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1.0  Foreword by Mayor

This Waste Management Strategy details the council’s vision for sustainable waste management in the City of Wodonga.

Waste represents one of the first examples of communities taking environmental action on a large scale. Victorians started to embrace household recycling more than two decades ago, well before greenhouse emissions captured the community’s attention to the extent we see today. Wodonga residents were one of the first in the state to move to mobile garbage bins (wheelie bins) over 25 years ago.

These days, recycling is a firm habit within most households, giving thousands of tonnes of waste a second life and reducing the amount of landfill.

Households are only one part of the story. Most of the waste in Wodonga in fact comes from businesses. This business waste comes from many different areas including cafes, restaurants and hotels, as well as manufacturing, construction and demolition, retailers, hospitals, education campuses, and offices.

With the progress being made by households in recycling, one would expect a strong decline in waste to landfill; however, we are not seeing this. Apart from the decrease with household organics being diverted, the overall amount of waste we produce continues to grow as our society consumes more and more.

This Strategy is Wodonga Council’s framework to address the various waste challenges over the next four years.

As well as continuing to improve resource recovery through recycling, the important task ahead is to ‘do more with less’; that is, avoiding the creation of waste in the first place.

With increasing community expectations, more progressive approaches by industry and governments, and advances in technology, the Strategy identifies the issues the council will focus on, acknowledging the wide range of activities currently occurring within the municipality. It presents a focus on the aspirations of our community to achieve better outcomes in recycling and sustainable consumption.

The council will engage with the community, both to promote and support more sustainable waste activities, with residents and businesses, and further, responding accordingly to any community feedback received. The council will continue to work with the community to provide efficient and effective waste services to protect and improve the natural and urban environments in a sustainable manner.

I look forward to the continued involvement and support of the community as we work together on providing a more sustainable and less wasteful City of Wodonga.

Anna Speedie  
Mayor
2.0 Introduction

Sustainable waste management is a key part of economic and community development. The council should reduce the environmental impacts of waste by assisting our community to minimise waste generation, increase recycling and organic waste diversion rates, find alternatives to landfill disposal, and meet statutory requirements.

Actions to reduce waste, either by more efficient use of resources or by enabling recovery and reuse of discarded material, are critical elements. They are becoming more apparent at the State Government level with the Department of Environment Land, Water and Planning (DELWP) recently releasing various policies and plans. They include a new waste policy, Getting Full Value: the Victorian Waste and Resource Recovery Policy; a new strategy, Victorian Waste Education Strategy; and a new implementation plan, Statewide Waste Resource Recovery Implementation Plan.

This Waste Management Strategy has been developed to provide environmentally sustainable solutions to the collection, disposal and resource recovery from waste generated within the community. Its key aim is to guide the development and improvement of current waste management practices. Sustainable approaches to waste management need to be integrated into all future policies, strategies and planning decisions made by the council. This strategy describes ways forward and measurable actions to be undertaken by the council over the next four years.

3.0 Executive Summary

This strategy provides the foundation for service improvements, and guides future waste, recycling, organic and litter services to benefit the whole community. It aims to provide more efficient and effective waste services, and further reduce waste sent to landfill. There are a number of issues to be addressed over the life of the strategy, including:

- Enhanced consumer awareness resulting in better purchasing selections;
- Reducing the amount of contamination in all three kerb-side waste bins;
- Reducing the amount of waste being deposited into landfill;
- Increasing recycling rates, with an emphasis on building and construction; and,
- Increasing the efficiency of the waste transfer station.

These actions and others are detailed in the implementation plan and will be reported to the council as necessary. While most items can be incorporated into daily activities, a number of items have been documented to allow for future budget deliberations.

Some of the more critical issues that deserve higher levels of attention are:

- The need to undertake and promote waste initiatives as a region, particularly linked with AlburyCity via the program;
- Increase the uptake of organic waste processing amongst the commercial sector;
- Plan for a future waste to energy facility in Wodonga;
- Maintain suited areas (with buffer zones) for the development of waste facilities;
- Develop a response to container deposit legislation implications either from New South Wales (NSW) or Victoria (possible);
- Develop the waste transfer station into a regional hub, servicing nearby councils;
- Work with industry and businesses to increase recycling options and decrease waste to landfill; and,
- Work with the Environment Protection Authority (EPA) and developers to reduce waste streams from building and development activity.
The tables below demonstrate that the waste services provided by the council in Wodonga are at industry best practice and fees are also below those of similar regional centres.

A good example was the introduction of the food and garden organic waste system for all households in 2015, which brought significant benefits to the community and the environment. The program met all the key elements as intended as detailed below:

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>RESULT</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bin contamination rate</td>
<td>1.14% average</td>
<td>Very low, setting a benchmark for the state</td>
</tr>
<tr>
<td>Recycling rate</td>
<td>7% increase</td>
<td>Due to the increased focus on using the correct bin for all wastes</td>
</tr>
<tr>
<td>Disposal costs</td>
<td>9% reduction</td>
<td>Composting costs are now approximately 9% cheaper than traditional landfill costs</td>
</tr>
<tr>
<td>Carbon emission reduction</td>
<td>4,054 tonnes of CO2e</td>
<td>Equates to 1,013 domestic cars being taken off the road per year</td>
</tr>
<tr>
<td>Refuse disposal to landfill</td>
<td>44% decrease</td>
<td>The major aim of this project being realised</td>
</tr>
</tbody>
</table>

Table – 1 – Annual review of organics introduction, Council Report 2017

Service levels meet or exceed similar councils and the charging rates for admission to the waste transfer station are below average.

<table>
<thead>
<tr>
<th>WASTE SERVICES OFFERED</th>
<th>WODONGA</th>
<th>WANGARATTA</th>
<th>SHEPPARTON</th>
<th>BENDIGO</th>
<th>SURF COAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pensioner Hard waste collections</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Street litter</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Reuse shop on site</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of customers annually</td>
<td>45,000</td>
<td>38,000</td>
<td>60,000</td>
<td>74,000*</td>
<td>52,000*</td>
</tr>
<tr>
<td>Recovery rate - inward V’s landfilled</td>
<td>78%</td>
<td>60%</td>
<td>75%</td>
<td>80%</td>
<td>70%</td>
</tr>
<tr>
<td>1m³ General waste</td>
<td>$45</td>
<td>$64</td>
<td>$50</td>
<td>$50</td>
<td>$82</td>
</tr>
<tr>
<td>1m³ Green waste</td>
<td>$23</td>
<td>$10</td>
<td>$40</td>
<td>$10</td>
<td>$29</td>
</tr>
</tbody>
</table>

* operate a landfill on the same site as the transfer station

Table – 2 – Fee and service comparisons with four other councils
These two tables, and others throughout the strategy, indicate the value of maintaining a dynamic and progressive waste strategy.

