the range of recommendations. This provides Council with opportunities to improve its current waste management system. The key focus areas within this report are:

- Individual facility cost;
- Individual facility tonnage arising per waste stream collected;
- Waste Education Plan review and focus upon:
  - Community education and participation in waste management
  - Increased community awareness of sustainable waste generation practises
  - Increasing capture of recyclable materials; and
  - Reduction of contamination in recyclable collection systems.
- Enforcement plans to identify a flow of actions for persistent:
  - Littering and illegal dumping; and

[1] Sustainability in Action: Towards Zero Waste Strategy, Victorian government 2005

  - Failure to use the kerbside collection bins correctly.
- Transfer station management and infrastructure;
- Green waste collection centre provision and contracts;
- Advanced waste treatment;
- Kerbside Collection bin size and contracts;
- Creation of a littering and illegal dumping plan;
- Provision of Public Place Recycling across Latrobe City; and
- Landfill.

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List of Acronyms used

AWT	Advanced Waste Treatment
C&D	Construction and Demolition (waste)
C&I	Commercial and Industrial (waste)
DSE	Department of Sustainability and Environment (Victoria)
Hh	Household (as in per Household)
EPA	Environment Protection Authority Victoria
GRWMG	Gippsland Regional Waste Management Group
GWCC	Green Waste Collection Centre
MGB	Mobile Garbage Bin (i.e. wheelie bin)
MAV	Municipal Association of Victoria
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
NPC	National Packaging Covenant
PPR	Public Place Recycling
pP	per Person or Resident
RWMG	Regional Waste Management Group
SMEs	Small to Medium Sized Enterprises
SV	Sustainability Victoria
TS	Transfer Station
TZW	Towards Zero Waste
VLAA	Victorian Litter Action Alliance
WMS	Waste Management Strategy

1. Introduction

1.1. Purpose

The *Waste Management Strategy* has been developed to provide sustainable solutions for the collection, disposal and resource recovery from waste generated within our community. Sustainable approaches to waste management need to be integrated into all future policies, strategies and planning decisions made by Council.

The *WMS* describes strategies and measurable actions to be undertaken by the Council over the next seven years (2010 – 2017) and its key aim is to guide the development and make improvements to the current waste management practices.

The future directions of waste management within this municipality need to be consistent with and work towards those of the Gippsland region and Victoria as a whole. As such, the key drivers for this strategy are:

- Government policies relating to the Towards Zero Waste Strategy and targets;
- Gippsland Regional Waste Management Group (GRWMG) policies and targets as detailed in the Gippsland Regional Waste Management Plan 2007 and the Draft Business Plan 2010-11 to 2012-13;
- The need to plan for with the projected population increases and economic growth of Latrobe City, in terms of sustainable outcomes for waste and materials recovery;
- The need to conserve airspace at the Hyland Highway landfill to ensure the necessary longevity of use; and
- The need to manage and reduce greenhouse gas emissions, energy use and water consumption.

The management of waste including kerbside collection and disposal, hard waste, street sweeping and litter and other waste clearance activities make up over $6.9million of Council's annual budget. The WMS provides a structure for waste management in Latrobe City to be supervised in an appropriate and transparent manner, which includes the mitigation of risks wherever possible.

1.2. Overview of Municipality

Latrobe City covers an area of 1,422 km^2 and has an estimated population of 72,930[2] up from the 69,329[3] as reported in the census of 2006. The City is located in the State of Victoria, 150km east of Melbourne. The Latrobe region is a resource rich area, with abundant forest and brown coal resources, water resources and rich agricultural land. The area was initially developed in the 1880's as an agricultural and forestry area and was noted for its cattle runs.

The dairy and beef cattle industries to this day contribute significantly to Victoria's agricultural standing. Other major industries in the area include the Australian Paper Pulp and Paper Manufacturing Mill at Maryvale, Monash University and the Central Gippsland

[2] Figures from Victoria in Future predictions http://tinyurl.com/DSEdata

[3] 2006 Census, Australian Bureau of Statistics website www.censusdata.abs.gov.au

Institute TAFE, the Australian Securities Commission's National Information Processing Centre and Victoria's four major power generators. Electricity generated from brown coal mined in the area represents 95% of all electricity generated in the State of Victoria.

1.3. Overview of Waste Management

The Council provides 97.5% of households within the municipality with a kerbside waste collection service, which consists of:

- Weekly collection of garbage in a 120 litre mobile garbage bin (MGB) with a red lid;
- Fortnightly collection of recyclables in a 240 litre MGB with yellow lid; and
- Fortnightly collection (on the alternate week to the recycling) of garden or green waste in a 240 litre MGB with a lime green lid.

Council also provides four waste transfer stations for residential and commercial self haul of non-green waste materials. These are located at Traralgon, Morwell, Moe and Yinnar.

Green waste materials are not accepted at the waste transfer stations and can be taken to one of the three green waste collection centres provided by Council at Traralgon, Morwell and Moe. Commercial green waste can only be presented at the Morwell site; where processing of all green waste material is also undertaken.

An 'at call' hard waste collection service is provided to all members of the community twice a year for a cost of $20 per pick up; concession card holders receive the service for $10 per pick up. Two no charge hard waste weekends are provided each year for residents to self haul their waste to the transfer stations. Two self haul no charge green waste weekends are also provided each year.

1.3.1. Local Population Characteristics

Latrobe City has four major urban centres: Churchill, Moe/Newborough, Morwell and Traralgon, with smaller townships of Boolarra, Glengarry, Toongabbie, Tyers, Traralgon South, Yallourn North and Yinnar.

Table 1-1 Population and Households – Current and Projected

	2006 (last census)		2010 (estimated[4])		2015 (Projected[5])		2020 (Projected[6])	
	Population (Pop)	**House-holds (Hh)**	**Pop**	**Hh**	**Pop**	**Hh**	**Pop**	**Hh**
Number	69,329	30,230	72,930	30,388	74,451	32,255	75,934	33,405
Growth Rate (compared to 2006)	-	-	5%	1%	7%	7%	10%	11%

[4] Figures from Victoria in Future predictions http://tinyurl.com/DSEdata

[5] Figures provided by Latrobe City Council http://www.latrobe.vic.gov.au/

[6] Figures provided by Latrobe City Council http://www.latrobe.vic.gov.au/

1.3.2. Non-residential properties and commercial and public sector organisations operating in the municipality

Council also provides waste and recyclables collection services to non-residential properties such as schools, care facilities (elderly and child) and small commercial premises such as shops and offices. Providing a co-mingled recyclables collection service to these properties and organisations increases the amount of waste diverted from landfill.

An overview of the number and type of commercial and non-residential properties and organisations is detailed below in Table 1-2.

Table 1-2 Commercial and Non-residential properties in the municipality

	2010 or most recent council survey	Growth rate	2015 (Projected)
Type of commercial and/or non-residential facility	**Number of Commercial Properties**	**(%)**	**Number of Commercial Properties**
Retail premises with under 10 employees	245	14%	278
Elderly residential care facilities with more than 20 residents	4	50%	6
Schools with more than 200 pupils	4	0%	4
Industrial manufacturing facility with over 20 employees	5	60%	8

1.3.3. Key Issues for the municipality of Latrobe City Council

Council has highlighted a number of key areas of focus for the waste management strategy, including:

- Review of the current kerbside collection system to ensure best value principles are met;
- Review of the waste transfer stations and their usage;
- Review of the green waste centres stations and their usage;
- Review of the current provision of hard waste collection services; and
- Analysis of the current and predicted waste arising and the resulting implications for Council waste management infrastructure, particularly at the Hyland Highway landfill site.

1.4. Waste Management Services Overview

The WMS incorporates the strategies and actions for the management of a variety of waste materials. The focus of the strategy is on Municipal Solid Waste (MSW) although, where appropriate, the strategy addresses opportunities to increase resource recovery from Commercial and Industrial (C&I) waste and Construction and Demolition (C&D) waste.

1.4.1. Local Waste Management

Waste management in Council covers the strategy setting and management of a wide range of activities including:

- Collection of waste and recyclables at the kerbside in MGBs (wheelie bins), including:
  - Co-mingled recyclables;
  - Green organics; and
  - Garbage (residual waste);
- Hard waste;
- Public litter collection (public litter bins);
- Street and CBD footpath sweeping;
- Collection of illegally dumped waste;
- Collection of waste and recyclables generated at public events;
- Management and operation of four waste transfer stations;
- Management and operation of three green waste collection centres;
- Processing of green waste;
- Collection of E-waste and process management at Council transfer stations;
- Collection and management of drop-off household hazardous/toxic waste (e.g. household chemicals, motor oils, paint, car batteries, gas bottles etc) at the Morwell waste transfer station 'Detox Your Home' facility; and
- Management and operation of the Hyland Highway landfill, including cell design, construction, rehabilitation and green house gas management.

The majority of these activities are undertaken under contract by commercial service providers. The cost of providing these services for the 2010/2011 year is expected to be in excess of $6.9 million.

1.4.2. Previous Waste Management Strategy

This Waste Management Strategy has been developed to review and update the previous 2003 *"Latrobe City Council Waste Management Strategy"*[7]. The key objectives and targets of the previous waste management strategy have been summarised below:

- Formally adopt the State Government target set out in 'Towards Zero Waste[8]' of a 45% recovery rate in household waste by 2008;
- Offer a single standard service for the whole of Latrobe which does not differentiate between Urban and Rural areas;
- Waste collection service be amended to:
  - Weekly 120L MGB Garbage collection;
  - Fortnightly 240L MGB Co-mingled recyclables collection;
  - Fortnightly 240L MGB green waste collection; and
  - Kerbside hardwaste collection not proposed.

[7] Abraxa Management Consulting: *Latrobe City Council Waste Management Strategy* July 2003

[8] http://www.sustainability.vic.gov.au/www/html/1344-towards-zero-waste.asp

- Introduce a small number of exemptions or extra servicing for pertinent groups throughout the community and cover the cost of providing extra services with an additional service charge;
- Outsource kerbside collections and transfer station operations;
- Co-tender the collection of co-mingled recyclables with the operation of transfer stations to maximise the synergies between the two and to obtain the required expertise to manage these services;
- Extend the opening hours of Moe and Traralgon transfer stations from 2 days a week to 7 days a week and discontinue the use of the Dasma transfer station at Morwell;
- Prohibit the disposal of green waste at the transfer stations and utilise the Morwell landfill for the disposal of this material. It is stated that this arrangement would provide Latrobe City with the flexibility to utilise a regional green waste processing facility, currently being investigated by the GRWMG, if and when it becomes available;
- Implement strategies to prolong the life of the Morwell landfill site;
- Investigate three prospective landfill sites concurrently for development potential at Yallourn Energy (Hernes Oak), Morwell or Loy Yang overburden, in order to satisfy the ongoing requirement for access to a landfill site in Latrobe; and
- Raise the domestic garbage charge to reflect the true cost of waste disposal.

The previous Waste Management Strategy did not contain an Action Plan for recommendations to be implemented. Since the previous waste management strategy was undertaken there have been significant changes in the waste management infrastructure and services in the municipality with a number of the recommendations being taken into account, forming an action plan. The current waste management services provided by Latrobe City Council are summarised in Section 3.

2. Strategic Framework

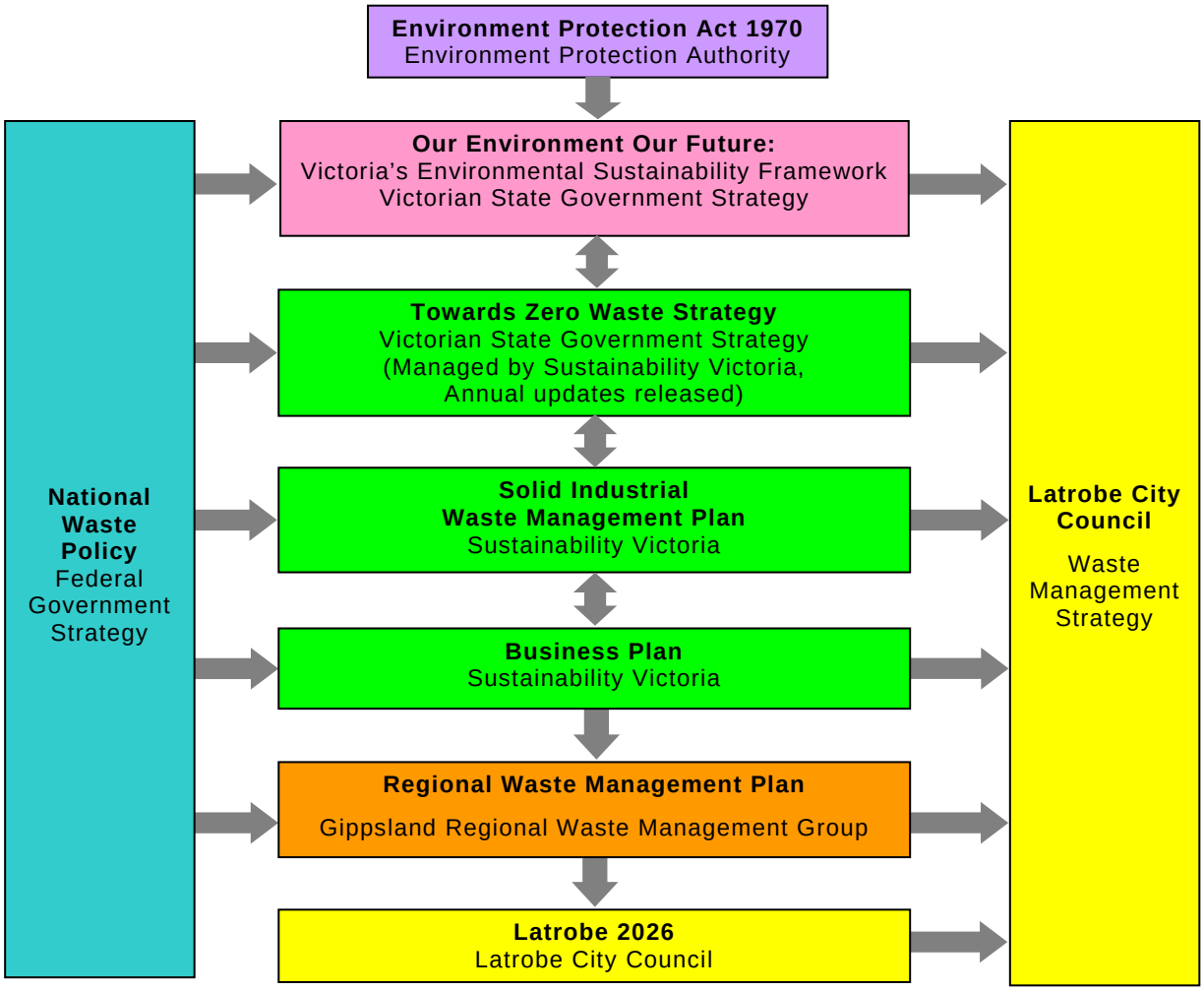
2.1. Strategic Context

The WMS has been developed in line with relevant legislation and policies that have been developed at both the Federal and State level. These documents include:

- Environment Protection Act (EP Act) 1970, with Amendment in 2006;
- Federal Government's *National Waste Policy*, launched in late 2009;
- Victorian State Government's *Our Environment Our Future: Victoria's Sustainability Framework 2005; and*
- Victorian State Government's *Towards Zero Waste Strategy* (TZW) released in 2005.

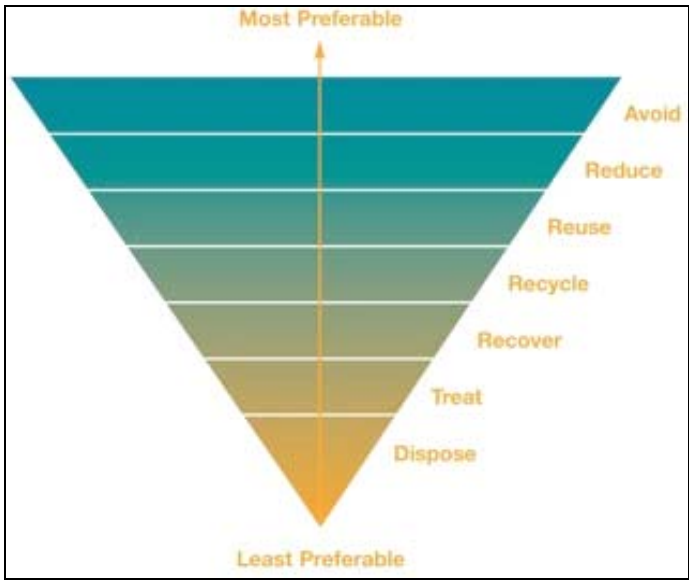
Figure 2-1 below illustrates how the legislation, policies and strategic plans by various agencies of government are considered and integrated with the Waste Management Strategy of Latrobe City Council.

Figure 2-1 Interlinking of Legislation, Policies and Plans



The key principle underpinning the waste management strategy is the waste management hierarchy, which was established by the *Environmental Protection Act 1970*. The waste management hierarchy places waste avoidance as the most preferred option and waste disposal the least preferred. All the policies developed by all levels of government are based on this hierarchy.

Figure 2-2 Waste Management Hierarchy



2.2. Significant Federal and State Legislation and Policies

Key legislation and policies of the different levels of government, which are detailed further in Appendix A, include, but are not limited to:

2.2.1. Federal Government

The National Waste Policy – That was endorsed by the Environment Protection and Heritage Council on 5 July 2010 sets the direction for Australia over the next 10 years to produce less waste for disposal and manage waste as a resource to deliver economic, environmental and social benefits.

National Initiatives - National Packaging Covenant (NPC) – The NPC is currently under review and it is to be seen whether it will remain as a voluntary initiative by government and industry to reduce the effects of packaging on the environment as occurred in its previous format.

2.2.2. State of Victoria

Towards Zero Waste Strategy 2005 (TZW) – the objectives of the TZW strategy are to reduce and recover solid waste and to reduce the environmentally damaging impacts of waste.

The three key targets of the Towards Zero Waste Strategy are:

- **Reduce** the amount of solid waste generated by 1.5 million tonnes per annum by 2014, compared to 2002/03.
- Increase the **recovery** rate in all solid waste generated from the current 48% (2003) to 75% by 2014 comprising:
    - 65% recovery rate (by weight) of MSW for reuse and recycling by 2014. An interim target of 45% recovery rate is established for year 2008-09;
    - 80% recovery (by weight) of Commercial and Industrial (C&I) waste for reuse and recycling by 2014. An interim target of 65% is established for year 2008-09; and
    - 80% recovery rate (by weight) of Construction and Demolition (C&D) waste for reuse and recycling by 2014. An interim target of 65% is established for year 2008-09.
- 25% reduction in littering behaviour compared with 2003 levels.

Victorian Litter Strategy – Creating Cleaner, Safer Places – strategy to prevent litter and improve litter management practices to meet the TZW littering behaviour target and achieve clean and safe public places.

Industrial Waste Management Policies (IWMPs) - introduced in 2002 to the Environment Protection Act 1970, the Environment Protection (Resource Efficiency) Act provides the EPA with the scope to develop waste management policies (WMPs). This change means that policies that deal with municipal waste can also be developed, thereby complementing existing arrangements and ensuring that a comprehensive framework of statutory policy can be maintained and strengthened.

Victorian EPA Landfill Levies – Victorian Landfill levies are set to increase steadily to $26.60 per tonne for Municipal Solid Waste (MSW) in rural locations and $53.20 per tonne for MSW in Melbourne and provincial centres by 2014/15.

Other waste issues or initiatives include, but are not limited to:

- EPA Vic guidelines and policy initiatives;
- product stewardship programs;
- contaminated soils and hazardous waste initiatives; and
- occupational health and safety, Worksafe Victoria guidelines and standards.

2.3. Regional Waste Management Group and Local Council strategies

2.3.1. Gippsland Regional Waste Management Plan 2007 (GRWMG)

The Gippsland Regional Waste Management Group is one of 13 waste management groups across Victoria, established to engage Councils, community, business and Government Leaders in adopting sustainable waste management practices.

The Gippsland Regional Waste Management Group encompasses the municipalities of Latrobe, Bass Coast, Baw Baw, East Gippsland, South Gippsland and Wellington. The region serviced by the Group extends from Phillip Island to Mallacoota, an area of some 40,000 sq km with a population of almost 250,000 people and is the largest regional waste management group in the State of Victoria[9].

[9] "*Gippsland Regional Waste Management Plan 2007*" September 2007

In 2007, GRWMG published the **Gippsland Regional Waste Management Plan 2007** to provide a clear strategy for the waste management group going forward. The plan identifies a range of actions for Councils within Gippsland to strive to achieve including:

- Endeavoring to operate best practice compliant facilities;
- Endeavoring to divert the following materials from landfill:
    - Paper/cardboard;
    - Clean soil (except when used for cover material);
    - Metals;
    - Green waste;
    - Plastics code 1-5;
    - Tyres;
    - Timber and sawdust (except chemically treated material);
    - Concrete; and
    - Electronic waste (e-waste).
- Public place recycling in place at all high visitation locations;
- The amount of garbage generated per household per year to be 250kg compared with 398kg in the year 2005/06;
- The amount of solid waste recovered for further use to be 64% in comparison to 39.5% in the year 2005/06;
- Recycling bin contamination will be less than 5%;
- Reduce litter by 25% through improvement in littering behaviour, which includes litter reduction, prevention and behaviour change; and
- All significant event venues, all state and local government offices, 40% of schools and 10% of small businesses will be certified as 'waste wise'.

2.3.2. Latrobe 2026: The Community Vision for Latrobe Valley

Latrobe City Council's key strategic documents, Latrobe 2026 and the Council Plan 2010-2014 identify the community's ongoing interest in Council's activities and decision making processes.

The development of Latrobe 2026 – The Community Vision for the Latrobe Valley[10] was facilitated by Latrobe City Council in consultation with many local agencies, organisations, groups and individuals. The community vision was generated after identifying three broad concepts shared by the Latrobe Valley community – Sustainability, Liveability and Leadership.

A concise expression of the preferred future articulated by the community is that in 2026 Latrobe Valley will be:

- **Liveable and vibrant** - A place where people feel safe, connected and proud of their city;
- **Sustainable and enterprising** - A place where community life complements the environment; and
- **Committed to collaborative and inclusive leadership** - A place where people work in partnership to facilitate local outcomes.

These values are expressed in the community's vision statement:

"In 2026 the Latrobe Valley is a liveable and sustainable region with collaborative and inclusive community leadership."

[10] www.ourfuture2026.com.au

And for Natural Environment:

"In 2026, Latrobe Valley enjoys a beautiful natural environment that is managed and protected with respect, to ensure a lasting legacy for future generations."

Council contributes to the delivery of the community's aspirations as expressed in Latrobe 2026 through the *Latrobe City Council Plan 2010-2014*. This plan notes that "*Council has recognised that disposing of municipal solid waste solely by means of landfill is not a sustainable waste management strategy. The development of community waste education initiatives is continuing to increase recovery, reuse and recycling opportunities. The initiatives focus on moving away from land filling all waste to a focus on materials recovery and taking ownership of your own waste*".

A strategic direction under Natural Environment as expressed in the Council Plan is to "*Provide and promote environmentally sustainable waste management practices to attain best practice final storage quality*". The major initiative of this strategy is to "*Review the Waste Management Strategy and present to Council for consideration*".

Effective implementation will be measured through increased community satisfaction with waste management.

2.3.3. Links to Council Strategies and Policies

The principles, objectives and actions outlined in this Waste Management Strategy have been developed within the context of other policies, strategies, plans and commitments made by Latrobe City Council. In particular, the *Natural Environment Sustainability Strategy (2008-2013): Action to reduce incidental environmental damage;* and *Action to enable and build capacity*.

3. Current Waste Management

3.1. Introduction to Waste Management Operations

The Council provides 97.5% of residents within the municipality with a kerbside collection service. Receival of kerbside collection services incurrs a charge of $215 (including GST) in 2010/11. Council also provides a range of other waste management services and infrastructure including:

- An ‘at call’ hard waste collection service for residents;
- Three green waste collection centres for the community, one of which can be used by commercial users;
- Four waste transfer stations for residential and commercial users; and
- A landfill for commercial and Council use.

These other services usually entail a separate cost to the users. The exception to this is the Council run ‘no charge’ self haul weekends bi-annually at the waste transfer stations and green waste collection centres. Furthermore the waste transfer stations will accept a large range of separated recyclable materials at no cost.

Full details of these facilities are provided below.

3.1.1. Residential Kerbside Waste Collection Services

Information on the kerbside collection services provided to residential properties by Latrobe City Council is included in table 3-1 below:

Table 3-1 Current Council Waste Services to Residential Properties 2009/10

Waste type	Type of service	Type of container	Frequency	Type of waste materials and exclusions	Number of services
Garbage	Kerbside collection	120L MGB	Weekly	All household waste, excluding hazardous waste such as asbestos, chemicals etc.	29,664
Co-mingled Recyclables	Kerbside collection	240L MGB	Fortnightly	Glass bottles and jars, Plastic (codes 1 to 7), Steel cans, Drink cartons, Empty aerosol cans, Aluminium cans, Clean aluminium foil and food trays, Newspapers, Magazines, Junk mail, Cardboard, Scrap paper	29,654
Green Organics	Kerbside collection	240L MGB	Fortnightly	Weeds (free of soil), garden prunings, plants and branches, small logs less than 10 cm diameter and shorter than 60cm, leaves, grass clippings, flowers.	28,557
Hard waste	At call	Collected from nature strip	At call, booked through Council	Pile to be no larger than $2m^3$.[11]	230 (individual pick ups)

3.1.2. Non-residential Waste Collection Services

Information on the kerbside collection services provided to non-residential properties by the Council is provided in Table 3-2 below. Non-residential properties include schools, care facilities (elderly/child), council run facilities and small commercial properties (shops, offices etc.).

Table 3-2 Current Council Waste Services to Non-residential properties 2009/10

Waste type	Type of service	Type of container	Frequency	Type of waste materials and exclusions	Number of services
Garbage	Kerbside collection	120L & 240L MGB	Weekly	All solid waste, excluding hazardous waste such as asbestos, chemicals etc.	1,753
Co-mingled Recyclables	Kerbside collection	All 240L MGB, with options for an extra service	Fortnightly	Glass bottles and jars, Plastic (codes 1 to 7), Steel cans, Drink cartons, Empty aerosol cans, Aluminium cans, Clean aluminium foil and food trays, Newspapers, Magazines, Junk mail, Cardboard, Scrap paper	2,079

[11] For a full list of materials that are collected and those that are not see Appendix B Interim Hard waste collection

3.1.3. Other Waste Collection Services

Council also provides a range of other waste collection services within the municipality. Details of these services are provided in Table 3-3 below:

Table 3-3 Summary of Other Collection Systems

Waste type	Type of service	Type of container	Frequency	Type of waste materials and exclusions	Number of services 2009/10
Street and CBD footpath sweeping	Scheduled	5 m3 Road Sweeper	Daily/ Weekly	Leaves/Debris, Road Materials	3 CBD/week 3 residential/year, 13 events/summer, 17 events/autumn.
Street cleaning and Illegally dumped rubbish collection	Collection		When required	Hard waste, mattresses, tyres, TVs, white goods, etc.	On going
Public Litter Bins (PLBs)	Collection	Various, Scheduled	Various	All public waste (consumer garbage) only.	1,116 Public litter bins in CBD's, parks and reserves.
Events (festivals, local markets, cultural/ community events etc.)	Collection Co-mingled recyclables	240L MGB	When required	Bottles, cans, cardboard, etc.	10
Events (festivals, local markets, cultural/ community events etc.)	Collection garbage	240L MGB, pre arranged Skips	During and/or after event	All waste from event, which fits in a 240L MGB. Other waste collection via skips arranged by event organiser	10

3.2. Waste Education Plan

Council maintains a Waste Education Plan and employs a Waste Education Officer to drive the implementation of this plan. The Waste Education Plan 2010 – 2015[12] document clearly details Council's vision, principles, objectives and actions for waste education over the 5 year period. Furthermore the document contains an implementation structure for the objectives to be achieved. The objectives of the Waste Education Plan are to:

- Promote community understanding and use of Council provided waste and recycling services, including transfer stations and green waste facilities, and encourage active participation;
- Encourage waste minimisation and recycling in pre-schools and primary schools;
- Enhance the opportunities for recycling at major events and 'away from home' venues;
- Encourage local businesses to reduce, reuse and recycle waste products;
- Increase the community awareness of litter and dumped waste issues in the environment;
- Increase the community awareness of the disposal of household chemicals and domestic asbestos generated from households;
- Advocate waste minimisation and recycling within Council operations; and
- Strive to continually improve education and awareness of waste and recycling issues.

Refer to Appendix D for the Waste Education Plan 2010 – 2015 document.

3.3. Litter Management

Council participates in the Gippsland Regional Litter Prevention Task Force and recognises litter as a problem and would like to reduce littering behaviour. Council activity in this area of litter control is not currently measured and as such it is not possible to compare this to the Towards Zero Waste or the Gippsland Regional Waste Management Plan target of reducing littering behaviour by 25% compared to 2003.

Local governments are the major players in litter prevention and control and clean up. A survey by Victorian Littering Action Alliance (VLAA) in 2006 found that 76% of local governments or RWMGs reported that they had run a litter prevention program, dropping from around 95% in 2005. Litter reduction programs conducted by local government have been shown to be effective in reducing littering behaviour.

Around the world it is agreed the most effective litter prevention behaviour change programs include a mix of approaches across the three critical areas of education, infrastructure and enforcement. The mix of these elements needs to be adapted to the local conditions and include incentives, communications and evaluation. These are the elements that characterise Victoria's approach to litter prevention.

The new Victorian litter strategy, *Creating Cleaner, Safer Places*, was issued in August 2009. Refer to Appendix C for further details.

[12] Latrobe City Council *Waste Education Plan 2010 -2015*; August 2010.

3.4. Waste Infrastructure and Contracts

3.4.1. Detailed List of Waste Infrastructure used by Latrobe City Council

Latrobe City Council provides several sites and associated infrastructure located across the municipality for disposal and management of solid waste. The following table provides a summary of these disposal facilities.

Table 3-4 Waste management facilities within Latrobe City Council

Disposal facility	Wastes Accepted	
Hyland Highway Landfill	• Putrescible waste, • Solid inert waste	• Asbestos of domestic origin • Shredded tyres
Morwell waste transfer station	• Plastic bottles and containers • Glass bottles and jars • White goods • Car and household batteries • Paper • Scrap steel (incl Car bodies) • Garbage • Timber	• Domestic quantities of motor oil • Paint • Compact florescent lamps • Florescent tubes • Barbeque gas bottles • Mattresses • E-waste
Traralgon waste transfer station	• Plastic bottles and containers • Glass bottles and jars • White goods • Car batteries • E-waste • Mattresses	• Paper • Scrap steel (incl Car bodies) • Domestic quantities of motor oil • Timber • Garbage
Moe waste transfer station	• Plastic bottles and containers • Glass bottles and jars • White goods • Car batteries • E-waste	• Paper • Scrap steel (incl Car bodies) • Domestic quantities of motor oil • Timber • Mattresses
Yinnar waste transfer station	• Plastic bottles and containers • Glass bottles and jars • White goods • Car batteries • E-waste • Mattresses	• Paper • Scrap steel (incl Car bodies) • Domestic quantities of motor oil • Timber • Garbage
Morwell green waste collection centre and composting facility	• Commercial and Domestic Garden organic waste	• Untreated timber • Street sweepings
Traralgon green waste collection centre	• Domestic Garden organic waste	
Moe green waste collection centre	• Domestic Garden organic waste	

3.4.2. Overview of current Council waste management contracts

A summary of the current waste contracts managed by Council is provided in Table 3-5 below.

Table 3-5 Overview of Waste management contracts

Service/Facility	Contractor (or internal)	Address of facility	Contract Expiration (plus extensions)
Residential and non-residential collections			
All Kerbside collections	TPI Cleanaway	Princes Hwy, Morwell	July 2011 (+6mths)
Landfill operation and management	Internal	Hyland Highway, Loy Yang	Ongoing
Transfer station	Dasma Environmental P/L	Tramway Rd, Morwell	July 2011 (+6mths)
Green Organics receival and composting	Pine Gro	Midland Hwy, Morwell	July 2011 (end of 3yr extension)
Material Recycling Facility (MRF)	Dasma	Tramway Rd, Morwell	July 2011 (+6mths)
Hard waste	Latrobe Valley Recyclers	Disposal to landfill or taken to facility for sorting	Collections as required
Other waste services			
Street sweeping and disposal	Valley Sweep P/L	Yallourn Nth	November 2010
CBD footpath sweeping and dumped rubbish collection and disposal	Internal		Ongoing
Public Litter and Public Place Recycling bins collection and disposal	Valley Sweep P/L	Yallourn Nth	October 2013, plus 2 + 2
Events waste collection and disposal	Valley Sweep P/L	Yallourn Nth	October 2013, plus 2 + 2

3.5. Waste Quantities

3.5.1. Quantities of Landfilled waste and Recycled material Collected in the Municipality

Quantities and composition of waste and recyclable materials collected from across the municipality are detailed below:

Table 3-6 Quantities of Municipal Waste and Recyclable Materials Collected in 2009/10

Waste Stream	Recycled	Disposed to landfill	kg / Hh / yr(generated)	kg / pP / yr(generated)
	Tonnes	Tonnes	Kgs	Kgs
Kerbside Garbage	0	13,493	444	185
Kerbside Co-mingled Recyclables	8,688	1,164	324 (286)[13]	135 (119) [14]
Kerbside green organics	10,043	908	360 (330)[15]	150 (138)
Kerbside hard waste	7	22	1	0.4
Transfer station garbage*	0	6,285	207	86
Transfer station recyclables*	4,534	N/A	149	62
Green waste collection centres*	4,557	N/A	150	62
Street Sweeping	1,018	0	34	14
Litter	0	387	13	5
Total Recyclables	28,847	N/A	949	396
Total garbage	N/A	22,259	732	305
Total all waste	28,847	22,259	1,682	701

*Note:
- All transfer station and Green waste collection centre figures include commercial tonnages.
- This table does not include garbage or recyclables direct from commercial users to landfill or recycling facility

[13] Figure in brackets represent weight of kerbside co-mingled material collected and actually recycled.