All issues within this strategy are linked to the council plan and will, over time, ensure Wodonga has the infrastructure and waste processes in place to maintain a clean, safe and vibrant city.
4.0 Purpose

The purpose and future directions of waste management within the municipality need to be consistent and work towards those of the region and Victoria as a whole. Key drivers for this strategy include:

- Appropriately dealing with waste materials and aiming for outcomes at the top of the waste management hierarchy;
- Dealing with litter and Public Place Recycling (PPR) in response to community expectations;
- Government policies and commitments relating to the Victorian Waste and Resource Recovery Policy and targets;
- The management of waste including kerbside pickup, resource recovery facility operation, collection and disposal of litter and street litter bin pickups; and,
- The expectation of commercial and business properties for the pending extension to the food organics and green organics (FOGO) service.

A breakdown of current waste sources highlights that municipal waste is only 20 per cent of the total waste volumes generated within the municipality.

<table>
<thead>
<tr>
<th>WASTE SOURCE</th>
<th>APPROXIMATE % OF TOTAL WASTE STREAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic municipal</td>
<td>20</td>
</tr>
<tr>
<td>Construction and demolition</td>
<td>50</td>
</tr>
<tr>
<td>Commercial and industrial</td>
<td>30</td>
</tr>
</tbody>
</table>

*Table – 3 – Waste sources within Victoria, DELWP, 2017*

As noted, 80 per cent of waste comes from businesses who generally contract one of the larger national waste companies to collect and dispose or process their waste. The remaining 20% comes from households. As the council tenders out this function and also operates the waste transfer station, there is scope and opportunity to introduce changes. It is anticipated that, over time, a number of these changes will be adopted by businesses.
5.0 What is waste?

5.1 Definition

The term ‘waste’ has many definitions, from items that are no longer required, to the misuse or squandering of resources. From a local government perspective, waste has traditionally been understood as something to be cleaned up and removed, or something to be ‘managed’. This strategy moves beyond that understanding and looks at waste in terms of resources. How can we reduce the amount of waste we, as a community, generate? What other uses can we find for what we have traditionally understood as waste? How can we rethink the waste we generate in terms of resources that must be valued and preserved? What actions do we as a community need to take to avoid the production of waste in the first place?

This strategy goes into those issues in detail in the action and implementation plan.

5.2 Waste management hierarchy

The key principle underpinning waste legislation is the waste management hierarchy. The waste hierarchy is an order of preference that waste should be managed, with avoidance being the most preferred option and disposal being the least. All policies developed by all levels of government relating to waste should be based on this hierarchy.

![Waste Management Hierarchy Diagram]

Table 4 – Waste management hierarchy as depicted in Sustainable Wodonga 2014-2020
Avoidance of waste is at the top of the hierarchy and can be influenced as it relates very much to personal choices by the consumer. Personal choices stem from needs but also aspirations, both of which can be influenced by suited education and other persuasive methods. Reuse of wastes is followed by recycling, which includes composting of organic wastes. Using products again instead of discarding them and creating new materials from old without the energy expense or environmental damage from mining for raw materials is the next preferred option. The recovery of energy from waste is an option if the other more preferable options are not possible. The treatment of waste involves energy use and is a relatively poor environmental outcome for dealing with waste. The last approach is disposal which refers to landfill or incineration without energy recovery, which is the least preferred option.

The structural and behavioral change that has occurred in the past 15 years has resulted in Victoria recovering for reuse, recycling and energy generation, 66 per cent of the municipal solid waste (MSW) it generates.

The traditional three terms of ‘reduce, reuse and recycle’ have been expanded to place greater emphasis on household applications such as re-gifting, repair and re-purposing.

Table – 5 – Expanded waste hierarchy to depict increased diversion options (as developed by council team)
6.0 City of Wodonga – Profile and overview

6.1 Demographics

The City of Wodonga is located in North East Victoria and the main urban centre is surrounded by rural communities of the shires of Towong and Indigo. The city comprises 43,300 hectares covering 12 localities and has a current population of 39,844. Based on the Australian Bureau of Statistics, the population of the city is increasing by a growth rate of 2.02 per cent, which is expected to remain in place for the duration of this strategy and beyond.

<table>
<thead>
<tr>
<th>AREA SQ KM</th>
<th>2017 POPULATION</th>
<th>2021 FORECAST</th>
<th>2026 FORECAST</th>
<th>2036 FORECAST</th>
</tr>
</thead>
<tbody>
<tr>
<td>433</td>
<td>39,844</td>
<td>44,717</td>
<td>49,024</td>
<td>57,634</td>
</tr>
</tbody>
</table>

*Table – 6 – Population forecast*

Dwelling type is an important determinant for domestic waste services. A greater concentration of higher density dwellings is likely to attract more young adults and smaller households, often renting. Larger, detached or separate dwellings are more likely to attract families and prospective families.

With the gradual change to medium density such as Elmwood Estate and the future Junction Place development, waste collection systems in those areas will be required to adapt to accommodate the higher density of waste bins, narrow streets and laneways, and smaller or non-existent gardens.

<table>
<thead>
<tr>
<th>CITY OF WODONGA - DWELLINGS (ENUMERATED)</th>
<th>2016 (NEW)</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWELLING TYPE</td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Separate house</td>
<td>13,984</td>
<td>84.8</td>
</tr>
<tr>
<td>Medium density</td>
<td>2,304</td>
<td>14.0</td>
</tr>
<tr>
<td>High density</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Caravans, cabins, houseboat</td>
<td>106</td>
<td>0.6</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
<td>0.1</td>
</tr>
<tr>
<td>Not stated</td>
<td>79</td>
<td>0.5</td>
</tr>
<tr>
<td>Total private dwellings</td>
<td>16,497</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Table – 7 – Dwelling type ID profile*
This increase in the total number of medium density dwellings will require some structural changes to the household collection service. Whilst smaller bins are an option, the current waste policy sets a minimum charge per allotment regardless of bin size. This is designed to cover the supply cost of the service, regardless of volume and usage. As the city develops, it is likely that more inner city and increased density housing options will follow.

As the table indicates, there is an overall increase in the total number of new detached dwellings. The significant increase in medium density dwellings has been dwarfed by the large number of new detached dwellings, resulting in a total decrease of medium density dwellings of three per cent.

From a waste collection servicing perspective, detached dwellings are the easiest to service, and from an educational perspective, the individual householder can be held accountable for poor practices such as contamination.

Apart from dwelling type, the visitor type also influences waste behaviors. Visitors to the region enjoy access to Victorian snowfields and nearby wineries, fishing, and other water activities. These visitors are often from metropolitan areas. With the high visitation rates to the area, it is important that waste infrastructure match that of other large regional cities and capital cities.

6.2 Economic Profile

The City of Wodonga performs several important economic and social roles for Victoria and the surrounding north-east region.

Servicing and supporting a broader regional catchment of approximately 180,000 people, the city’s liveability and strategic location is evidenced by the presence of many national and multi-national businesses, from a variety of industry sectors; some of which have established head offices in the city. Supplying these large businesses is a key component of micro, small and medium-sized businesses, many of whom perform highly specialised services.

Existing Wodonga businesses continue to contend with their own waste challenges, noting many have capitalised on opportunities to reduce operational costs as well as supporting the sustainability of the environment that hosts them.

Due to the landfill being located in Albury, most residual wastes that cannot be processed in Wodonga are transported to Albury. This includes residual waste from the operation of the council’s waste transfer station. Due to load limits and other factors of design at the waste transfer station, any vehicle exceeding three tonnes is directed to Albury landfill. To avoid transport and disposal costs, there is some separation and reclamation of products by various local businesses.
7.0 Legislative context

DELWP is responsible for legislation, policy development and the coordination of the environment portfolio. The EPA is responsible for enforcement of the Environment Protection Act 1970, while Sustainability Victoria (SV) is responsible for implementing State Government policies on resource recovery and waste management.

The North East Waste and Resource Recovery Group (NEWRRG) is a State Government agency that works with local government, industry and community to co-ordinate strategic waste and resource recovery planning needs across the region. NEWRRG works as the link between state and local government and, where there are benefits, assists with co-ordination between local councils and alpine resorts within the region. NEWRRG delivers projects on behalf of local government and alpine resorts with a regional focus (to three or more local government or alpine resort areas for a single project).

7.1 Federal Government

The National Waste Policy, Less Waste, More Resources, was developed in 2009 by the Federal Government. The policy, agreed by all Australian environment ministers in November 2009, sets Australia’s waste management and resource recovery direction to 2020.

This is the overarching policy for waste management and resource recovery in Australia, and it complements other government actions to deliver greenhouse gas emission reductions, reduce energy and water use, support jobs, and invest in future long term economic growth. The policy sets directions in six key areas:

1.0 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;

2.0 Efficient and effective Australian markets operate for waste and recovered resources, with local technology and innovation being sought after internationally;

3.0 Less waste and improved use of waste to achieve broader environmental, social and economic benefits;

4.0 Reduction of potentially hazardous content of wastes with consistent, safe and accountable waste recovery, handling and disposal;

5.0 Increased capacity in regional, remote and indigenous communities to manage waste and recover and re-use resources; and,

6.0 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 Federal Government also established National Environment Protection Measures (NEPMs). These set the basis for agreed national objectives for protecting or managing aspects of the environment (and are enforced through state legislation). Waste related NEPMs currently in place address used packaging materials and the movement of hazardous waste between states and territories.

National product stewardship arrangements (between government and industry) are in place for televisions and computers, end-of-life tyres, waste oil, mobile phones and other products. Future arrangements for other materials are likely to be established.

7.2 Australian Packaging Covenant

The Australian Packaging Covenant is the voluntary component of a co-regulatory arrangement designed to reduce the environmental impacts of consumer packaging, and is underpinned by regulation; the National Environmental Protection (Used Packaging Materials) Measure 2011. The Covenant is an agreement entered into by governments and industry participants in the packaging chain by imposing a shared responsibility for a product over its lifecycle. The covenant covers consumer packaging.

7.3 State Government

The Environment Protection Act 1970 is the key legislative mechanism for environmental protection in Victoria. Amongst other things, it outlines the Victorian waste and resource recovery planning framework:
• Scope for the development of state and regional waste plans;
• Establishment of landfill levies;
• Industrial waste policies; and;
• Regulations for waste and recycling facilities.

Under this Act, councils are required to perform waste management functions that are consistent with Regional Waste and Resource Recovery Implementation Plans (such as the north east waste and resource recovery implementation plan). It is also the overarching environmental legislation in Victoria and deals with the compliance issues related to landfill, littering etc.

**Getting Full Value: The Victorian Waste and Resource Recovery Policy (2013)** – this policy aims to set objectives and priorities for the next 10 years with regards to waste management in Victoria.

**Landfill Levy** – The EPA collects levies on waste disposed at landfills. The levies raised are used for environmental protection and fostering environmentally sustainable use of resources and best practice in waste management. They fund the activities of the RWMGs, SV and the EPA to help establish waste management infrastructure, industry waste reduction programs, education programs, regulatory controls and enforcement regimes. They also provide incentives to minimise the generation of waste, sending a signal to industry that the government supports efforts to develop alternatives to disposal to landfills.

### 7.4 Environment Protection Authority (EPA)

EPA is responsible for enforcing the legislation relating to all aspects of waste management. The current legal framework provides for management of solid wastes, such as municipal, commercial, industrial and prescribed wastes. The framework helps to drive resource efficiency, sustainable waste management and the prevention of pollution in Victoria through mechanisms including:

• Laws that place restrictions on disposal of waste;
• Landfill licenses which set out environmental performance requirements for landfills;
• Statutory tools;
• Best Practice Environmental Management Guidelines for landfills;
• EPAs business sustainability program which encourages industry to pursue waste minimisation and cleaner production programs;
• Partnerships with Victorian communities, including businesses, government, individuals and groups; and,
• Enforcement of the landfill levy, which imposes a cost on waste taken to licensed landfills.

The EPA works with other government bodies such as DELWP, Sustainability Victoria, the Regional and Metropolitan Waste Management Groups and local government on waste policy development, regulation and program delivery.

### 7.5 Waste and Resource Recovery Framework

In August 2014, the *Environment Protection Act 1970* (EP Act) was amended to establish the Victorian Waste and Resource Recovery Infrastructure Planning Framework (the Framework). This Act provides the legislative underpinning for the regional implementation plans.

The Framework, and the regional implementation plans, are primarily governed by the EP Act, but regard has also been given to other relevant legislation in the preparation of this document, as appropriate, including the *Planning and Environment Act 1987* (Vic) and the *Transport Integration Act 2009* (Vic).