[14] Figure in brackets represent weight of kerbside co-mingled material collected and actually recycled.

[15] Figure in brackets represent weight of kerbside green waste material collected and actually recycled.

3.5.2. Waste Projections

Projections have been made for the tonnages of waste arising in Latrobe City in 2015 and 2020 under two scenarios:

1. No change to current waste management practices
2. Increased recycling

The predicted tonnages are based on the following assumptions:

- No waste growth per person;
- Assumed growth in waste arising due to population growth;
- No change achieves the same diversion rate as 2010 over all years modelled;
- Increased recycling has a 3% increase in total recycling every 5 years;
- Recyclables contamination has not been modelled and is contained in the recyclables figures; and
- Modelled tonnages do not include wastes and recyclables that are not collected by the Council.

Table 3-7 Projections for Waste and Recyclables in the Municipality

	2010 (Current)	2015 no change	2015 Increase recycling	2020 no change	2020 Increase recycling
Kerbside garbage	13,493	14,505	13,387	15,593	14,391
Kerbside recyclables	9,852	10,591	11,120	11,385	11,954
Kerbside green waste	10,951	11,772	12,361	12,655	13,288
Transfer station garbage	6,285	6,756	6,513	7,263	7,001
Transfer station recyclables	4,534	4,874	5,118	5,240	5,502
Green waste collection centres	4,557	4,899	4,899	5,266	5,266
Hard waste 'at call' collections	29	31	31	34	34
Other garbage waste from Council collections	1,405	1,510	1,510	1,624	1,624
Total	51,106	54,939	54,939	59,059	59,059
Diversion rate	58%	58%	61%	58%	64%

The modelling reinforces that even with improved waste management and recycling Latrobe City will be generating greater waste tonnages than occurred in 2010. The prediction for kerbside garbage under the increased recycling in 2015 is the only figure that provides a decrease in the total between the years modelled; highlighting the benefit of landfill diversion.

The cost implication of the landfilled fraction of the garbage waste for Council taking into account the landfill levy increases outlined by the Victorian EPA is highlighted in Table 3-8 below.

The cost per tonne has been calculated using the assumption that the current gate fee at the Hyland Highway Landfill site will increase by 1.5% CPI plus the increased landfill levy. There is significant potential for the gate fee at the landfill to increase at a greater rate due to environmental management and rehabilitation regulation being amended providing greater financial burden for the landfill operation.

Table 3-8 Projections for the cost of Landfilling to Council 2010 -2020

	2010 (Current)	2015 no change	2015 Increase recycling	2020 no change	2020 Increase recycling
Kerbside garbage	13,493	14,505	13,387	15,593	14,391
Transfer station garbage	6,285	6,756	6,513	7,263	7,001
Hard waste 'at call' collections	29	31	31	34	34
Other garbage waste from Council collections	1,405	1,510	1,510	1,624	1,624
Total (Not including contamination)	21,212	22,802	21,441	24,514	23,050
Cost per tonne for landfill disposal.	$111	$139	$139	$147	$147
Total Cost for disposal (Millions $)	$2.4	$3.2	$3.0	$3.6	$3.4

3.6. Hyland Highway Landfill Waste Predictions

Hyland Highway Landfill (the Landfill) is central to the Council's waste management strategy. The final capacity of the landfill will be determined with the construction of each landfill cell and associated airspace; however it is estimated to be over 800,000 cubic meters. The current Planning Permit allows for 18 hectares to be used as landfill cells and to operate for 25 years.

The Landfill receives garbage from both Council and commercial users. Whilst this WMS does not directly target commercial waste streams, it is important to understand their

impact on the Landfill. Furthermore during the construction of Hyland Highway Landfill Council used Trafalgar Landfill in Baw Baw Shire under a reciprocal agreement with Baw Baw Shire Council.

The reciprocal agreement states that the Landfill will receive the same tonnages of MSW deposited at Trafalgar landfill by Council. This agreement comes into place upon the closure of Trafalgar landfill, predicted to be 2014. In accordance with this agreement Latrobe City Council will accept the following minimum tonnages of garbage from Baw Baw Shire Council:

- Commercial and Industrial (C&I) 20,700 tonnes
- Building/Construction and Demolition (C&D) 1,280 tonnes
- Municipal 21,314 tonnes

The table 3-9 below provides predictions for the total tonnage of garbage to be landfilled until 2020. These predictions are based upon the assumption that commercial waste will grow at a rate of 1.5% per annum and that there will be no change in the landfill diversion rates for this waste.

Table 3-9 Predicted tonnages of Garbage to Hyland Highway Landfill 2010-2020

	2010 (Current)	2015 no change	2015 Increase recycling	2020 no change	2020 Increase recycling
Municipal Garbage	24,201	26,017	24,570	27,968	24,859
Commercial Garbage	23,645	25,472	-	27,441	-
Baw Baw Shire Council Garbage	-	14,431	14,431	-	-
Predicted total tonnage to Hyland Highway Landfill	47,846	65,920	64,474	55,408	52,299
% increase from 2010	-	138%	135%	116%	109%

The predictions indicate that there will be a steady increase in waste receival at the landfill throughout its operating life. There will be a significant increase in the tonnage received during the period when Baw Baw Shire Council can tip under the reciprocal agreement.

3.7. Waste Composition Information

Waste audits were carried out in February 2009 across a number of locations in Latrobe City. The waste audits were commissioned by the Gippsland Regional Waste Management Group (GRWMG) and provide a good indication of waste compositions for a number of waste collection services in Latrobe City, but do not provide a complete picture of all waste management services. The tables below provide all relevant waste audit data for Latrobe City provided in the regional report.[16]

3.7.1. Kerbside Garbage Bin Waste Audit Information

Table 3-10 Composition of Weekly Kerbside Collected Household Garbage 2009[17]

Waste Type	Average weight in bin (Kgs)	% Composition
Food organics	2.86	35.7
Garden organics	0.31	3.8
Residual	3.29	41.1
Other recyclables	1.55	19.4
Total	8.01	100.0
Note: Results taken from All Environmental Concepts waste audit of 200 garbage bins, 100 in Traralgon and 100 in Moe South / Newborough.		

Review of these figures indicates that they are applicable to the whole of Latrobe City. This can be seen by using the following equation:

*Total waste collected = Average bin weight **x** n^{o} bin lifts **x** n^{o} households receiving the service*

or 8.01 x 52 (weekly collection) x (29,664 + 1,753) = 13,085 tonnes p.a.

This compared to the reported figure for 2009/10 of 13,493 represents a difference of 407 tonnes greater than the reported tonnage collected in 2009/10. This represents a 3% difference and indicates that the figures can be assumed to be representative for the whole of Latrobe City, by weight and assumed waste composition.

The largest single waste stream in the garbage bin is residual material; however this is closely followed by kitchen organics at 35.7%. The figures indicate that 23.2% of the material in the garbage bins sampled was in the wrong bin and can be diverted from landfill through use of the correct bin provided to households.

[16] All Environmental Concepts Report "Gippsland Regional Waste management Group Waste Audits January – February 2009"

[17] Figures from All Environmental Concepts report "Latrobe City Council Household Garbage Waste Audit February 2009"1,190

3.7.2. Kerbside Collected Co-mingled Recyclables

Table 3-11 Composition of Kerbside Collected Recyclables[18]

Waste Type	% Composition
Paper/Cardboard	53.2
Plastics	
HDPE Clear	1.3
HDPE Colour	1.1
PET Clear	2.3
PET Colour	0.1
PVC	0.1
Glass	
Glass Brown	3.9
Glass Clear	5.2
Glass Green	5.5
Glass Fines	11.8
Other	
Steel Cans	2.4
Aluminium Cans	0.9
Steel Scrap	1.3
Contaminants/waste	10.8
Total	100.0

The figures indicate that Kerbside collected recyclables do not currently achieve the 5% target maximum contamination target set out in the Gippsland Regional Waste Management Plan.

[18] Sourced from processor of Commingled recyclables Dasma Environmental P/L, 08/09 figures.

3.7.3. Kerbside Collected Green Waste

Table 3-12 Composition of kerbside collected Green Organics[19]

Waste Type	% Composition
Green organic material processed	91
Contaminants/waste	9
Total	100

Table 3-12 indicates that the rate of contamination for green waste is high at 9%. For green waste only collections the generally accepted rate of contamination is below 5% and ideally around 3%.

Table 3-13 Collection source and tonnages of material composted 2009/10

Collection system	2009/10 Tonnage	% Composition
Kerbside Collection	10,043	64
Green waste collection centres	4,557	29
Street sweepings	1,018	7
Total	15,618	100

3.7.4. Public Litter Bin Waste Audit

The waste audit of public litter bins in Stockland Plaza Shopping Centre, Traralgon undertaken by All Environmental Concepts for GRWMG in January - February 2009 provided the waste compositions in the table below.

Table 3-14 Percentage of recyclable materials to residual materials in public litter bins at Stockland Shopping centre, Traralgon 2009[20]

Waste Type	Average weight in bin (Kgs)	% Composition
Recyclables	1.8	34.5
Residual	3.4	65.5
Total	5.2	100.0

[19] Sourced from processor of Green organics PineGro P/L, 2009/10.

[20] All Environmental Concepts Report "Gippsland Regional Waste management Group Waste Audits January – February 2009"

Note: Stockland Plaza waste management is under private arrangements; however these figures are representative of public waste management practice. Recycle bins are currently not provided within the shopping centre.

The results indicate that over a third of current public litter could be diverted from landfill to recycling.

3.7.5. Waste Transfer Stations Reported Tonnages

Estimated transfer station material throughputs based on figures provided for garbage in 2009/10 and recyclables figures provided for 2008/09 are provided in the table below. The reported figures for recyclables from the transfer stations were provided as a total figure for all of the transfer stations. To provide an indication of the tonnage arising at the individual transfer station the totals have been spilt using the same proportions as those recorded for garbage arisings. As a consequence of this, each transfer station achieves the same diversion rate in the table below.

Table 3-15 Materials received and recycled at Council waste transfer stations

Material Collected (tonnes)	Moe transfer station	Morwell transfer station	Traralgon transfer station	Yinnar transfer station	Total all transfer stations
Co-mingled recyclables	16	24	30	3	74
Paper/ Card board	56	81	103	12	251
Scrap metal	281	406	516	58	1,261
Tyres[21]	2	3	4	0.4	10
Oil[22]	6	8	10	1	25
Batteries	6	8	10	1	25
Concrete	104	150	190	21	465
Total material diverted from landfill	**471**	**679**	**863**	**97**	**2,111**
Garbage	1,313	1,894	2,406	272	5,885
Total tonnage collected	1,784	**2,573**	**3,269**	**369**	**7,996**
Diversion rate (%)	26%	26%	26%	26%	26%

[21] An average tyre weight of 8.5Kg has been used to convert the number of tyres to a tonnage.

[22] A specific gravity of 0.85kg per litre for oil has been used to convert reported oil collection to tonnes.

3.7.6. Waste Transfer Station Garbage Skip Audit

GRWMG had garbage skips at two transfer stations within Latrobe City, at Morwell and Traralgon, audited in 2009. Whilst the audits are for two garbage skips only, they do provide a useful insight into the actual material sent to landfill from the waste transfer stations. The figures recorded for the garbage skips is shown in the table below.

Table 3-16 Percentage of recyclable materials in waste skips at Morwell and Traralgon transfer stations, 2009[23]

	Morwell transfer station		Traralgon transfer station		
Waste Type	Average volume (Litres)	Composition %	Average volume (Litres)	Composition %	Average Composition %
Household waste	2,635	10.0	4,760	14.7	12.4
Building rubble	3,170	12.1	5,620	17.4	14.8
Wood	3,835	14.6	9,080	28.0	21.3
Electrical appliances	620	2.4	2,170	6.7	4.6
Textiles, Clothing	3,290	12.5	970	3.0	7.8
Polystyrene	340	1.3	455	1.4	2.2
Furniture	8,360	31.9	5,270	16.3	24.1
Toys	1,190	4.5	1,000	3.1	3.8
Miscellaneous	710	2.7	1,085	3.4	3.1
Plastic wrap	200	0.8	320	1.0	0.9
Garden	655	2.5	730	2.3	2.4
Paper/card	460	1.8	325	1.0	1.4
Recyclable containers	765	2.9	600	1.9	2.4
Total	26,230	100.0	32,385	100.0	100.0

The results indicate that the largest components, by volume, of the transfer station skips are furniture (24%) and wood (21%). In June 2010 Council began diverting wood waste from landfill to the green waste collection centre at Morwell for mulching; therefore this figure is expected to decrease over time.

The figures indicate that materials for which the Council is specifically targeting to divert from landfill are making it into the garbage waste stream at the transfer station in small quantities, with Garden waste, paper/cardboard and recyclable containers representing 6.2% of the material within the garbage skips audited. In June 2010 Council also began

[23] All Environmental Concepts Report "Gippsland Regional Waste management Group Waste Audits January – February 2009"

diverting building rubble (i.e. bricks and concrete) from landfill to commercial concrete recycling centres; therefore this figure of 14.8% is expected to decrease over time.

4. Key Issues

A review of current waste management systems and infrastructure is provided below. The review highlights a number of key issues with the current waste management services and, where applicable, recommendations made and forming an action plan.

4.1. Waste Information

In undertaking the preparation of this Waste Management Strategy a number of areas where improved reporting on waste tonnages and facility operational costs have been identified as being of benefit to the management and understanding of the waste infrastructure utilised by the Council. Specific areas include:

- Operational costs of each individual waste transfer station and green waste collection centre. This will allow a cost benefit analysis to be undertaken of each waste transfer station and for potential efficiencies to be identified.
- Waste tonnages by material stream at each waste transfer station and green waste collection centre. This will allow collection efficiencies to be analysed, trends to be identified and a full picture of material flows at each facility to be known.

An electronic data acquisition system is currently being implemented at all transfer stations to accurately collect and collate usage and waste materials data.

Increased levels of waste data collection and reporting requirements will be incorporated into future contracts for the management and operation of the waste transfer stations and green waste collection centres. This will allow for efficient and more improved waste management practices to be employed.

4.2. Waste Disposal / Treatment

4.2.1. Landfill Strategy

Waste predictions (Table 3-8) indicate that the Hyland Highway landfill (landfill) will need to deal with a larger quantity of Municipal Solid Waste (MSW) year on year unless greater landfill diversion is achieved. This modelling does not take into account commercial waste direct hauled to the landfill facility, which it is assumed will grow inline with population and MSW growth.

Increased landfill tonnages and increased cost per tonne for the disposal of waste to landfill will cause an increase of $1.2 million per annum between 2010 and 2020[24]. Modelling indicates that this cost increase could be reduced by $0.2 million through the achievement of a 6% increase in the rate of recycling over the same time period.

[24] It should be noted that the landfill levy estimates are based on the 2015 landfill levy released by the EPA. There is significant potential that by 2020 the levy will be higher.