The Framework provides the structure for strategic planning for waste and resource recovery that integrates state, regional and local planning.

The objectives of the Framework are to:

• Ensure long-term strategic planning for waste and resource recovery infrastructure at state and regional level;
• Facilitate the integration of state-wide directions for the management of waste and resource recovery infrastructure and regional infrastructure needs;
• Enable waste and resource recovery planning to be effectively integrated with land use and development planning and policy
and effectively integrated with transport planning and policy;

- Ensure Sustainability Victoria and the Waste and Resource Recovery Groups work together to integrate the Statewide Waste and Resource Recovery Infrastructure Plan and Regional Implementation Plans; and,
- Enable waste and resource recovery infrastructure planning decisions at the appropriate level of the Framework.

The Framework provides for the preparation, integration and implementation of the Statewide Waste and Resource Recovery Infrastructure Plan by Sustainability Victoria and seven regional implementation plans.

7.6 Statewide Waste and Resource Recovery Infrastructure Plan

Sustainability Victoria has developed the Statewide Waste and Resource Recovery Infrastructure Plan 2015-44. This plan provides strategic directions for improving waste and resource recovery infrastructure to achieve the long-term vision of an integrated waste system throughout all of Victoria. Strategic directions outlined in the statewide infrastructure plan are to:

- Maximise the diversion of recoverable materials from landfills;
- Support increased resource recovery;
- Achieve workable quantities for reprocessing;
- Manage waste and material streams;
- Maximise economic outcomes;
- Provide cost effective service delivery;
- Reduce community, environment and public health impacts; and,
- Facilitate a cost effective statewide network of waste and resource recovery infrastructure.

Sustainability Victoria has also developed a range of other strategies related to waste such as the:

- Victorian Market Development Strategy for Recovered Resources (Sustainability Victoria 2015) which aims to stimulate markets for recovered resources by reducing barriers and supporting the right conditions for material and product markets to grow and mature;
- Victorian Organics Resource Recovery Strategy (Sustainability Victoria 2015) which outlines the goals, directions, outcomes and actions for improving the management and recovery of organic waste; and,
- Victorian Waste Education Framework (Sustainability Victoria 2016) which provides a coordinated approach to waste and resource recovery education in Victoria.

7.7 North East Waste and Resource Recovery Group (NEWRRG)

NEWRRG is one of six regional waste and resource recovery groups in Victoria. The functions of these groups are defined in the Environment Protection Act 1970. The functions of NEWRRG are set out in the Act as follows:

- Facilitation of joint procurement of infrastructure and services in partnership with local governments to enable realisation of economies of scale and potential cost savings;
- Development of Waste and Resource Recovery Infrastructure Plans for Regions;
- Education in accordance with the state’s education approach; and,
- Projects as funded by Sustainability Victoria, councils and other organisations.

These functions are achieved through a partnership consisting of the seven councils and three Alpine Resort Management Boards. They include representatives from the shires of Indigo, Towong, Mansfield, and Alpine; the rural cities of Wangaratta and Benalla; the resort management boards of Falls Creek, Mt Hotham and Mt Buller; and the City of Wodonga.

These members nominate four local government representatives and four others are skilled based, government appointed members to form the Board that governs NEWRRG.
7.8 Regional plans

The North East Waste and Resource Recovery Implementation Plan was developed by the North East WRRG in 2016 and gazetted by the minister in July 2017. The plan identifies the infrastructure capacity needs and priorities of the region and shares the strategic directions of the statewide infrastructure plan.

The north east implementation plan is a 10 year strategy to ensure the region has a practical and effective waste and resource recovery (recycling) network and outlines the vision and strategy for managing the North East region’s waste. The plan focuses on identifying the region’s waste and resource recovery infrastructure needs and how these will be met over the next 10 years.

While the north east implementation plan is very detailed, it has five main strategic objectives for the region. These are:

- Improving recycling;
- Increasing the efficiencies and cost effectiveness of recycling;
- Increasing the performance and safety of waste and recycling infrastructure;
- Developing a long term strategy for landfill options; and,
- Improving data collection so better decisions can be made.

The north east implementation plan will be reviewed every five years. The infrastructure schedule (which lists both the existing or proposed waste and resource facilities, as well as identifying the landfill airspace needs of the region) will be reviewed every three years.

Regional Waste and Resource Recovery Groups are responsible for planning municipal solid waste management in rural and regional Victoria. The groups work in partnership with member municipal councils to develop plans to implement statewide policies, strategies and programs across the region. The groups also play a key role in educating the community about waste and environmental issues, and facilitate and foster best practice in waste management within the region.
**7.9 Local government**

Local governments have the broad responsibility for providing the collection and transport of kerbside waste streams. They encourage or operate local waste treatment options, such as resource recovery facilities, waste transfer stations or landfills for their communities.

The *Local Government Act 1989* permits councils to charge for the provision of waste services within the municipality. This is provided as a single charge on the rates notice, being the aggregate of a number of discrete functions.

Firstly, a charge is applied to all residential properties for the direct costs associated with the collection and emptying of waste bins from each dwelling on a weekly and fortnightly basis. A charge is then applied for all other waste programs, including the operation of the waste transfer station, street sweeping programs, public street bin infrastructure and emptying, and numerous other allied waste and litter programs.

It is important that Wodonga Council operates cooperatively with neighbouring local governments. There are economies of scale with regard to purchasing goods or services, and all benefit from the availability of regional educational programs through various media outlets. As the council needs to operate in a co-operative system, strong links with AlburyCity Council, albeit interstate, are in place. Similarly, the alliance with the larger cross border council landfill user group – which includes Albury, Federation, Greater Hume, Indigo, Towong and Wodonga – is important to all six councils.

Councils are required to develop and implement a four-year council plan, which at its highest level commits council to pursuing various actions. The current council plan focusses on extensions to the organics processing program, enhanced recycling options in public places, and increased take up of waste diversion systems for commerce and industry.

**7.10 Community**

There are four discrete waste sectors in the community, being individual households, community groups, and businesses – both in the waste industries and others.

A number of community groups and aligned groups have been formed locally that promote good waste practices and at times, advocate for change. They include:

- The Sustainable Activity Centre (SAC);
- Plasticwise Wodonga;
- Repair Café;
- Library of Things;
- Aware industries;
- Numerous charities with recycling bins;
- Food share;
- Neighbourhood houses; and,
- Community centres.

As most waste programs are directed at behavior change, they have to be adapted to suit the local demographics. Businesses generate waste as a consequence of providing goods and services. Council provides collection services to 90 smaller commercial businesses but directs larger businesses to any one of the four local waste collection companies.

Being a large regional city, Albury-Wodonga is fortunate to have at least four multinational waste industries present. They provide collection services, transport systems, and recycling services. Their proximity helps reduce greenhouse gas emissions, support economic development, and increases work force options.
8.0 Waste Trends

8.1 General trends

With the introduction of mobile garbage bins for all three household waste streams, various recycling programs, and waste transfer stations that offer a range of services, it is generally accepted that the waste infrastructure required to ensure efficient management of wastes is now in place. To improve waste management further and gain greater alignment with the waste management hierarchy, a greater focus on behavioral change programs is necessary. The council’s direct involvement in the program conducted with the five other local councils, being Albury, Federation, Greater Hume, Indigo, and Towong, provides the benefits of consistent messaging, and economies of scale with collaborative procurement and educational activities.

There are other important trends occurring within the state; most notably a major reduction in the number of landfills, an increase in the number of transfer stations, increasing complexity and treatment options at waste transfer stations, cross border regulations restricting the movement of waste inter-state, aggregating products to reduce transport costs, regionalization of services, larger or combined contracts, and new or alternate waste treatment options such as gasification and anaerobic digestion.

At the household level, refuse bin sizes are being reduced in some local government areas as data reflects the volume of waste in a refuse bin is directly proportional to the bin size. A similar trend also occurs with recycling bins.

8.2 Waste generation in Victoria

The graphs below detail the volumes of waste within Victoria going to landfill from EPA data.

![Graph detailing waste generation in Victoria from 2007-08 to 2016-17]

Table – 9 – Volumes resource recovery rates of solid waste, Victoria 2007-2016
With the introduction of recycling programs in Victoria, recycling averages for the state have increased on average by two per cent every year since 2002. The infrastructure is in place and, because of this, behaviour has changed. Good recycling habits are most obvious at the home where the infrastructure and education is available for residents, with recovery figures dropping for ‘away from home’ recycling. This issue will require greater effort into the future, so that habits learned at home can be replicated both at work and also during leisure times.

![Recovery rate graph](image)

**Table – 10 – Percentage resource recovery rate of solid waste, Victoria 2007-2016**

### 8.3 Waste generation in Wodonga

The following sections detail how the waste generated within Wodonga is processed. As noted previously, the bulk of commercial, industrial, construction and demolition waste (up to 80 per cent as noted in Table 1) is automatically diverted to Albury Landfill or private processors.

A major change to the focus of the regional waste management groups (and councils) by the State Government is to ensure a holistic approach is being undertaken. Thus the council will be further involved with the business community to help drive recovery rates. This may include amendments to the local law, enhanced planning conditions and new codes of conduct for those sectors.

The remaining 20 per cent is generally handled by the council who, as the ‘custodian’ of that product, is able to ensure good practices are implemented.
8.4 Municipal solid waste (MSW)

Municipal solid waste refers to the waste generated at the household level, for which the council is directly responsible for managing. In most instances, this includes overseeing the collection of household waste, providing resource recovery options, and providing landfill options for residual wastes.

Being directly at the householder level provides very good opportunities for education, driving innovation and changed personal behaviours. It also provides opportunities to address issues on the higher end of the waste hierarchy by introducing separation of wastes at the source, prior to contamination.

Long-term arrangements are in place with the City of Albury for access to the Albury Landfill at commercial rates with a five year rolling notification period. This enabled the closure of the Wodonga Landfill in 2005, thereby reducing the risk of any type of environmental pollution as has occurred in other council areas.

The current kerbside waste collection company is Cleanaway, who are contracted to provide for the collection service of all three household bins until 2024. In Wodonga, Cleanaway empty up to 35,000 bins weekly, and handle approximately 13,000 tonnes of product annually, of which approximately 4,000 tonnes is deposited into landfill. Separately, the waste transfer station processes approximately 8,000 tonnes annually, with 2,500 tonnes eventually being deposited into landfill.

Listed below is the data for the past three years of MSW collected in Wodonga from households.

### MSW Kerbside Collections

<table>
<thead>
<tr>
<th>Tonnes</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>waste</td>
<td>9,000</td>
<td>8,000</td>
<td>7,000</td>
</tr>
<tr>
<td>recycling</td>
<td>8,000</td>
<td>7,000</td>
<td>6,000</td>
</tr>
<tr>
<td>green organics</td>
<td>7,000</td>
<td>6,000</td>
<td>5,000</td>
</tr>
</tbody>
</table>

*Table - 11 - Kerbside waste collection in tonnes, Wodonga 2014-2017*

The above table clearly highlights the merits of introducing the FOGO service with a 47 per cent reduction in refuse going to landfill and a 400 per cent increase in organic material being diverted from landfill. Recycling rates also increased, indicating the awareness raised during the promotional period regarding the new system improved waste behaviours over all three waste streams.
This success has been attributed to the intensive educational focus through community based social marketing (CBSM), social media and the regular news outlets. This educational focus is likely to have raised the profile of waste, increased the desire of large sections of the community to do the right thing and also remind them to reduce their environmental footprint as a society.

### 8.5 Kerbside household collection audits

Kerbside audits are conducted on a yearly basis, alternating between NEWRRG and Cleanaway. These audits include waste, recycling, and organic streams, and are conducted at different times of the year to capture varying data over different seasons.

The results for four bin audits for urban properties is summarized below. The amount of refuse continues to decrease while there is a corresponding increase in organic waste volumes. This was expected for a FOGO system that encompasses both food and garden waste, with an ultimate aim being a large reduction in the generation of greenhouse gases. The continued total bin yield per household per week continues to rise, but may have peaked in 2015. The rates of recycling for soft drink and beverage containers is likely to fall in coming years as the impacts of changes occur in NSW regarding the introduction of container deposit legislation in that state.

Container deposit legislation was introduced in NSW in early 2018 and put a $0.10 value on drink containers, generally between 250ml and three litres. With this increased value on containers, it is likely that more people will start collecting those containers (perhaps removing from roadside recycling bins) and take them into NSW for redemption. At some point this will impact on the cost and recycling rates at the household level.