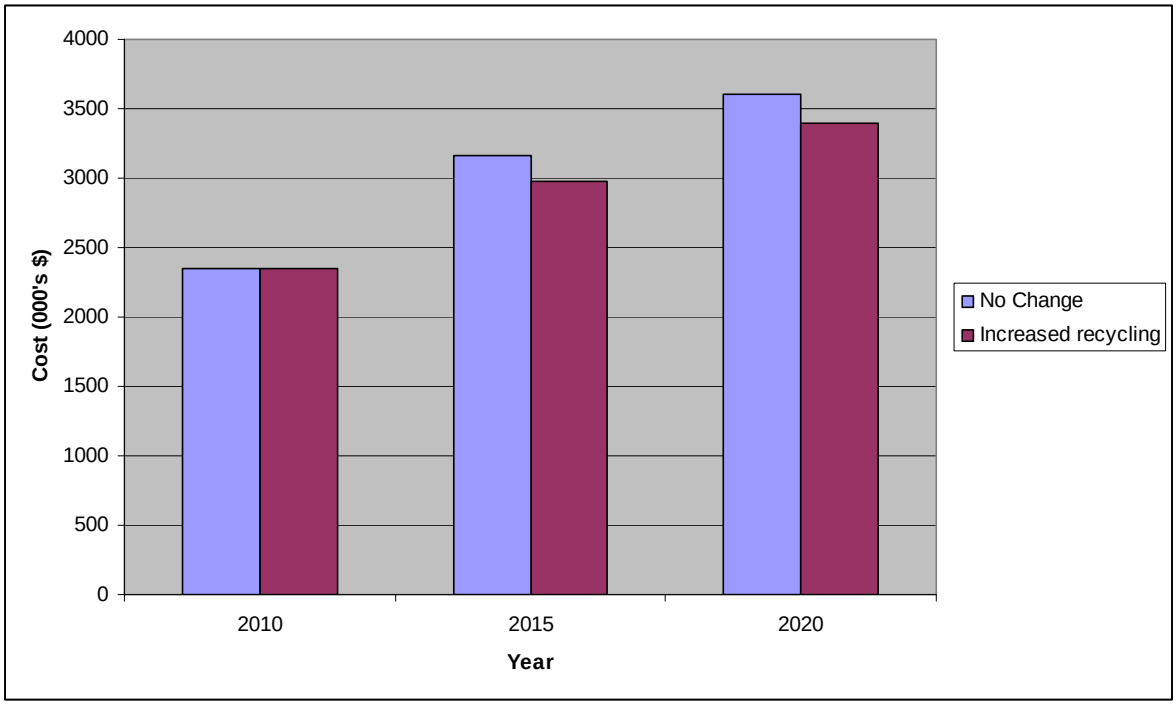


Figure 4-3 Cost of disposal for predicted garbage arisings 2010 - 2020

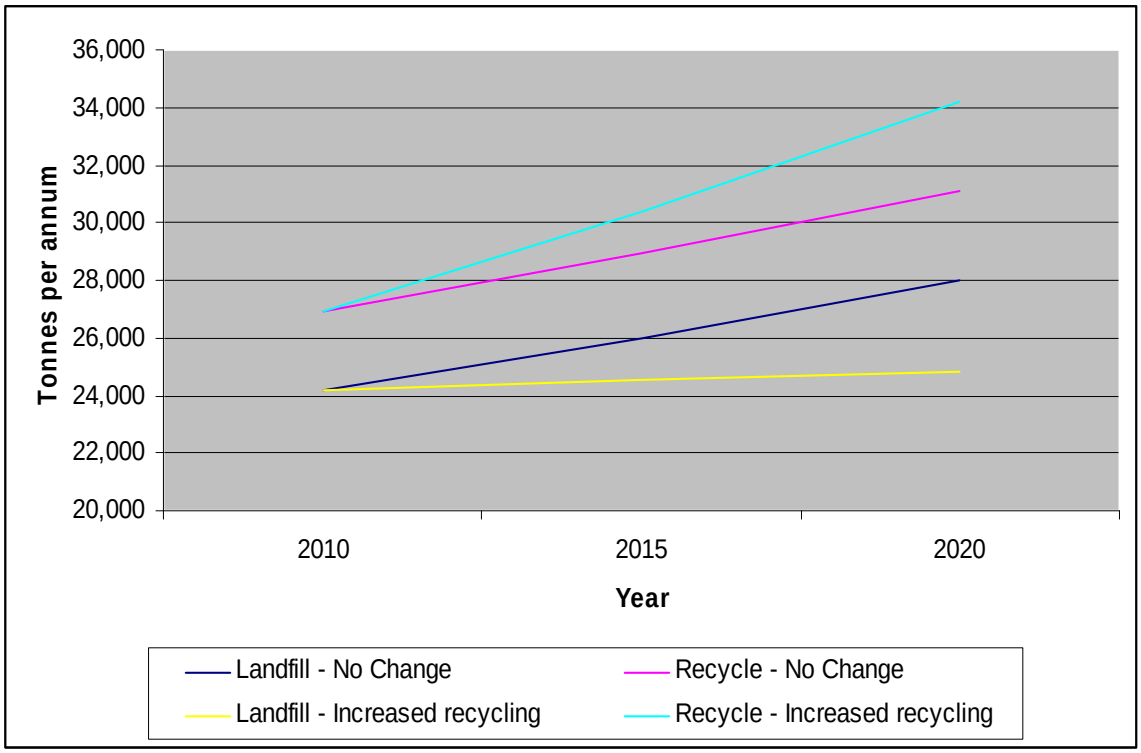
The implications of this to the landfill are significant with increasing tonnages reducing the available airspace and usage life of the landfill. Once Hyland Highway landfill current capacity is used Council will have to either:

- transport waste a significant distance for disposal which will have significant cost implications to the annual budget;
- apply to EPA Victoria to extend the tipping capacity of the existing landfill; or
- locate and construct a new landfill in the area, which is unlikely to occur under the current regulatory framework.

Furthermore an increase in the tonnage of material received will cause the lifespan of each cell to be reduced causing an increase in the engineering cost per annum for the landfill.

Therefore increased resources and efforts to divert materials from landfill will be required by Council. This is a cost effective solution to extending the life of the landfill whilst also providing improved waste management practice and a better environmental outcome. The economics of such an action are also clear with the increasing landfill levy and inflation likely to see the current $111 per tonne landfill gate fee edge nearer to $150 by 2015. The figure below highlights the impact of a 3% increase in landfill diversion every 5 years would have on the tonnage of recyclables and MSW arising in Latrobe City from 2010 – 2020.

Figure 4-2 Garbage and recycling predictions for Latrobe City under no change and an increased recycling scenarios



The figure indicates that a 3% increase in municipal recycling in 2015 would mean 1,500 tonnes less waste entering landfill. If the recycling was to continue to improve and be 5% higher than current rates in 2020, then the Council would be diverting 3,100 tonnes of material from landfill compared to where the system does not change from current levels.

Composition data for kerbside garbage bins, public litter bins and transfer station garbage bins indicates that the initial increase in recycling can occur through better utilisation of the collection systems provided. Further discussions on specific methods of increasing landfill diversion are provided below.

Predictions indicate that over half of the garbage material entering Hyland Highway landfill will be produced by Commercial waste streams (see Table 3-8). To encourage greater diversion of commercial materials from landfill there are four main methods:

Financial: In part this will be done by the increasing landfill levy, however it may be found that this is not a strong enough financial imposition to divert commercial waste from landfill. An increase in gate fee cost per tonne for commercial waste to further increase the cost of landfilling would provide further incentive to divert.

Reward: Commercial operators could be rewarded for diverting material from landfill. This is already done in the ability to provide some targeted recyclables to the waste transfer stations at no cost. Further options could include a procurement system that prefers companies that achieve a certain level of environmental achievement, including waste diversion.

Facilitation: Facilitate the funding, design and planning of waste management infrastructure aimed at improving commercial landfill diversion. Consideration of the

construction of a commercial only Resource Recovery Centre to assist in achieving landfill diversion has already been investigated.

Education: Increased focus from the waste education budget to the commercial sector to improve understanding amongst the sector and to increase knowledge of alternative solutions.

Measures for maximum landfill diversion of not just MSW but Commercial solid waste must be considered.

4.3. Advanced Waste Treatment (AWT)

This Strategy acknowledges the changing direction of waste management towards alternative waste technologies, and the need to investigate options moving away from landfill. This desire to move away from landfills and towards alternative waste technologies has led to considerable interest in AWTs and their ability to achieve greater diversion of waste from landfill. Currently AWTs can be broadly aligned into three categories:

1. Biological (e.g. Mechanical Biological Treatment (MBT) with composting or anaerobic digestion);
2. Thermal (e.g. mass burn energy-from-waste and gasification);
3. Other (e.g. biodrying).

Whilst there is no doubt that AWTs are an important part of an integrated waste management system they currently require significant annual tonnages of material (critical mass) to be contracted to be economically feasible. There are some technologies that operate using smaller tonnages of material that are currently in commercial trials, however, it is believed that the business case for these are not currently robust enough to recommend their use at this point (action 4).

It is envisaged that there will be a point in the near future when an AWT plant will be viable either at the Council or Regional level. As such provision need be included within its collection contracts regarding a clause that Latrobe City has the right to dictate to the collection operator where the material collected is hauled to. To ensure that this does not deter operators from bidding for the work it need also be included that if there is an extra cost due to the use of a Latrobe City stipulated facility this cost will, within reason, be borne by Council (action 5.3).

Whilst Latrobe City currently does not create enough municipal waste to warrant investment in its own AWT facility it will consider the following actions to support access to an AWT solution in the future:

- Support regional (GRWMG) efforts to develop an AWT facility, if the business case for such a development exists for Latrobe City Council (action 4.1).
- Remain open to the option for a local AWT should a technology be proven to operate commercially at the scale required by Latrobe City (action 4.2).

4.4. Kerbside Collection

Council currently provides a kerbside waste collection service that adheres to best value principles. This is reflected in the results of the Sustainability Victoria Local Government Annual Survey, which show that Latrobe City has a kerbside landfill diversion rate of 52% and was the 9th best performing Council in the whole of Victoria in 2007/08[25]. Furthermore current figures indicate that the Council achieved a 56.5% kerbside landfill diversion rate in 2009/10. Latrobe City Council is currently on track to achieve the TZW and Gippsland Regional Waste Management Plan target of 65% diversion for its kerbside collection system. However, it is noted that Latrobe City as a whole[26]currently achieves a 58% landfill diversion rate. Furthermore as discussed in section 4.2 above, improved landfill diversion is a benefit to the Council from both an environmental and financial point of view.

There are a number of potential changes that could be made to the current system to achieve even greater landfill diversion through kerbside collection systems. A number of the more realistic options are discussed below.

4.4.1. Bin Size

Research suggests that the smaller the garbage bin provided to a household, the better its diversion of waste from landfill is[27]. A number of Councils in Victoria have used this as a platform to implement an 80L mobile garbage bin. There are issues with requiring all households to have an 80L bin, that mean a blanket roll out of the 80L bin is not recommended. Instead, it is recommended that the Council considers the introduction of an 80L bin as a voluntary option for the householder to undertake in return for a lower waste service charge (action 5.1). The other option is for the Council to make an 80L bin the default bin size with households having the option to upgrade to the larger 120L MGB for an increase in their service charge (action 11.1).

Providing this cost structure helps move the Council to a more equitable payment structure for households with those creating more waste paying a greater fee than ones that create less. To reduce the cost of roll out of the system and prevent creation of redundant 120L bins it is recommended that an 80L garbage bin be offered to householders when their current one requires replacement (action 5.1).

This option needs to be considered prior to, and for inclusion in the next contract for the kerbside collection of garbage.

4.4.2. Kitchen Organics Collection

The All Environmental Concepts waste audit of kerbside garbage bins in Latrobe City indicated that kitchen organic waste represented 35.7% of materials found in the 200 audited garbage bins (see Table 3-10). This represented the largest fraction of material in the garbage bin for which there is currently no separate kerbside collection and there are viable options for recycling. Furthermore the diversion of organic material from landfill is highly desirable, as when it is broken down anaerobically (when no oxygen is present) it creates methane. Methane is greenhouse gas that is 21 times more potent than Carbon Dioxide and creates problems due to its explosive nature.

Latrobe City is currently involved with the Gippsland Regional Waste Management Group's Regional Organics Strategy review. Should the review indicate that a kitchen

[25] http://www.sustainability.vic.gov.au

[26] Including all Municipal waste such as transfer station, public litter and street sweepings.

[27] http://www.sustainabilitymatters.net.au/articles/28653-Unit-pricing-of-household-garbage

organics collection is considered viable then a feasibility study needs to be undertaken for a separate kitchen organics collection or co-collection with green waste (action 5.2). However, there are a number of physical and financial issues with kerbside collection of food organics, some of which are listed below.

- Odour can be an issue with food organics if they are not collected weekly, however, there are solutions to this such as the use of biodegradable bags for the storage of kitchen organic waste.
- Treatment of kitchen organics, especially when animal by products are included, needs to be much more controlled than green waste only treatment due to greater potential for odour, vermin and pathogen spread.
- Contamination is often significantly higher for kitchen organics compared to green waste.
- Participation by householders in the kitchen waste collection service is often fairly low.
- Cost per tonne of a kitchen organics collection system either stand alone or co-collection with green waste is often high due to the increased treatment required, higher contamination and low participation (the latter reducing the cost effectiveness of the collection system). Furthermore the collection system generally will either need to be weekly or employ a system to reduce odour potential at the kerbside, such as biodegradable bags.

It is assumed that these issues will be investigated and addressed in the Regional Organics Strategy review.

4.4.3. Recyclables Capture

The All Environmental Concepts Waste Audit of 200 bins in Latrobe City indicated that 20% of the waste in the garbage bin was material that should have been placed in the kerbside recycling bin (see Table 3-10). This equates to 2,700 tonnes of material that could be diverted from landfill; if captured in the correct bin it would cause a 7% increase in recycling.

The waste audit indicates that further community waste education, as identified in the waste education plan, is required as there is either still some confusion as to what can be recycled and/or some households are purposely not using the recycling bin.

Consideration needs to be given to the level of resources required to understand how Council's waste education has impacted community understanding of waste management services in Latrobe City and to identify the successful and unsuccessful methods employed (action 3). This must also include identifying areas of the municipality that need to be specifically targeted by future education programs.

4.4.4. Contamination

The information available on the composition of recyclable materials collected from the kerbside indicates that contamination of both the co-mingled recyclables and the green waste kerbside bins is high at 10% and 9% respectively (see tables 3-11 and 3-12).

Through waste education practise, where it is found that households are not utilising the three bin system correctly efforts are made to educate and communicate the benefits of waste sorting. Households that a regularly misuse the kerbside bin systems are identified via undertaking bin inspections and contract collection drivers having a surveillance camera mounted to capture the nature of materials entering the kerbside collection truck. Households found to be misusing the bin are recorded and monitored to ascertain if it is a regular occurrence.

Where regular misuse of the kerbside collection system is identified a process is undertaken and education actions implemented to change their habits which ultimately include an ability to undertake enforcement action. This process is provided below:

- A warning sticker system that warns the household that there is unacceptable contamination of the co-mingled recyclables / green waste bin or that the residual bin is too full is used. Education pack then sent to the household.
- Further education be provided to the household, potentially including a visit by the Council Waste Education Officer
- Enforcement against repeat offenders where a statutory fine is applied to the household or service withdrawn. This may occur after three warnings stickers have been received.

4.5. Hard Waste

Council has a responsibility to implement systems that incorporate community demand and responsible waste management practises. The issues discussed in this section need to be factored into all future decisions on hard waste collection services within Latrobe City; however, it is not recommended that the Council change the current system.

The current hard waste collection system provided by the Council has three separate systems:

- Two self haul 'no charge' weekends
- Two booked kerbside 'at call' collections
- Provision of four waste transfer stations.

The issues that have been identified in this section relate to the first two systems, namely the no charge weekends and the 'at call' service. Waste transfer stations and their role in recycling of hard waste are discussed in further detail in Section 4.6 below.

4.5.1. Hard Waste Funding

The current booked or 'at call' kerbside service format cost to Council for each collection is approximately $68. However less than 1% of households currently participate or take up this service (see table 3-1).

The current charges for this service is $20 per collection per household, with concession card holders receiving the service for $10. Currently the majority of persons using the 'at call' service are concession card holders.

Assuming 1% to 5% participation in the 'at call' service the total annual cost to Council ranges from $16,500 to $82,500. The net cost to Council will be dependent on the fee structure chosen; currently Council recovers $20 full cost or $10 concession card holder for the 'at call' collection service. Using these revenue streams and the 09/10 collection runs the total net cost to Council for 1% to 5% participation would range from $12,750 to $63,750 per annum.

The current losses made by the 'at call' system are paid for by income that Council set aside two years ago for this purpose. This fund is also used to cover the cost of the current self haul 'no charge' weekends at the waste transfer stations and green waste collection centres. This fund is due to run out at the end of the 2011 calendar year. After this point, Council will either have to find a method to fund the collection systems or will have to cover the expense through Council rates.