### Average Bin Yields Kg/HH/WK

<table>
<thead>
<tr>
<th>Year</th>
<th>Waste</th>
<th>Recycling</th>
<th>Green Organics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2014</td>
<td>12</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2015</td>
<td>13</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>2016</td>
<td>14</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

*Table 12 – Average weekly household bin yields, Wodonga 2013-2016*
8.6 Kerbside bin options

The default service in Wodonga is three bins, with various options for larger families, the elderly, those in medium density areas and people with specific medical needs.

The default sizes and frequency are:

- General refuse - 140 litre bin - fortnightly;
- Recycling - 240 litre bin - fortnightly; and,
- Food and garden organics - 240 litre bin - weekly.

In 2015, the council introduced a 360 litre recycling bin which has proved to be popular with households that have more than four members in their family and also with avid recyclers.

More than 300 households have opted for the larger recycling bin for an extra $20 per year. The purpose of this offer is to divert more recyclables from the refuse stream by providing additional storage space. This has resulted in an increased diversion of 33 per cent for those 300 households, which is even more pronounced in peak consumption periods like Christmas and Easter.
9.0 Council activities

9.1 Wodonga Waste Transfer Station and Resource Recovery Centre

For the past 13 years, the council has operated a Waste Transfer Station after the closure of the former landfill on Beechworth Road in 2005. The Waste Transfer Station and street litter activities currently operate seven days per week and service, on average, 45,000 customers per year.

The Waste Transfer Station accepts approximately 8,000 tonnes of material each year and is classed as a Category 2 facility. The Waste Transfer Station recovers a range of materials and has a recovery rate average of 80 per cent across all waste streams. On site there is a re-use shop, which helps divert 200 tonnes per year from landfill by reclaiming and reselling while at the same time providing community benefits through a social enterprise that employs disadvantaged persons. A recent community survey indicated that 93 per cent of the population were aware of the re-use shop.

According to a review conducted in December 2013, the Waste Transfer Station facility meets best practice – as assessed by a consultant auditor, Blue Environment – out of all council operated resource recovery infrastructure in North East Victoria.

9.2 Litter

Local government is a major driver in controlling, cleaning up and preventing litter in public places. In 2006, the Victoria Litter Action Alliance survey found that 76 per cent of councils reported that they had conducted a litter prevention program. These reduction programs conducted by councils have been shown to be effective in altering littering behavior.

The most effective litter prevention education and behavioural 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 elements that characterise Victoria’s approach to litter prevention.

The council has a variety of active litter prevention and ‘Friends of’ groups that do excellent work throughout the year in cleaning up litter that is deposited in parks and public areas.

The council’s local laws unit has also been actively pursuing illegal dumping in recent years, where the source of the material is able to be identified. The recent introduction and use of security cameras has assisted in the identification of illegal dumpers.

9.3 Street litter bins

Public litter bins (including those at sporting grounds) are an important component of litter management infrastructure. Many of the bin surrounds within the municipality don’t have a facility for separating waste and recycling. Infrastructure will be continually upgraded, at times being reliant on successful grant applications. The messages for encouraging recycling away from home are not strong when the street litter bin surrounds have no facility for recycling. This sends inconsistent and inappropriate messages to the community about the importance of separating waste and recycling materials.

The council has increased its public placed recycling bin infrastructure from five per cent to 25 per cent over the past six years through various competitive public place recycling grants offered from Sustainability Victoria. The bulk of these have been placed in sporting fields and council parks. The current street bin waste and recycling collections are conducted by council staff.

9.4 Event litter management

There is a need for event planners to have a waste management plan including the appropriate disposal of waste and increasing the amount of recycling. Most events now have recycling bins, but more recently, there has been an emphasis on also providing a third bin for food and organic materials. Audits indicate the messaging for organic separation away from home isn’t well understood. This will be addressed as a part of a regional promotional campaign.
Events provide an opportunity to address waste from further up the waste hierarchy. For example, conditions could be placed on vendors to ensure less packaging and less waste is produced, together with avoiding water bottles by providing fill up stations or bubblers, and other innovative ideas.

9.5 Hard waste collection

Hard waste is largely the non-putrescible waste material that is too cumbersome to fit into the household kerbside waste bins. It can consist of old appliances, furniture and tree branches.

The former hard waste collection service, where refuse was placed out on the roadside, was ceased eight years ago due to the:

- High likelihood of occupational health and safety risks for contractors or council staff to pick up waste and the potential injury to the public from waste left on the nature strip was high;
- Unsightly nature, as some members of the public tended to commence storage of hard waste on nature strips well before the actual collection day;
- Service not encouraging waste separation and resource recovery;
- Orphaned materials (often banned items like tyres) tending to accumulate into oversized stockpiles;
- Ready availability of waste skip services to residents from a number of private contractors;
- Cost of the collection exceeding $300,000 per year;
- Service being only accessed by 34 per cent of the population;
- Transportation of hard waste to the waste transfer station not being onerous for the majority of residents; and,
- At the time of cessation, there were 39 other Victorian councils with hard waste collections; however, with the local change, over 50 per cent of councils had now discontinued this approach.

Wodonga households are now provided with two ‘free tipping’ vouchers per year with their rate notices to dispose of one cubic metre of waste at the Waste Transfer Station. To assist pension card holders or those with no other means to dispose of their waste, a household visit and collection is provided free of charge.

With some 35 per cent of vouchers being presented at the Waste Transfer Station, the public receive a community benefit valued at over $400,000 per year. This change is popular, as it empowers the public to dispose of their waste at a time convenient to them.

The changed system has not led to an increase in illegal dumping, as some suggested may occur at the time of implementation.
9.6 Waste education

Waste education is focused on behavioral change and this common theme has links to all aspects of waste management and the contents of this strategy. Community waste education is currently undertaken through a variety of methods including a major media campaign, followed up by a personal visit to households when necessary.

The current education and behavioural change program focuses on:

- Avoiding, reducing, reusing and recycling waste in the community, schools and businesses;
- Providing programs related to green waste and organics and options for preventing these from entering the waste stream;
- Providing sustainable shopping and consumption programs to reduce food wastage and packaging;
- Improving education relating to council waste services, including kerbside services, resource recovery facilities and green waste;
- Improving resource recovery for all works and new developments under the control of the council; and,
- Supporting litter prevention and clean-up programs.

9.7 Organics collection and recycling

The Victorian Organics Resource Recovery Strategy has a 30-year vision and a comprehensive five-year action plan to ensure the state's organic waste is managed safely and sustainably.

This statewide Organics Strategy provides the strategic direction. The diversion of food organics and green organics from MSW bins is best achieved through separation at the source by providing a third bin for household organics.