It is recommended that Council should identify a funding route for the hard waste collection services or review the costing schedule used, to minimise the net costs to Council or set a cost recoverable fee structure (action 6.1).

4.5.2. Polluter Pays Principle

The current hard waste collection system does not adhere to the 'polluter pays' principle. Currently there is no cost attributed to waste on two weekends of the year and the charge to the user for the 'at call' service is significantly lower than the real cost of the service to the Council. The polluter pays principle is based upon the premise that the cost of handling or treating a pollutant, in this case hard waste, is born by the person(s) that have benefited from its use. In the case of the free collection weekends and the subsidised 'at call' service this does not occur. Instead the community as a whole pays for the handling / treatment of the pollutant.

Due to the difference in the cost per collection to Council and that charged to the household, the Council is paying for the 'pollution' which is directly funded by all residents of Latrobe City through rates.

4.5.3. Landfill Diversion

The current hard waste collection system has facets that do not encourage the diversion of waste from landfill. This occurs in two different methods:

- The provision of 'no charge' weekends means that there is no financial incentive for the polluter to separate recyclable material from non-recyclable material.
- The current 'at call' service sends the majority of collected materials directly to landfill.

It is recommended that the 'at call' service provider be required to stop at one of the waste transfer stations provided by Council (action 6.2). At the waste transfer station these materials would then be segregated into their correct collection areas. (i.e. metals, paper/cardboard, timber, mattresses, e-waste, recyclables and other items).

4.6. Waste Transfer Stations

Council provides four waste transfer stations for the community to utilise across the municipality. The waste transfer stations are managed and operated by an external contractor. In undertaking the preparation of this waste management strategy, the current contract for management and operations of the waste transfer stations has been reviewed. A summary of the outcome of this contractual review, along with recommendations on changes to the structure of the contract has been captured in section 4.6.2.

Council also commissioned an assessment of the site operations and infrastructure at the waste transfer stations. As a result, a number of issues have been identified with contract mechanisms and structure, operational procedures and infrastructure and the flow of gate fees and costs in operating the sites under the current contract.

4.6.1. Transfer station design, operations and infrastructure

The review of the operations and infrastructure of the current waste transfer stations was undertaken with reference to the Sustainability Victoria publication *'Guide to best practice at resource recovery centres*[28]*'* and identified that there are a number of areas where

[28] Sustainability Victoria , Resource Smart report "Guide to best practice in resource recovery centres" 2009

improvement can be made in design, infrastructure, operations and management. The key issues that need to be addressed include:

- Improvement of the operations, especially supervision of customer waste drop-off, at the waste transfer stations to increase resource recovery and maximise landfill diversion;
- Improving use of plant, equipment and infrastructure to ensure adequate protection for customers and staff and adherence to OH&S legislation;
- Enhancing customer service levels at the waste transfer stations;
- Upgrade the mobile plant and equipment required, as well as the infrastructure to enable the contractor to increase landfill diversion and ensure adherence to OH&S regulations; and
- Layout of the sites and use of storage areas to improve amenity of the facilities

Council is considering how to implement the recommendations of the review into the requirements of the next contract for management and operation of the waste transfer stations, due to commence in July 2011 (action 7.1). These changes will ensure that Council is provided with an effective management service for the waste transfer stations, which complies with current legislation, achieves a high level of landfill diversion and provides customers/users with a significantly improved service.

4.6.2. Review of contract for management and operations of waste transfer stations

The review of the current contract included legal consideration of the structure, content and mechanisms of the contract documentation. This review identified a number of areas where the requirements of the contract need be changed, and recommendations are made to ensure improved operations and management of the facilities (action 7.1).

The key recommendation made is that the contract structure change, so that the contractor will take responsibility for the vast majority of the costs in operating the waste transfer stations to include both transport and disposal of residual waste. However, the contractor will also retain all of the gatehouse and other income, from both residential and commercial customers disposing of waste and recyclable materials. The contractor will still retain ownership and income gained from the sale or processing of all recyclable and/or re-useable materials. The impact of this structural change will drive increased resource recovery, continuous innovation and allow the contractor to create a true business unit, which will ultimately minimise the cost of the management service to Council.

A further recommendation is that the contract period be extended from the current seven year term to a seven year term, with plus three, plus two optional extensions (10 year total). This will provide incentives for the contractor to make investments in infrastructure, plant and equipment at the waste transfer stations to improve operations, occupational health and safety procedures and traffic management at the facilities. A potential contract period of ten years will provide tenderers and therefore the successful contractor with the necessary time period over which to amortise this investment. This investment, which may be supported by Council and/or grant funding from organisations like Sustainability Victoria should ultimately lead to maximising resource recovery performance and diversion of waste from the Hyland Highway landfill.

As a result of the review of the operations, infrastructure and contract structure which govern the waste transfer stations, Council has commissioned a feasibility study into the establishment of a resource recovery centre for commercial waste at the Morwell waste transfer station site. A facility such as this allowing commercial operators to pre-sort

waste materials for reuse, recycle and recovery would increase diversion from landfill which they are currently unable to do in their own facilities under current operational permits. Establishment of this centre would be dependant on the outcome of the feasibility

study, securing a critical mass of waste material to ensure economy of scale and the market void not being filled by a commercial operator.

4.6.3. Transfer station gate fees

Waste transfer stations currently cost Council $1.2 million per year; however, this is partially offset by $0.3 million revenue from gate fees received. The waste transfer stations therefore provide a net cost of $0.9 million a year currently. A key factor in the size of the deficit is the costing schedule implemented at the transfer stations with the income from gate fee costs per tonne significantly lower than the cost per tonne for disposal of residual waste at the Hyland Highway landfill. A basic assessment of the figures is provided in the table below:

Table 4-3 Assessment of cost of waste disposal to customer and to the Council at Landfill.

	Transfer station waste tonnage	Cost per tonne	Revenue or potential revenue
Transfer Station	6,285	$30[29]	$188,550
Landfill	6,285	$90.91	$697,635

It should be noted that due to internal charging between Council business units, the cost for disposal of residual waste materials from the waste transfer stations at the Hyland Highway landfill is charged at $90.91 (ex. GST) per tonne in 2010/2011.

It is recommended that the Council reviews the costing schedule and gate fees charged for disposal of waste and recyclable materials received at the waste transfer stations with the aim of reducing the net cost of operating the waste transfer stations to Council (action 7.2).

4.7. Green Waste Collection Centres (GWCC)

Council has made a sustained and successful effort to divert green waste and garden organics from landfill, to be processed for use in composting. In achieving this, Council is committed to providing facilities for disposal of green waste in the major population.

4.7.1. Potential use of waste transfer stations for disposal of green waste

The locations of the current GWCC facilities are in three of the same towns as the waste transfer stations. Through upgrading the waste transfer station facilities at Moe, Morwell and Traralgon to best practice, the option arises to include receival of self-hauled green waste materials from residents. This would allow residents to have a ‘one stop’ centre for the disposal of all wastes, providing a more streamlined service.

The Morwell GWCC is currently the facility that undertakes receival of green waste from both commercial and residential customers and undertakes processing and ‘open windrow’ composting. This facility is still required to receive green waste directly, and commercial entities dispose of green waste at the Morwell facility only (i.e not at Moe or Traralgon).

[29] Based on the assumption that a ute filled to the waterline would hold 0.3 tonnes of solid inert waste

The introduction of a green waste disposal capability at the upgraded waste transfer stations creates an opportunity for the closure of some or all of the dedicated GWCCs. Closure of the GWCC facilities would provide the Council with significant financial savings and would improve the service level provided to the community through co-location of waste disposal areas and longer opening hours (action 8.2).

One of the main drivers for the introduction of the green waste collection centres was a desire to reduce contamination inherent in the disposal of self-hauled green waste. If the three larger waste transfer stations were to be used for disposal of green waste then the contractor would supply a staff member to solely supervise the green waste disposal areas during certain times, as happens at the GWCCs at present. The savings are generated through there being no cost in use/rental of land for dedicated green waste collection centre sites. It is known that collection of green waste at waste transfer stations occurs across Victoria with low contamination levels and no designated site operator for green waste collection.

Council is reviewing the practice of providing separate GWCCs and the impact on operation of the waste transfer stations, should these be used for disposal of green waste.

4.7.2. Tender process for green waste acceptance and processing contract

Currently Council has to procure and manage a contract solely for the acceptance and processing of green waste, which requires establishment and operation of the separate green waste facilities. This arrangement requires users (resident or commercial) to use both the waste transfer station and the green waste collection centre if they want to dispose of both waste streams in the same day.

Council believes that the requirements for the waste transfer stations management contract could be linked or related to the requirements of the contract for acceptance and processing of green waste.

It is therefore recommended that the tender process for the contract for acceptance and processing of green waste should occur at the same time as the tender for the contract for the operations and management of the waste transfer stations (action 8.2). Tenderers would then be able to bid for each contract alone or potentially for both contracts by proposing arrangements with other specialist providers. This is likely to encourage greater competition amongst tenderers and will potentially provide the Council with reduced administration and contract management costs, as well as reduced management fees under both contracts in the long-term. The overriding aim of this process is to deliver best value for Latrobe City Council and its ratepayers.

4.7.3. Contract for processing of green waste

The review of the current contract for the processing of green waste indicates that there is potential for a number of amendments to achieve improved operations, management and the production of various organic (compost or soil conditioner) products.

An outcome of the contract review was that the next contract period be for five years, with optional extensions. This will allow Latrobe City Council to engage, with confidence, in the Gippsland Regional Waste Management Group plans to investigate the viability of processing green waste and the food organic proportion of MSW together, in the future.

The five-year time period will, however, require Council to structure the tender process to provide the incentive for tenderers to make the necessary investments in sites, infrastructure, plant and equipment to meet the contract requirements.

4.8. Littering and Illegal Dumping

Latrobe City acknowledges that there is a persistent problem with littering and illegal dumping of waste across the municipality.

Littering provides a number of issues including pollution, both physical and visual, and a cost for collection and disposal. There is no reason for littering to occur in Latrobe City with a significant waste infrastructure provided to the public and commercial persons.

There are two forms of littering that occur within Latrobe City; general littering and localised or hot spot illegal dumping in specific locations. Tackling these two issues requires a range of approaches.

4.8.1. Littering and Illegal Dumping

General littering may occur due to an inadequate number of places to dispose of waste correctly, however this is not the case in Latrobe City as 110L litter bins are provided in CBD areas, parks and gardens, bus stops and at other community facilities. Other contributing factors are a lack of understanding of how to dispose of waste correctly and a conscious decision to incorrectly dispose of waste.

Latrobe City has identified key areas of littering and / or illegal dumping and has reviewed the provision of public litter bins in these areas. Where this review ascertains that a contributing factor to the litter problem is a lack of waste receptacles then Council continues to invest in this infrastructure. Ongoing review of the implementation and effectiveness of the waste education plan forms part of litter education. Council participates in the Regional Litter Task Force through the GRWMG. There is further support available for Councils to tackle littering issues including from the Victorian Littering Action Alliance, Sustainability Victoria and the Department of Sustainability and Environment.

In addition to waste education Council undertakes enforcement action through the use of Local Laws and EPA Victoria Pollution Abatement laws. Council implements a system whereby fines can be imposed on anyone caught dumping to cover the cost of proper disposal, administration and a more significant penalty sum on top.

The management of littering and dumping requires revision of resources to be more effective and is a short coming of Council's current waste management service (action 9). It is therefore recommended that the Council create a formal littering and illegal dumping plan which clearly identifies:

- Education required - this should be created by taking the Waste Education plan in to account.
- A method for warning the public that littering and illegal dumping will no longer be accepted - this can be achieved in conjunction with education e.g. community posters and articles.
- A framework for enforcing the ban on public littering and illegal dumping, including identification of who can impose enforcement measures and what the enforcement measures are.

4.8.2. Public Place Recycling (PPR)

The Council does not currently provide Public Place Recycling. A waste audit of garbage from the Stockland Plaza Shopping Centre[30] indicated that over a third of the material present was recyclable. There is the potential therefore for the Council to divert

[30] All Environmental Concepts; Wattus, M, Gippsland Regional Waste Management Group: Waste Audits January 0- February 2009, 2009

approximately a third of public litter bin waste from landfill through the introduction of PPR bins or other containers. This could annually represent 125 tonnes of material diverted from landfill. The provision of PPRs reinforces the importance of recycling to the general public as well as diverting waste from landfill.

Council currently undertakes recycling at public events. This Strategy recommends the consideration of placement of PPRs alongside public litter bins that are in high footfall locations (action 10.1), e.g. shopping centres, town centres, sporting ovals and picnic areas. It is recommended that the PPRs be co-located with public litter bins and that they be distinctive from the public litter bins through differential colouring, signs and design of the waste acceptance hole (action 10.2). Undertaking these differences will aid in the reduction of contamination of the PPR bin.

5. Action Plan

5.1. Objectives and Priorities

This action plan captures the key recommendations of this Waste Management Strategy and provides recommended timelines for the Council to achieve the recommendations. In undertaking these actions it is believed Council will move closer to achieving its TZW target of a 65% diversion of waste from landfill and the aim of Latrobe 2026 for making Latrobe City a liveable and sustainable city.

5.2. Action Plan

The following Action Plan has been developed to achieve identified long term objectives, detailed above, and address identified issues and opportunities for improvement detailed throughout the WMS:

Table 5-1 Action Plan

RECOMMENDATION	ACTIONS	RESPONSIBILITY	COMPLETION DATE
1. Transfer Station and Green Waste Collection Centre Information	1.1 Contractual requirement to provide: - Cost per facility - Tonnages per waste stream for each facility - Electronic data capture system	• Contract tender evaluation	• Feb 2011
2. Commercial waste landfill diversion strategy	2.1 Identify a strategy for the reduction of commercial waste arising at Hyland Highway landfill. Including - Financial; - Incentive; - Facilitation; and - Education strategies.	• Latrobe City Council officers and GRWMG	• Feb 2011

RECOMMENDATION	ACTIONS	RESPONSIBILITY	COMPLETION DATE
3. Waste Education Plan	3.1 Review the Waste Education Plan Action Plan to ensure alignment with the adopted strategy;	• Waste Education Officer and GRWMG	• Feb 2011
	3.2 Continue working in collaboration with Gippsland Regional Waste Management Group to achieve waste education goals;		• Ongoing
	3.3 Identify the best education methods for: - Reduction of contamination in all methods for collection of recycling and green waste; - Methods for increasing capture rate of recyclables and green waste in all collection systems; - Engaging all sections of Latrobe City community, including commercial waste providers; and - Reduction in littering behaviour across the municipality.		• Ongoing
4. Advanced Waste Treatment	4.1 Support Gippsland Regional Waste Management Group efforts to provide a business case for a Regional AWT facility;	• Manager Natural Environment Sustainability	• Ongoing
	4.2 Ensure that any GRWMG recommendations are feasible financially and physically for Latrobe City; and	• Contract tender evaluation	• Feb 2011
	4.3 Maintain the ability to implement an AWT at a Latrobe City level, should a technology arise.		

RECOMMENDATION	ACTIONS	RESPONSIBILITY	COMPLETION DATE
5. Kerbside Collection	5.1 Review the current bin size offering to residents with the potential to offer an 80L MGB garbage bin;	• Waste and Recycling Services Co-ordinator	• Ongoing
	5.2 Review the feasibility of providing a Kitchen Organics kerbside collection service should a Regional or Local solution to Kitchen Organics treatment become viable;	• Waste Education Officer and GRWMG	• July 2012
	5.3 To allow for future AWT development to be supported with materials arising from the kerbside or transfer stations the Council should ensure that future contracts provide the ability for materials to be sent to a facility of Latrobe City Councils choice, with compensation to the operator if it entails extra cost;	• Manager Natural Environment Sustainability • Contract tender evaluation	• June 2011
	5.4 Continue identification of household and commercial users that are continually misusing the kerbside collection bins as a requirement for the kerbside collection contractor to monitor and report offenders on a monthly basis should be included in future kerbside collection contracts;	• Waste and Recycling Services Co-ordinator • Contractor	• Ongoing
	5.5 Further review system for the enforcement of waste management systems, to including: - Education that will be provided to identified offenders; - Warnings that would be provided to repeat offenders; - Statutory fining/enforcement to repeat offenders.	• Waste Education Officer • Local Laws Officers	• June 2012
6. Hard waste service	6.1 Review the current provisions for hard waste funding and identify how funding will occur post 2010/11; and	• Manager Natural Environment Sustainability	• June 2011
	6.2 The 'at call' service provider be required to stop at one of the waste transfer stations provided by the Council	• Contract tender evaluation	• Feb 2011

RECOMMENDATION	ACTIONS	RESPONSIBILITY	COMPLETION DATE
7. Transfer Station	7.1 Implement actions identified in the report Latrobe City Council *Review of Transfer Station management Contract and Infrastructure;* and 7.2 Review current Transfer Station gate fees.	• Waste and Recycling Services Co-ordinator	• June 2011
8. Green Waste Collection Centres	8.1 Review the provision of Green Waste Collection Centres as totally separate facilities from Transfer Stations; 8.2 Implement actions identified in the Report *Latrobe City Council Greenwaste Contract review.*	• Waste and Recycling Services Co-ordinator	• June 2011
9. Littering and illegal dumping	9.1 Continue participating in the GRWMG Littering Prevention Task Force. 9.2 Review provision of Public Litter Bins in current areas of high littering; 9.3 Cross reference with the Waste Education Plan to ensure that education systems focused at littering behaviour are put into place; 9.4 Further review the system for the enforcement of littering prevention, to include: - Education that will be provided to identified offenders - Warnings that would be provided to repeat offenders; - Statutory fining/enforcement to repeat offenders.	• Waste Education Officer and GRWMG • Waste Education Officer and Local Laws Officers	• Ongoing • June 2014 • June 2012 • June 2012

RECOMMENDATION	ACTIONS	RESPONSIBILITY	COMPLETION DATE
10. Public Place Recycling (PPR)	10.1 Review the provision of PPRs with a view to installing them in high footfall locations alongside Public Litter Bins (PLBs); 10.2 Ensure that PPRs put in place are clearly different to PLBs through use of different colours, Educational stickers and different shape of material receival entrance.	• Waste and Recycling Services Co-ordinator and Waste Education Officer	• June 2011
11. Financial Considerations	11.1 Investigate financial implications of moving to full cost recovery for whole of life approach; 11.2 Investigate financial implications for moving to 80L garbage bins.	• Manager Natural Environment Sustainability and Manager Finance	• May 2011 • Feb 2011

This Action Plan will be reviewed on a yearly basis and the WMS every 5 years.

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APPENDIX A - KEY FEDERAL AND STATE LEGISLATION AND POLICIES AND OTHER INITIATIVES

KEY FEDERAL AND STATE LEGISLATION AND POLICIES

1.1. KEY FEDERAL LEGISLATION AND POLICIES

1.1.1. National Waste Policy

The National Waste Policy heralds a new, coherent, efficient and environmentally responsible approach to waste management in Australia. The policy, agreed by all Australian environment ministers in November 2009, sets Australia's waste management and resource recovery direction to 2020.

The policy sets directions in six key areas and identifies 16 priority strategies that would benefit from a national or coordinated approach. These strategies will provide focus to the work across individual jurisdictions, build on current directions and complement existing activity. They will also provide clarity and certainty for business and the community.

The six key areas are:

1. **Taking responsibility-** Shared responsibility for reducing the environmental, health and safety footprint of products and materials across the manufacture-supply-consumption chain and at end-of-life.
2. **Improving the market-** Efficient and effective Australian markets operate for waste and recovered resources, with local technology and innovation being sought after internationally.
3. **Pursuing sustainability**- Less waste and improved use of waste to achieve broader environmental, social and economic benefits.
4. **Reducing hazard and risk**- Reduction of potentially hazardous content of wastes with consistent, safe and accountable waste recovery, handling and disposal.
5. **Tailoring solutions**- Increased capacity in regional, remote and Indigenous communities to manage waste and recover and re-use resources.
6. **Providing the evidence**- Access by decision makers to meaningful, accurate and current national waste and resource recovery data and information to measure progress and educate and inform the behaviour and the choices of the community.

The National Waste Policy Implementation Plan was endorsed by the Environment Protection and Heritage Council on 5 July 2010. The implementation plan identifies priority initiatives and milestones, presents the governance arrangements that will support the Environment Protection and Heritage Council and sets out how progress will be tracked and performance monitored.

The implementation plan will be regularly updated as initiatives are scoped, consultation occurs, initiatives are completed and new work is agreed.

The National Waste Policy sets the direction for Australia over the next 10 years to produce less waste for disposal and manage waste as a resource to deliver economic, environmental and social benefits.

The National Waste Policy establishes a comprehensive work program for national coordinated action on waste across six key areas:

1. Reducing hazard and risk;
2. Tailoring solutions;
3. Providing the evidence;
4. Taking responsibility;
5. Improving the market; and
6. Pursuing sustainability

1.1.2. National Initiatives

National Packaging Covenant

The new Australian Packaging Covenant (APC) is a voluntary initiative by government and industry to reduce the effects of packaging on the environment. The covenant provides a comprehensive list of commitments that signatories should consider when developing required action plans with regard to packaging.

The new Australian Packaging Covenant (APC) commenced on the 1st July 2010. The new APC focuses on improved packaging design, away from home recycling, litter reduction and increased engagement across the supply chain through product stewardship. An important element of the APC is the Sustainable Packaging Guidelines (SPG) which have been developed to assist signatories to review and optimise their packaging.

The Covenant establishes a framework for the effective life cycle management of consumer packaging and paper products that will be delivered through a collaborative approach. It aims to achieve, with the help of all participants, a recycling target of 65% for packaging and no further increases in packaging waste disposed to landfill by the end of 2010.

Companies, Government Agencies and Industry Associations sign the Covenant and commit to certain responsibilities which contribute to achieving the Covenant Performance Goals and KPI's. Anyone involved in the packaging supply chain is invited to sign the Covenant.

All signatories to the Covenant recognise that a co-operative approach between industry and all spheres of government is essential to achieving national consistency in the lifecycle management of packaging and paper and the implementation of sustainable kerbside collection systems.

1.2. KEY STATE POLICIES AND INITIATIVES

1.2.1. Towards Zero Waste Strategy

The Sustainability in Action: Towards Zero Waste Strategy (TZW) was developed in-line with the EP Act. The objectives of TZW are to reduce and recover solid waste, and to reduce the environmentally damaging impacts of waste.

The strategy sets out the overall Environmental Sustainability Framework and state waste recovery targets for Sustainability Victoria (SV), the Environment Protection Authority (EPA), Regional Waste Management Groups and Local Government with regard to solid waste management in Victoria.

Some of the TZW targets are:

- Reduce the amount of waste generated by 1.5 million tonnes per annum by 2014, compared to 2002/03.
- Increase the recovery rate in all solid waste generated from the current 48% (2003) to 75% by 2014 comprising:
- 65% recovery rate (by weight) of MSW for reuse and recycling by 2014. An interim target of 45% recovery rate is established for 2008-09;
- 80% recovery (by weight) of (C&I) solid waste for reuse and recycling by 2014. An interim target of 65% is established by 2008-09; and
- 80% recovery rate (by weight) of (C&D) solid waste for reuse and recycling by 2014. An interim target of 65% is established for 2008-09.
- 25% reduction in littering behaviour compared with 2003 levels

Sustainability Victoria (SV) released a progress report in 2006-07 which indicated that recovery of C&I and C&D waste were on track to meet the TZW recovery targets (see Table 1 below). To meet the 65% target for MSW recovery more significant change is required, particularly with the recovery of green organics. It is expected that metropolitan councils and some larger regional councils will have to exceed the 65% MSW diversion target if the State wide target is to be met. In effect the target of metropolitan councils is therefore 70%.

Table 1.1 Waste Recovery in Victoria

	Actual	TZW Recovery Targets	
	2006-07	2008-09	2013-14
MSW (Metro Melbourne)	41% (*43*%)	45%	65%
C&I waste	68%	65%	80%
C&D waste	71%	65%	80%

1.2.2. Victorian Advanced Resource Recovery Initiative (VARRI)

To support the implementation of the Strategic Plan and new initiative VARRI was instigated by the State Government to facilitate the development of ARRT facilities in metropolitan Melbourne. The incorporation of ARRT facilities into waste management practices in Victoria could significantly increase the quantities of material recovered from the waste stream, particularly garden and food organic material which currently make up a large proportion of waste disposed to landfill. The aim is to have two ARRT facilities well advanced by 2010.

The WMS of councils will need to be reviewed in light of the project's recommendations.

1.2.3. Solid Industrial Waste Management Plan

The Solid Industrial Waste Management Plan was developed to establish goals and targets for solid waste management (e.g. C&I and C&D waste) in Victoria. The outlined goals of the plan included:

- To increase materials-use efficiency and reduce waste generation
- To increase the sustainable recovery of materials for recycling and reprocessing; and
- To reduce the environmentally damaging impacts of waste.

The key targets are:

- Reduce the quantity of waste generated by 1.5 million tonnes by 2013;
- 65% recovery rate in SIW by July 2008 (towards an 80% rate by 2013);
- Reducing greenhouse emissions, litter and toxic materials in the waste stream.

Waste from households and Council activities are classified as municipal waste and are not addressed in this plan. However, it does include household waste delivered by a commercial operator.

1.3. OTHER WASTE ISSUES OR INITIATIVES

Eco-Buy Program

Eco-buy is an initiative funded by the Department of Sustainability and Environment (DSE) and Sustainability Victoria (SV), which encourages the purchasing of environmentally preferable products and services. Both State and Local Governments have incorporated Eco-buy

recommended products for internal purchasing, demonstrating the commitment of government in attaining a more sustainable future.

Discussion of Current and Future Disposal Cost / Levies

Landfill levies have increased since their inception in 2001 from $ 4 / tonne for both municipal waste and industrial waste to $9 / tonne and $15 / tonne for municipal and industrial waste respectively. Landfill levies are likely to increase further as Victorians moves towards favouring resource recovery rather than disposal to landfill. Such an increase will result in higher costs at the landfill gate.

Other EPA Policy Initiatives

The following activities are planned over the next 12 months by the EPA:

1. Impact strategy study on banning organics to landfill – detailed assessment to be conducted;
2. Input to the landfill levy development – new legislation being developed by DSE;
3. Publication 508 - Organic regulations and guidelines reviewed;
4. Develop regulations and guidelines for future ARRTs; and
5. Review Landfill BPEM.

Note. This WMS may need to be reviewed in light of these activities.

Contamination – Problematic Waste Items

Separation of waste materials at source (e.g. using separate bins at home) is fundamental to promoting cost-effective resource recovery and processing. Separation by the resident helps to reduce the labour and energy required to sort materials and manage contamination at processing sites. Comprehensive education programs about the appropriate use of the kerbside system are required to improve kerbside collections by reducing inappropriate disposal of potentially hazardous materials and items that damage processing infrastructure and end-product markets. Contamination can also pose health and safety risks for collectors and processors and cause equipment damage.

Problematic waste items include plastic in green waste, non-recyclable plastics such as meat containers, hazardous materials such as batteries in recyclables bins and clinical waste such as needles and syringes.

Occupational Health and Safety

There have been significant OH&S issues identified with the kerbside collection of waste, as a result Workcover has identified the industry as posing a high risk to employee health and safety. Occupational Health and Safety Guidelines for the Collection of Domestic and Commercial Non-Hazardous Waste and Recyclable Materials were released in 2003.

The OH&S issues addressed in the guidelines include:

- A ‘No-Lift’ approach to the handling of containers;
- A ‘No-Riding on the outside of vehicles’ approach to prevent serious injuries and fatalities;
- A ‘No-work at heights’ approach except in workshops or by fully equipped service crews; and
- Compliance with OH&S legislative requirements.

Kerbside collection systems that require manual lifting have been replaced with mechanical collection trucks. Hard waste collections still pose an employee and community risk, particularly if waste is required to be left on the nature strip in the front of residential properties

Worksafe Victoria have developed a handbook titled *Safe Collection of Hard Waste*, Novemeber 2008, that provides information on how to safely collect domestic hard waste and bundled green waste applying a risk management approach to address specific hazards. Ti states that "Councils and collectors need to assess their own circumstances and apply the safest collection practice".

Product Stewardship Programs

By taking responsibility for the end-of-life cycle of products and materials, the environmental impacts associated with those materials can be significantly reduced. Producers, users and consumers share the responsibility from design and manufacture to use and end-of-life management. The Federal and State Government have both introduced initiatives for product stewardship schemes.

The Federal Government has product stewardship initiatives for:

- Degradable plastics;
- Oil;
- Tyres; and
- PVC

E-waste has been identified as a national priority waste due to the significant quantities being produced and the hazardous nature of the waste. The inclusion of televisions and computers in the product stewardship initiative is currently being developed by the Federal Government. Local government is a key stakeholder in management of e-waste. Much of this material is placed out for council hard waste collection. This mode of collection is likely to continue as part of any new scheme.

Council supports proposals for a product stewardship scheme and seeks to ensure that its role in the full life cycle management of e-waste is recognised and appropriately resourced with any national initiative.

APPENDIX B - INTERIM HARD WASTE COLLECTION

INTERIM HARD WASTE COLLECTION SERVICE

AT CALL SERVICE

All Latrobe City residents will be offered a user pays, 'at call' service in the 210/2011 financial year. Beyond the 2010/2011 financial year, residents will be advised if there are any changes to arrangements regarding hard waste.

Loads are limited to 2 cubic meters, and residents must pre-book by phoning Latrobe City Council on 1300 367 700.

'At Call' Booking and payment by	**Collection in week beginning**
1 February until 16 April 2010	27 April 2010
18 August until 17 November 2010	29 November 2010

The full cost of the service is $20 per collect ion or $10 per collection for Pensioners and Health Care Card holders.

Material acceptable for hard waste collection

Metal Products
Tyre Rims, piping, sheets of iron, car panels old tools, bath tubs, empty drums/cans, bed frames, sinks/troughs, scrap metal

Furniture
Couches, mattresses, floor coverings, tables, chairs, exercise equipment, shower screens

Household appliances
Hot water services, computers, fridges, freezers, ceiling fans, light fittings, photocopiers, printers, heaters, stoves, driers, televisions, air conditioners, kettles, microwave ovens, video recorders, toasters, washing machines, dishwashers.

Material not acceptable for hard waste collection

Excavated material, building rubble, car bodies (complete), engines, fuels, batteries, chemicals, oils, paint, hazardous waste, inflammable material, grass clippings, weeds, dead animals, asbestos, mirrors, industrial waste, windscreens, broken windows, gas bottles, concrete, tyres and green waste.

No charge waste weekends

In the 2010/2011 financial year, Latrobe City residents will be offered two no charge green waste drop off weekends, and two no charge waste drop off weekends.

Please refer to the "Your recycling and waste service guide" for further information or contact the Waste and Services Co-ordinator on 1300 367 700.
* changed to coincide with CFA Fire Readiness Week.

No charge green waste weekends	**No charge hard waste weekends**
17 and 18 October 2010*	25 and 26 September 2010
26 and 27 February 2011	26 and 27 March 2011
	24 and 25 September 2011

APPENDIX C – VICTORIAN LITTER STRATEGY 2009, CREATING CLEANER, SAFER PLACES SUMMARY

09 Summary

Creating Cleaner, Safer Places

Working together to remove litter from Victoria's environment

sustainability.vic.gov.au

Since the mid 1980s, the prevalence of litter has received increasing attention because of its environmental impact and association with anti-social behaviour. In a society which aims to reduce its overall waste and environmental impact, most litter represents a loss to recycling and reuse opportunities.

Whether it is food packaging, plastic bags, cigarette butts, dog poo or syringes, litter is one of the most visible signs of pollution and its impact is substantial.

Acknowledging environmental impacts and wasted resources from littering, the Victorian Government in 2005 addressed litter as part of its *Sustainability in Action: Towards Zero Waste Strategy* (TZW) – setting a target to improve littering behaviours by 25% by 2014, compared to 2003 levels.

In 2006, the Victorian Government committed to developing a new Victorian litter strategy to achieve the TZW target.

This new strategy represents the next step in litter prevention and litter management and sets the directions to support Victoria to achieve its commitments.

Objectives

The objectives of the strategy are to prevent litter and improve litter management practices to meet the TZW littering behaviour target and achieve clean and safe public places.

The objectives will be achieved by government, industry and community sectors working together to meet their shared responsibility to achieve a litter-free Victoria.

VICTORIAN LITTER ACTION ALLIANCE

Sustainability victoria

Victoria The Place To Be

What does the strategy cover?

The strategy outlines where we've come from, what we have achieved and what we need to do. It sets out a vision for how we can get there together.

Creating cleaner, safer places for all Victorians to share is the focal point for this strategy. Accordingly, it targets our shared places including train stations, parks and sporting grounds, forests, beaches, streets, roadsides and shopping centres. It also targets particular littering activities which may not always occur in public spaces, but nevertheless have a cost, such as building site littering and illegal dumping.

The strategy provides information about littering and litterers and notes the importance of shared responsibility and partnerships, with all players – all levels of government, industry, business, communities and individuals – working together to remove litter.