The current contractor conducts a bulk up and pre-sort decontamination at the Albury Waste Management Centre, and then transports this material to various licensed composting facilities.

Staff will work with local waste contractors to pursue the option of collecting organics from commercial businesses. This will greatly reduce the volume of methane production in the landfill and should also provide a cheaper alternative to the business sector.

From the audits completed in 2015 and 2017, approximately 47 per cent of waste generated from a household is organic material, and is now being diverted from landfill. The benefits from introducing the organic waste collection are cost savings from processing, reduction of waste material going into the landfill, reduced greenhouse gas production in the landfill, and the generation of a potentially resalable product; either compost or soil improver.
10.0 Objectives and themes

The council will continue to work with the community to provide efficient and effective waste services to protect and improve the natural and urban environments in a sustainable manner. This strategy identifies the following five objectives and related themes. The specific relevant action is detailed in the implementation plan attached in appendix A.

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>THEMES</th>
</tr>
</thead>
</table>
| **1. Delivering outstanding and accessible waste collection services** | Collect and analyse data to assist in delivering services  
Reduce costs and emissions associated with waste disposal  
Continue to eliminate organics from landfill  
Continue to innovate to improve waste management  
Adjust waste systems for medium density housing and commercial properties |
| **2. Creating civic pride through clean and litter free public places** | Reduce the amount of dumped garbage and litter in Wodonga, creating a clean, welcoming and safe place  
Provide consistent, high quality public place infrastructure  
Support reduction in litter loads to waterways through business and community action |
| **3. Ensuring Wodonga has the right waste infrastructure and technology to meet its targets** | Develop and implement programs to bring all infrastructure to an acceptable and consistent standard  
Investigate and implement the most appropriate technology for processing waste in Wodonga |
| **4. Rethinking our ‘waste’ as resources** | Develop a sustainable consumption program to influence the culture of how the community buys and uses products  
Support community groups that are already advocating for change and implementing change  
Explore the refurbishment of hard waste for reuse  
Investigate various funding streams for waste related capital projects |
| **5. Collaborate and advocate for better waste outcomes** | Lobby for a better distribution of the EPA waste levy to local government  
Lobby various stakeholders to achieve reduced resource consumption and decrease waste production  
Explore opportunities to receive funding to deliver programs  
Explore options of using incentives and disincentives to encourage rethinking consumption behaviour  
Investigate options for food waste avoidance, collection and management systems for commercial businesses |

Table – 13 - Objectives and themes 2017-2021
11.0 Measures and Targets

11.1 Measures

The council reports to the State Government on an annual basis and this data then becomes available for comparison amongst all councils in the state. Wodonga Council is ranked in the top 10 councils for diversion of kerbside collections to landfill for the financial year 2016/17 with a diversion rate of 71.43 per cent.

11.2 Targets

It is important that localised targets be set and then reported on. Some targets are already detailed in the *Sustainability Strategy 2014-2020* and others have been selected to encourage sustained focus on continuous improvement. They are tabulated below.

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>MEASUREMENT PARAMETER</th>
<th>BASELINE 2017</th>
<th>TARGET 2021</th>
<th>IMPROVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerbside refuse to landfill</td>
<td>Tonnes/annum</td>
<td>4580</td>
<td>4397</td>
<td>4% reduction</td>
</tr>
<tr>
<td>Kerbside recycling rate</td>
<td>kg/household/pa</td>
<td>247</td>
<td>257</td>
<td>4% increase</td>
</tr>
<tr>
<td>Volume of kerbside organics</td>
<td>kg/household/pa</td>
<td>488</td>
<td>508</td>
<td>4% increase</td>
</tr>
<tr>
<td>Refuse to landfill from Council WTS operations</td>
<td>Tonnes/annum</td>
<td>2500</td>
<td>2250</td>
<td>10% reduction</td>
</tr>
<tr>
<td>Recovery rate at WTS</td>
<td>%age</td>
<td>70</td>
<td>77</td>
<td>10% increase</td>
</tr>
</tbody>
</table>

*Table – 14 - Indicator and targets, Wodonga 2017-2021*

The first three targets have been set at a generalised one per cent increase per year over the coming four years. The remaining two targets have been set at 10 per cent to strive for a step change. Waste audits will continue to be undertaken every year to measure progress against the set targets.

The recommendations in the implementation plan will be reviewed and reported to the council in an aggregated format annually.
12.0 Waste management issues into the future
There are additional waste issues currently under consideration which may affect waste management options in the region in the future. These are discussed in further detail below and include:

- Banning electronic waste from landfills;
- Container deposit legislation;
- Regional hub to aggregate products to reduce transportation costs;
- Record keeping via a weighbridge;
- Albury Waste Management Centre;
- Waste levy in either NSW or Victoria; and,
- Waste to energy and similar new technology.

12.1 Electronic waste
The State Government is committed to banning electronic waste (e-waste) from landfills and is currently exploring the impact of enabling legislation. Most equipment with electronic components are considered as e-waste; typically phones, computers, televisions, excluding those larger items such as refrigerators with electronic sensors. It is hoped the State Government will introduce controls to avoid rogue traders stockpiling the materials, as has occurred with tyres. In the interim, these products will be segregated and separately disposed.

12.2 Container deposit legislation
Victoria is currently the only mainland state in Australia without (or pending) a container deposit scheme for small beverage containers. There is a move by the Federal Government and some sectors of the waste management industry to implement a container deposit scheme in Victoria.

Although this would decrease the amount of visible litter, mainly beverage containers on roadsides, it is also possible it will increase the cost to local government as household recycling bins will not have the higher value containers such as aluminium cans. With the data currently available from NSW, the introduction of a consistent national container deposit scheme is supported.

12.3 Regional hub
Development of the Waste Transfer Station site to become a hub for smaller nearby councils is likely to gain momentum as part of the regionalisation of services occurs. This will permit the aggregation of waste prior to separation, such as packaging, bulk up and ultimate transportation. This also provides a solution to a major issue identified in the risk profile for this service that has made media attention; namely the banning of the transport of waste interstate. Should the border be closed for the transport of waste due to legislative changes, a local or regional solution will be required.

A recent review of waste infrastructure in North East Victoria undertaken by consultants for NEWRRG, detail there is a need to establish a bulk up facility at the Waste Transfer Station to reduce transport costs across the region. Should the Benalla Landfill become the regional landfill, or if entry to NSW is denied, waste would be required to be aggregated and compacted into larger vehicles for delivery to Benalla.