A recent example is the joining of Keep Australia Beautiful Victoria (KABV) with Sustainability Victoria. This creates an opportunity to engage a wider range of regional and metropolitan communities to prevent and remove litter under the iconic Keep Australia Beautiful (KAB) brand.

The strategic directions outlined in this document build on the broad range of current litter management practices and programs, and include expanded and new actions to fill identified gaps to move towards meeting the TZW target.

The three key inter-related elements of this strategy are:

- education
- infrastructure
- enforcement.

To change littering behaviour, all three elements must be in place and be complementary. They need to be adaptable to local conditions and need to include incentives, communication activities and evaluation. These elements characterise Victoria's approach to litter prevention.

An integrated strategy

The strategy outlines four areas for future directions:

1. a coordinated statewide approach
2. improved litter prevention and management
3. behavioural change
4. improved measurement and reporting.

Achieving cleaner, safer public places requires complementary action across all these areas.

The first action area, **a coordinated statewide approach**, provides the umbrella for future action on the prevention, management and removal of litter.

The second and third action areas, **improved litter prevention** and **management and behavioural change**, provide the opportunity for coordinated, targeted action for each of the public places identified as priorities in this strategy.

The fourth action area, **improved measurement and reporting**, supports the overall strategy and provides the critical information we need to inform, evaluate and monitor all future actions under this strategy.

A summary of the major actions that form the core of *Creating Cleaner, Safer Places* is outlined below.

1 Statewide action to reduce litter from Victoria's environment

Litter actions	Description	Places
Victoria Litter Action Plan	This plan will integrate the current and proposed actions of governments, industry and the community to prevent and manage litter in our public places. It will aim to maximise outcomes by coordinated, joint action and reduced duplication.	The plan will cover the range of public places across metropolitan and regional Victoria.
Whole-of-government approach	This approach aims to ensure that stakeholder roles are clear, duplication of work is avoided, and litter is considered in the planning of, where appropriate, new government policy and initiatives.	The approach will be implemented across a range of government departments in partnership with land owners.
Investigate establishing a central public reporting system for the public to report littering and illegal dumping	This central reporting system could draw together existing systems and provide a central point for reporting littering.	This system will cover all forms of littering in parks, forests, streets and roadsides, rivers and beaches.
Investigate establishing an illegal dumping database for authorities to compile information about illegally dumped materials	This database could help better quantify the extent of the problem and associated management costs, and assist in new strategies to prevent illegal dumping.	This database will include all forms of illegal dumping in parks, forests, streets and roadsides, rivers, beaches and other public places.
Work with local governments to establish a regional illegal dumping squad for councils	The aim of this initiative is to partner with regional local governments to trial an illegal dumping squad, supported through statewide enforcement provisions.	The primary focus of this initiative is on places where most illegal dumping occurs.

2 Improved litter prevention and management

Litter actions	Description	Places
Street sweeping guidelines for councils	Guidelines and training for councils should improve street sweeping efficiencies and reduce costs.	Statewide – streets and roadsides.
Build local government capacity in street bin management guidelines	Extending this training to more councils will result in greater efficiencies and cost savings.	Statewide – streets and roadsides.
Increase the number of local government litter enforcement and education officers and continue to use existing networks	KABV will work with local governments and waste management groups to identify opportunities to increase litter enforcement activity undertaken by councils. This will help EPA Victoria's full-time Litter Enforcement Program Officer and provide training to improve the litter enforcement capabilities of staff in local governments. Existing council education and enforcement officer networks will also continue to be a successful way for councils to share information and knowledge and work together on litter.	Statewide – this initiative will strengthen action.
Install bins for recyclables and better bins for rubbish at railway stations and major tram stops	KABV will work with train and tram operators to encourage the extension of this initiative to major tram stops and V/Line stations.	Metropolitan and major regions; train stations and major tram stops.
Regional and rural illegal dumping, litter and public place recycling projects	The Sustainability Victoria Regional TZW Support Program (2008-11) funds regional and rural Victoria to implement a range of projects targeting illegal dumping, public place recycling improvements and litter prevention and management.	Rural and regional Victoria parks and sporting grounds, rivers, train stations, streets and roadsides.

3 Behavioural change

Litter actions	Description	Places
Awareness campaign	In consultation with a range of partners, the government will examine the potential of a targeted awareness campaign to further increase awareness of the impacts of littering and its potential role in supporting statewide and local action, particularly targeting illegal dumping.	It is envisaged such a campaign will target littering in all Victorian public areas, with a particular focus on the growing area of illegal dumping.
KABV's Tidy Towns, Sustainable Communities and Clean Beaches Awards	These awards are held and promoted annually to recognise and celebrate sustainability and environmental initiatives (including those addressing litter) in rural and regional Victoria, metropolitan Melbourne, and bay and coastal communities.	These awards showcase action by Victorian communities in relation to all our public places.
Provision of educational litter materials as part of ResourceSmart Schools	Through the ResourceSmart Schools Waste Program, a greater emphasis will be placed on litter and its impacts.	Victorian schools – with strong messages about the impact of littering in our public places.
Litter prevention kits (for roadside litter in particular)	The Roadside Litter Prevention and Resource Recovery Kit aims to influence the behaviour of road users and prevent litter and increase resource recovery from roadsides. This kit has the potential to be rolled out across Victoria and nationally.	Statewide – roadsides.
Adopt a Roadside	This program provides an opportunity for individuals, organisations and businesses to help maintain sections of roadside within Victoria's road network.	Statewide – roadsides.
Clean Site	KABV's Clean Site is an education program for builders and tradespeople which aims to manage environmental impacts from residential construction, including litter, washings and sediment and waste management of recyclable materials.	Statewide – building sites, waterways.
Stationeers	Since 1994, KABV's Stationeers – Right on Track Program has fostered community support and participation to improve the appearance and surrounds of railway stations by removing litter, establishing and improving landscapes, discouraging vandalism and generally encouraging public awareness of the broader value of the station.	Regional and metropolitan train stations.

4 Improved measurement and reporting

Litter actions	Description	Places
Annual Victorian Litter Report (VLR)	Sustainability Victoria will report annually on progress against the TZW litter target to provide a clear picture of progress towards the littering behaviour target and other measures.	Assessments will be conducted at more than 200 locations throughout Victoria, including public places.
VLR local tool	Sustainability Victoria will make the VLR methodology available to local governments and other organisations to enable them to independently undertake litter measurement. This template tool will enable these land and product managers to undertake assessments beyond those conducted as part of the VLR.	This tool will be available statewide.
Data collection and training	Sustainability Victoria will encourage development and uptake of best practices and tools to measure and monitor local program performance from an infrastructure, education and enforcement perspective.	This will be undertaken statewide.
KAB's National Litter Index (NLI)	Sustainability Victoria will continue to support the conduct of KAB's NLI (a national litter count).	These litter counts are conducted at a range of sites in Victoria, including public places.
Local Government Data Collection Survey	This survey is undertaken annually. Work is also underway to improve regional data collection and reporting with funding from the Sustainability Fund.	Statewide.
Litter strategy template	The Metropolitan Waste Management Group's (MWMG) SMART litter group has produced a litter strategy template used by a number of councils for their 2009-10 budgets. Through this strategy, KABV will work with the MWMG to roll it out to other councils.	This tool has the potential to assist local governments across Victoria to address littering within their municipalities.

Operating from within Sustainability Victoria, KABV will team with key partners in delivering these statewide approaches: DSE, VLAA, Department of Transport, local governments, schools, train and tram operators, land managers and waste management groups.

The future

In partnership with key stakeholders, including the Victoria Litter Action Alliance (VLAA), Sustainability Victoria will develop an action plan in 2009-10. This plan will integrate the current and proposed government, industry and community action to prevent and manage litter in our public places. It will aim to maximise outcomes by coordinated joint action and reduced duplication.

Creating Cleaner, Safer Places – Working together to remove litter from Victoria's environment forms an integral part of the Victorian Government's overall commitment to delivering on TZW by 2014.

This strategy can only be delivered by drawing on the skills and actions of everyone. It is an invitation to all Victorians who care about having clean and safe public places in which to live, work and relax, to join with the government to achieve a litter-free Victoria.

For further information and enquiries about this document please contact:

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Victoria
The Place To Be

APPENDIX D – WASTE EDUCATION PLAN

Latrobe City Council
Waste Education Plan 2010 – 2015

August 2010

LatrobeCity
a new energy

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Waste Education Plan prepared by Natural Environment Sustainability, August 2010.

Cover photo:
Primary school group on a WasteSmart Education tour at the DASMA Materials Recycling Facility, Morwell

1. Introduction

Australians are the second highest producers (behind the United States) of waste, per person, in the world, with each of us sending almost 470kg of waste to landfill each year, this equates to 192 kg per person.

In Victoria, approximately 1 million tonnes of garbage was collected through kerbside services in 2007-08. The total tonnage collected has increased by 0.7% or 6,871 tonnes over the past year.

The best practice bin systems (a 240L commingled recyclables fortnightly bin) delivered the greatest yield per household and a higher diversion rate compared to other bin system combinations.

Most Victorian Councils now have kerbside collection services, with Latrobe City being one of the first to introduce green waste recycling in their three bin system. In the 2009/10 year in Latrobe City, we recycled 56.5% of household rubbish, which is amongst the ten best in the state.

The rapid growth in recycling is an outstanding result, giving much of our waste stream a second life, and slowing the growth in the amount of waste going to landfill.

While improvements in recycling rates should be applauded, the sheer quantity of waste generated is still enormous, and cannot be sustained by the environment in the long term.

Waste disposal to landfills comes at a considerable economic cost; with local government in Victoria spending millions of dollars each year, and at an enormous environmental cost.

In recognition of the growing pressure being placed on our environment by rapidly filling landfills, in 2003 the Victorian State Government introduced a draft ten year strategy, 'Towards Zero Waste'.

The Towards Zero Waste Strategy has set targets that all local Councils will be expected to meet by introducing new collection systems and increasing awareness of, and community participation in, waste minimisation activities.

Like all municipalities in Victoria, Latrobe City will be expected to meet targets set by the Towards Zero Waste Strategy to divert 65% of household waste from landfill by 2013, and to continue to upgrade its kerbside collection system.

Members of a local Probus Club inspect the Materials Recovery Facility in Morwell

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2. Our Vision

Our Vision

This Waste Education Plan has been prepared within the context of the strategic framework and aspirations reported in "Latrobe 2026: The Community Vision for the Latrobe Valley"

"In 2026 the Latrobe Valley is a liveable and sustainable region with collaborative and inclusive community leadership."

And for Natural Environment:

"In 2026, Latrobe Valley enjoys a beautiful natural environment that is managed and protected with respect, to ensure a lasting legacy for future generations."

The principles, objectives and actions outlined in this Waste Education Plan have been developed within the context of other policies, strategies, plans and commitments made by Latrobe City Council. In particular, the Natural Environment Sustainability Strategy (2008-2013): Action to reduce incidental environmental damage, Action to enable and build capacity, and the Waste Management Strategy.

Latrobe City Council is actively responding to the challenge of a creating a sustainable community. It is committed to maintaining natural vegetation, reducing greenhouse gas emissions and domestic water use, recycling waste, introducing energy-efficient technologies, and educating the community in better waste management and environmental protection.

These measures will be introduced in tandem with increased environmental education – at school, community and local government levels.

The Waste Education Plan provides an integrated approach to current waste reduction and litter prevention education in the community and encourages participation by people and organizations across a range of sectors within Latrobe City.

Local Context for Waste Education Plan

LATROBE 2026 PRINCIPLE: SUSTAINABILITY

Sustainability refers to our ability to meet the diverse needs of the community today in a way that will not compromise the ability of future generations to meet their needs. Whether we are considering the environment, the strength of our economy or our social and cultural wellbeing as a community, we are striving to identify solutions that will achieve sustainable outcomes for the future.

NATURAL ENVIRONMENT SUSTAINABILITY STRATEGY: ACTION TO REDUCE INCIDENTAL ENVIRONMENTAL DAMAGE

Continue community waste management education to promote the waste avoidance hierarchy including waste reduction, re-use and recycling.

WASTE EDUCATION PLAN

The purpose of this plan is to provide a coordinated approach to waste and litter reduction education activities for Latrobe City Council. The plan works to achieve this goal by providing a framework for educational opportunities and an action plan of activities to benefit local residents, schools, businesses, and Council.

2. Our Vision

Waste Education Commitment

In 2004, Latrobe City was the first Council in the Gippsland region to appoint a dedicated Waste Education Officer. The Waste Education Officer employs methods identified as 'best value principles' by Regional Waste Management Groups, to encourage and assist waste minimisation behaviour across a range of sectors within the Latrobe City community.

The work of the Waste Education Officer is critical in being able to deliver the many waste education activities and initiatives outlined in this Plan.

The key responsibility areas of the Waste Education Officer include:

- To reinforce the strategic objectives of Latrobe 2026;
- To review and implement the Waste Education Plan for Latrobe City;
- To raise community awareness of the need for waste diversion and the impact of waste and litter on the environment and the standard of living;
- To implement an ongoing pre-school and primary school level Waste and Litter Education Program, including tours to recycling facilities; and
- To promote recycling and waste diversion through the local media.

Students and teachers from a local primary school view operations at PineGro Green Waste Recycling Facility as part of Council's WasteSmart Education Tour

3. Principles of Waste Education

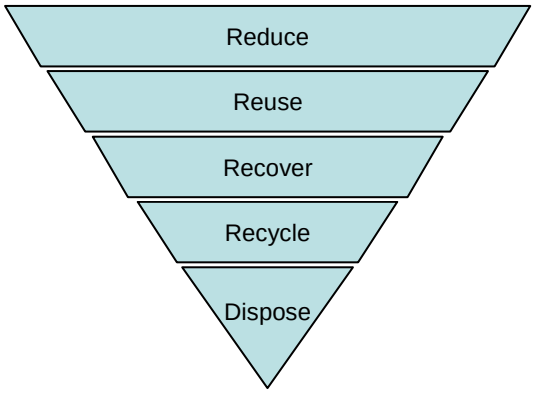
Principles of Waste Education

1. Lead by Example

People are influenced by the behaviours of others. Council shall provide education programs that are aligned with Council's current services, and reinforce positive behaviours.

2. The 4 R's

Waste should primarily be avoided where possible. Where waste is generated, we should actively Reduce, Reuse, Recover and Recycle. Latrobe City will ensure that the waste hierarchy will be advocated through its education efforts.



3. The thin edge of the wedge

Latrobe City acknowledges that it will have to think globally and act locally to develop sustainable waste generation habits. Latrobe City will develop education techniques which advocate sustainable behaviours and can be implemented in the local community.

4. If at first you don't succeed

It is acknowledged that the community we live in is diverse. Therefore, taking a 'one size fits all' approach will exclude groups within our community. Latrobe City will strive to develop diverse forms of education which are inclusive of cultural and generational diversity.

5. What goes around, comes around

Latrobe City acknowledges the benefits of community engagement. The waste education program will endeavour to act as a conduit for information sharing, and promote involvement and cooperation within the community. This will lead to service improvements for the future.

6. A problem shared is a problem halved

Education campaigns should encourage involvement from the community. Latrobe City will maintain awareness in the community of environmental issues relating to waste management to ensure the community understands the issues, and is working towards the solutions.

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4. Plan Objectives

The objectives of the Waste Education Plan are to:

1. Promote Community understanding and use of Council provided waste and recycling services, including transfer stations and green waste facilities, and encourage active participation.
2. Encourage waste minimisation and recycling in pre-schools and primary schools.
3. Enhance the opportunities for recycling at major events and 'away from home' venues.
4. Encourage local businesses to reduce, reuse and recycle waste products.
5. Increase the community awareness of litter and dumped waste issues in the environment.
6. Increase the community awareness of household chemicals and domestic asbestos generated from households.
7. Advocate waste minimisation and recycling within Council operations
8. Strive to continually improve education and awareness of the waste and recycling issues.

Latrobe City Council 'Detox Your Home Centre' at the Morwell Transfer Station

Latrobe City Council e-waste collection at the Morwell Transfer Station

5. Plan Actions

Plan Objective 1

Promote Community understanding and use of Council provided waste and recycling services, including transfer stations and green waste facilities, and encourages active participation.

Strategic Action	Timeframe	Stakeholder/Partner	Estimated Costs
Prepare and distribute collection week calendars with recycling information, giving hints and goals on correct waste and recycling disposal, transfer station operation and household chemical collection.	2011 - 2013 2013 - 2015	Latrobe City, Collection Contractor	$93,000 over 5 years ($18,600 per year)
Liaise with contractor regarding distribution of “inside lid” stickers for all three bins to assist in reducing contamination.	2010-2015	Latrobe City	Waste Education Officer
Update the Latrobe City Website to include additional information on materials recovery and waste reduction.	2010-2015	Waste Education Officer	Waste Education Officer
Host “WasteSmart” tours for community groups and business leaders.	2010-2015	Latrobe City, Recyclable Processing Contractor, Green Waste Processing Contractor	Waste Education Officer
Utilise and promote Waste Education Centre.	2010-2015	Latrobe City	$4,000 per year Waste Education Officer
Implement contamination procedure. Educate community on implications of contamination of recyclables.	2010-2015	Latrobe City, Collection Contractor	Waste Education Officer
Issue Media releases on waste management topics.	2010-2015	Latrobe City	Waste Education Officer
Develop an communication plan to ensure residents understand their responsibility to keep footpaths in front of their property free of broken glass and other hazards (part of LCC Disability Action Plan)	2010-2012	Latrobe City	Waste Education Officer

5. Plan Actions

Plan Objective 2

Encourage waste minimisation and recycling in pre - schools and primary schools

Strategic Action	Timeframe	Stakeholder/Partner	Budget
Host 'WasteSmart' Education Tours for primary and secondary schools.	2010-2015	Latrobe City, Collection Contractor, Recyclable Processing Contractor, Green Waste Processing Contractor	$1,000 per year
Promote use of recycling bins and organics recycling in schools and pre-schools.	2010-2015	Latrobe City, Gippsland Regional Waste Management Group	$1,000 per year
Assist with sustainable practise in schools and preschools.	2010-2015	Latrobe City, Gippsland Regional Waste Management Group	Waste Education Officer
Work cooperatively with GRWMG to implement ResourceSmart Schools Program.	2010-2015	Latrobe City, Gippsland Regional Waste Management Group	Waste Education Officer

Plan Objective 3

Enhance the opportunities for recycling at major events and 'away from home' venues.

Strategic Action	Timeframe	Stakeholder/Partner	Budget
Work with LCC Events team to encourage recycling, waste minimisation and 'green' procurement at public events.	2010-2015	Latrobe City, Gippsland Regional Waste Management Group	Waste Education Officer
Encourage implementation of recycling at sporting and recreation facilities.	2010-2015	Latrobe City, Gippsland Regional Waste Management Group	$1,000 per year
Trial public place recycling in LCC sporting and recreation facilities.	2010-2015	Latrobe City, Gippsland Regional Waste Management Group	$1,000 per year

5. Plan Actions

Plan Objective 4

Encourage local businesses to reduce, reuse and recycle waste products.

Strategic Action	Timeframe	Stakeholder/Partner	Budget
Identify key local businesses and work with regional advisor to divert waste from landfill.	2010 - 2015	Latrobe City, Gippsland Regional Waste Management Group	Waste Education Officer

Plan Objective 5

Increase the community awareness of litter and dumped waste issues in the environment.

Strategic Action	Timeframe	Stakeholder/Partner	Budget
Together with GRWMG develop and implement waste and litter reduction programs.	2010-2015	Latrobe City, Community Resident Groups, Gippsland Regional Waste Management Group, EPA Vic.	$6,000 per year
Work with LCC Local Laws to reduce illegally dumped waste and litter.	2010-2015	Latrobe City	Waste Education Officer, Local Laws Officers, Asset Protection Officers.

5. Plan Actions

Plan Objective 6

Increase the awareness of household chemicals and domestic asbestos generated from households.

Strategic Action	Timeframe	Stakeholder/Partner	Budget
Liaise with Sustainability Victoria to promote and deliver 'Detox Your Home Mobile Collections.	2010-2015	Latrobe City	$4,000 every two years
Manage and promote the permanent 'Detox Your Home Collection Point'.	2010-2015	Latrobe City	$500 per year
Manage and promote the 'Asbestos in the Home Removal Kit' and education program.	2010-2015	Latrobe City, Latrobe Domestic Asbestos Committee	$9,000 per year

Plan Objective 7

Advocate waste minimisation and recycling within Council operations.

Strategic Action	Timeframe	Stakeholder/Partner	Budget
Join Eco-Buy program to be eligible for Gold Level Accreditation under ResourceSmart Councils Program.	2010-2015	Latrobe City	$1,150 per year
Strive for Gold Level accreditation under 'ResourceSmart Councils' program.	2010-2015	Latrobe City, Gippsland Regional Waste Management Group	Waste Education Officer
Introduce in-house recycling to other Council operations.	2010-2015	Latrobe City	Waste Education Officer
Promote staff education and training.	2010-2015	Latrobe City	Waste Education Officer
Encourage the purchase of eco-friendly and recycled products.	2010-2015	Latrobe City	Waste Education Officer

5. Plan Actions

Plan Objective 8

Strive to continually improve education and awareness of the waste and recycling issues.

Strategic Action	Timeframe	Stakeholder/Partner	Budget
Participate in GRWMG education steering committee and benchmarking.	2010-2015	Latrobe City, Gippsland Regional Waste Management Group	Waste Education Officer
Participate in State Government surveys, forums and workshops.	2010-2015	Latrobe City, Gippsland Regional Waste Management Group	Waste Education Officer

6. Implementation

The successful implementation of this Plan will depend on stakeholder contribution. A number of stakeholders have an influence on waste management programs. The table below briefly addresses the roles of the different parties that shape waste management and education programs from a state-wide and local perspective.

Stakeholder	Role
Latrobe City Council	Implementing the Latrobe 2026 vision in partnership with the community.
Community	Participation in waste and recycling services. Waste minimisation and sustainable consumption activities.
EPA Victoria	Development and enforcement of environmental laws, policy and statutory tools.
Sustainability Victoria	Facilitation of Statewide programs relating to waste. Implementation of *Towards Zero Waste Strategy.*
Gippsland Regional Waste Management Group (GRWMG)	Regional planning for waste and implementation of Statewide waste programs including education.
Contractors	Collection, sorting and processing of garbage and recyclables.
Commercial/Industrial Waste generators/industry bodies	Producers of materials and packaging. Increasing responsibility for waste and litter minimisation during production and post-consumption.
Professional Organisations	(i.e. Association for Waste and Resource Education) On-going development of best practice education programs.

Latrobe City Council

Building on our success

In July 2004, Latrobe City introduced a three bin system of waste collection. This system is modelled on industry best value principles, which encourages increased levels of recycling.

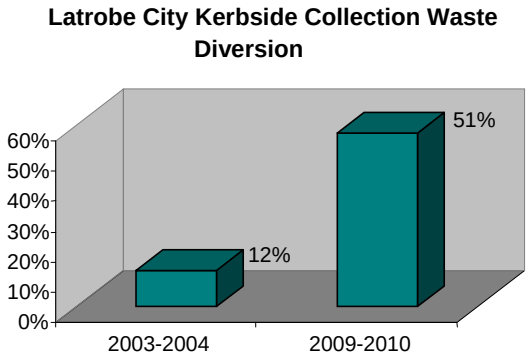
With the roll out of 55,000 new bins to all residents who receive the garbage service, the community was asked to work in partnership with industry and local government to achieve a sustainable environment in Latrobe.

6. Implementation

Six years on, the improvement in waste being diverted from landfill has been dramatic - with 51% of kerbside waste now diverted from landfill.

Over 8,500 tonnes of valuable recyclables was recovered in the past year - up by 2,500 tonnes from 2003-2004. In addition, almost 10,000 tonnes of green waste was diverted from landfill in 2009-2010.

While Latrobe City is now well on the way to achieving the 2013 targets set by the Towards Zero Waste Strategy, it acknowledges that a broad range of waste education initiatives suggested in this Plan are needed across different sectors within the community to further reduce waste going to landfill.



Gippsland Regional Waste Management Group

The Gippsland Regional Waste Management Group (GRWMG) has developed objectives for the Gippsland region consistent with the three overarching objectives of the State Government's Towards Zero Waste Strategy; to reduce and recover solid waste; and reduce the environmentally damaging impacts of waste.

The GRWMG has developed actions for waste avoidance and minimisation; increasing resource recovery; litter prevention and reusing waste materials and; residual waste disposal and alternative waste technologies.

An education focus for the Region in 2010 is to help schools and businesses adopt more sustainable practices and assist them to develop a waste reduction plan. The group is also involved in promoting and facilitating ResourceSmart, a program of Sustainability Victoria. Through ResourceSmart, GRWMG Regional Education

6. Implementation

Officers (REO's) help schools develop a holistic approach to sustainability. The program integrates educational, environmental, social and economic outcomes.

Latrobe City is assisting this program by identifying potential new ResourceSmart Schools through our work with local primary and secondary schools.

Another education focus for the Region in 2010-2011 under their Regional Litter Strategy is to develop and promote the regional 'Victorian Coasts - Too lovely To Litter' and a roadside litter prevention campaign. The GRWMG will also assist enforcement officers in dealing with illegal dumping and littering. Latrobe's waste officer participates in the Regional Litter Prevention Taskforce that will target roadside litter on major arterial roads in the region during the peak tourist season.

The role of the Latrobe's Waste Education Officer is designed to complement that of the REO, who works at a regional level to identify priorities, provide training opportunities and coordinate activities for the Gippsland area.

The GRWMG will work in assisting member council's transition to the recent landfill reforms introduced by EPA in 2010, as well as commissioning work to establish a consistent approach to the value of landfill airspace.

Through its networks the GRWMG will assist in the establishment of recommendations of alternative waste technologies where appropriate.

7. Achievements

Achievements

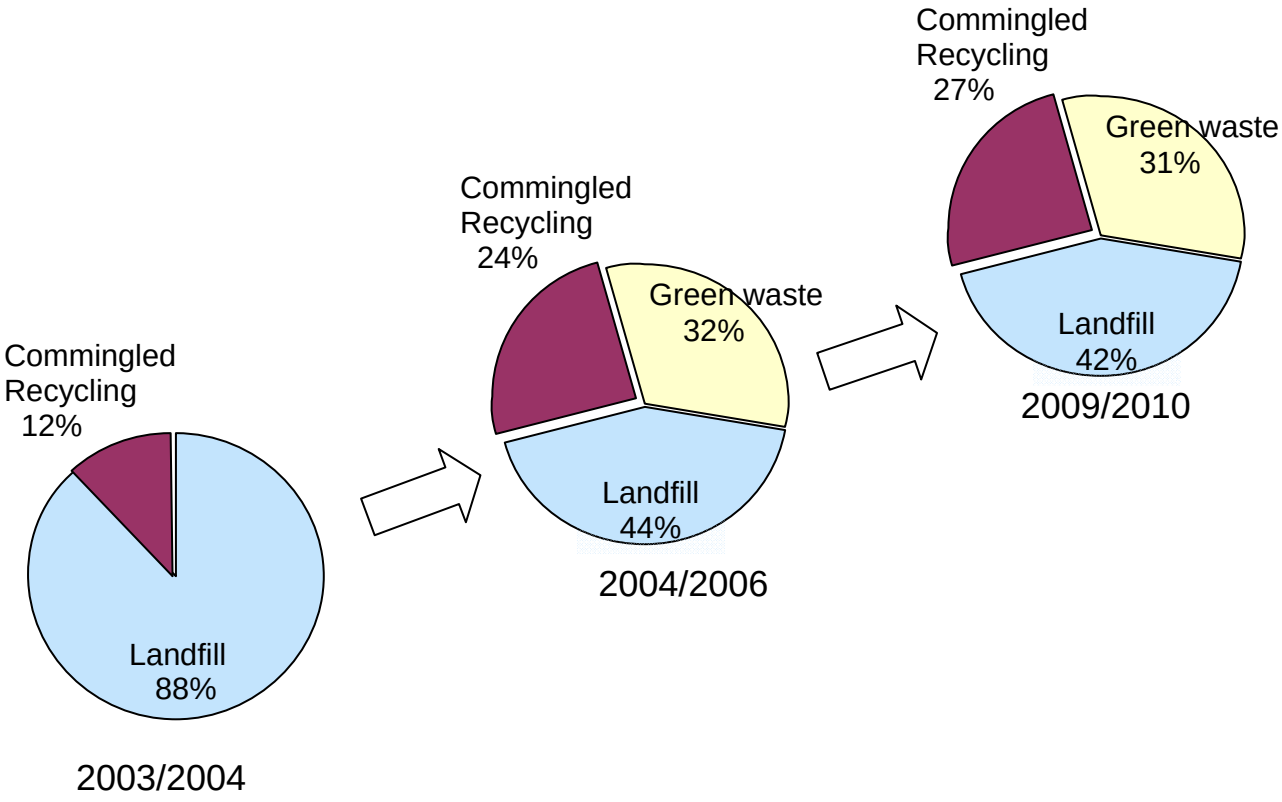
Working Together: Recycling and Waste Education Tours

Almost 1000 students and residents participated in the WasteSmart Education Tours during 2009-2010, with many primary schools and local service clubs keen to inspect recycling facilities. There is also a growing interest in tours from secondary schools and community groups interested in learning to live more sustainably.

Organised and co-ordinated by the Waste Education Officer, the three hour guided tours are conducted with the involvement of staff from all three contractors. The tour includes a short film and discussion session on waste and recycling, as well as a close-up inspection of both the PineGro Green Waste Recycling Facility and the DASMA Materials Recovery Facility (MRF).

With the opening of the Waste Education Centre at the Hyland Highway landfill in November 2010, those participating on the tours will also be able to observe and learn about operations at a working landfill site.

A strong focus of the WasteSmart Education tour is the issue of contamination, and the ways residents can assist in helping to eliminate it.



8. Evaluation and Reporting

Evaluation and Reporting

Progress and achievements of this plan will be measured by:

- producing a short report in December each year providing detail on progress against each plan action;
- collating and reporting evaluation feedback sheets from participants (i.e. schools, community groups etc.) from WasteSmart tours and visits to the WasteEd Centre;
- community feedback following distribution of the Recycling and Waste Services Guide;
- monitoring and auditing of kerbside bin contamination; and
- contribution to GRWMG regional programs.

This plan will be reviewed annually to:

- assess what has been achieved;
- assess what is to be achieved and plan for implementation;
- identify issues related to implementation of the action plan; and
- introduce timely changes to strategic actions.

9. Glossary of Terms

'Away for home' recycling	is any form of recycling carried out in public places, such as at shopping centres, sporting grounds or at major events.
Benchmarking	is the process used in management in which organizations evaluate various aspects of their processes in relation to the best practice, usually within their own sector.
'Detox Your Home' Facility	is a permanent facility at the Morwell transfer Station to dispose of unwanted low toxic household products.
'Detox Your Home' mobile service	is an annual service provided by ResourceSmart for the collection of household chemicals.
Dumped waste	is any waste that has been disposed of inappropriately or illegally.
Eco-buy	is a partnership of local governments committed to purchasing policies and practices which promote the use of recycled products across operations and services.
Kerbside collection	is a system whereby garbage or recyclable material is collected by compactor trucks and taken to various processing facilities.

9. Glossary of Terms

Landfill	is a site for the permanent disposal of waste materials by burial, located to minimize water pollution from runoff and leaching. Waste is spread in thin layers, compacted and covered with a fresh layer of soil each day to minimize pest, aesthetic, disease, air pollution and water pollution problems.
Litter	is waste material carelessly discarded in an inappropriate place. Littering is against the law.
Municipal solid waste	is solid waste generated from municipal and residential activities, including waste collected by, or on behalf of a municipal council.
Recycling	is the process of collecting materials from the waste stream and separating them by type, remaking them into new products and reusing the materials as new products.
ResourceSmart	ResourceSmart is the core program conducted by Sustainability Victoria to encourage more sustainable use of resources. It includes the ResourceSmart Aussi Vic program, which replaced the 'WasteWise'program.

9. Glossary of Terms

Sustainable development	is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.
Sustainable waste generation	is a change to society's previous patterns of consumption and behaviour that enables consumers to satisfy their needs with products that use fewer resources, cause less pollution and contribute to social progress worldwide.
Transfer Station	is a facility allowing drop-off and consolidation of garbage and a wide range of recyclable materials.
Towards Zero Waste	is the Victorian State Government strategy in which targets have been set for municipalities to increase the recovery rate in household waste to 45% by 2008 and 65% by 2013.
Waste hierarchy	is a concept promoting waste avoidance ahead of recycling and disposal, often referred to as 'Reduce, Reuse, Recycle'. Promotes management of waste in order of preference: avoidance, reuse, recycling, and recovery of energy, treatment, containment and disposal.

9. Glossary of Terms

Waste minimisation	is measures to reduce the amount of waste generated by an individual.
Waste Stream	is a classification used to describe waste materials that are either of a particular type (e.g. paper waste stream) or generated by a particular source.