Some waste products currently being collected from smaller sites, not just from other councils, would attain better incomes if aggregated at the one site, such as tyres, polystyrene and treated timber. Similarly green waste, such as plants, garden prunings and larger branches, would also benefit from a bulk up facility. The report proposes that this facility would service at least three councils and has been estimated at $1.5 million.

This type of development should attract some state funding. While a lead time exceeding one year is likely, a future budget allocation in the long term capital budget is deemed worthy of inclusion.

12.4 Weighbridge
It’s anticipated that eventually weighing products will become either mandatory or necessary for annual reporting. As the site operates on a one-way direction of travelling (best practice), a weighbridge would be required to access weights for both entry and exit; hence two weighbridges. The supply and installation of a weighbridge often exceeds $150,000 and should be listed in the long term capital budget for future funding. Grant opportunities are likely and will be aggressively sought.
12.5 Albury Waste Management Centre

The Albury Waste Management Centre has recently undergone a number of improvements and enhancements. These include increased recycling options via a second hand shop and increased product being recovered prior to disposal to landfill.

As the current refuse from Wodonga for landfill disposal goes to Albury, it’s important that close co-operation occurs between both councils as has been the case with the introduction of FOGO. It is important that the Wodonga Waste Transfer Station continues to develop in harmony with activity in Albury, including joint procurement and educational promotions.

12.6 Waste levy

There is a risk to the council should either State Government in NSW or Victoria introduce a waste levy that impacts on Wodonga. Recent media articles regarding the lack of a waste levy in Queensland have prompted community angst, with an eventual change to legislation restricting acceptance of interstate waste. It’s possible this will also affect any interstate transport of waste between NSW and Victoria.

The current waste levy for Victorian non-metropolitan councils is $32 per tonne. If this is applied to Wodonga, the council would be required to pay approximately $208,000 per annum to the EPA for the current 6500 tonnes it deposits into landfill.

The current waste levy for NSW non metropolitan councils is $80 per tonne. If this is applied to Wodonga, the council would be required to pay approximately $520,000 per annum to the EPA for the current 6500 tonnes it deposits into landfill.

12.7 Waste to energy

‘Waste to energy’ is a term commonly used to describe the process of generating energy – such as electricity, heat or fuels – from waste.

The State Government currently has a discussion paper open for comment. It covers all processes and technologies that recover energy of fuel through the thermal, mechanical or biological processing of solid and liquid waste. There are only a few waste to energy facilities currently in operation in Victoria, and only four per cent is diverted to energy recovery. Most of these use organic feedstocks to generate energy they use on site.

Benefits of recovering energy from waste include:

- Net reduction of greenhouse gas emissions by reducing methane from waste in landfills;
- Reducing carbon dioxide from fossil fuels used in electricity generation;
- Broadens our energy mix, with the potential to add a small amount of reliable renewable electricity;
- Reduced reliance on landfill, thereby increased public amenity with reduced noise and odour emissions;
- Opportunities for economic development in regional areas; and,
- Opportunities for regional employment.

In line with the above, the first auction for up to 650MW of renewable energy capacity will provide enough electricity to power 389,000 households. This is expected to bring forward up to $1.3 billion of investment, and create 1250 construction jobs over two years and 90 ongoing jobs. This will also deliver a low carbon future for the state – the VRET scheme is expected to drive a 16 per cent reduction in Victoria’s electricity sector greenhouse gas emissions between 2019/20 and 2034/35. The successful applications have been advised, with the project in Wodonga at Logic not being successful.

The following table describes the various technologies, any or all of which may become a reality in Wodonga.
<table>
<thead>
<tr>
<th>TECHNOLOGY</th>
<th>FEEDSTOCKS</th>
<th>OUTPUTS</th>
<th>RESIDUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combustion</td>
<td>Mixed residual MSW, mixed C&amp;I and C&amp;D wastes, refuse derived fuels (eg. Pellets manufactured from residual materials)</td>
<td>Heat, electricity, (Bottom ash residues may in some circumstances have value as road base or as an additive in building blocks)</td>
<td>Bottom ash, fly ash, air pollution control residues, metals</td>
</tr>
<tr>
<td>Gasification</td>
<td>Typically refuse derived fuel (RDF) prepared from mixed residual MSW, mixed C&amp;I and C&amp;D wastes, organic waste</td>
<td>Heat, electricity, syngas, (see above re Bottom ash)</td>
<td>Bottom ash, air pollution control residues</td>
</tr>
<tr>
<td>Pyrolysis</td>
<td>Homogenous feedstocks from sorted C&amp;I and C&amp;D waste (eg. wood, tyres), sorted residual MSW (eg. plastics), organic waste</td>
<td>Syngas, biochar (when biomass used as feedstock), pyrolysis oil to make liquid fuels</td>
<td>Air pollution control residues</td>
</tr>
<tr>
<td>Mechanical Biological Treatment</td>
<td>Residual MSW, C&amp;I waste, organic waste</td>
<td>Biogas, electricity, refuse derived fuels, separated recyclables (eg. plastics, paper, glass, metals), compost-like material - depending on technology configuration that is adopted</td>
<td>Process water, air pollution control residues, inert materials and residual materials that have no economic value</td>
</tr>
<tr>
<td>Anaerobic Digestion</td>
<td>Biosolids, food waste, green waste, crop residues</td>
<td>Digestate, compost, heat, electricity, biogas</td>
<td>Liquid residues, wastewater, inert and non-compostable material, contaminants (e.e. plastics)</td>
</tr>
<tr>
<td>Fermentation</td>
<td>Organic waste high in sugar (eg. com, beetroot, sugarcane crop waste)</td>
<td>Alcohols (eg. ethanol for fuel), digestate</td>
<td>Liquid residues, wastewater</td>
</tr>
</tbody>
</table>

Table – 15 – Summary of waste to energy technologies, DEWLP discussion paper 2017

Council staff will continue to actively pursue proposed businesses that show an interest in any of the above. On a near monthly basis, various companies attend council with various offers and options, usually to access feedstocks.

These feed stocks, often include green organics or the residual waste in the red lidded bin and will become, a valuable commodity. It is recommended that the council consider providing formal notice to AlburyCity that within five years, access to their landfill will not be required on a formal agreement basis and that we wish to revert to a casual business arrangement.
13.0 Action and Implementation Plan

The following section outlines the proposed actions and outcomes of advancing this work. High priority actions are proposed to be commenced within the next 1-2 years, medium priority in three years and low priority in 4-5 years. All actions shall be reported on by the Team Leader Waste Management, even though some issues will ultimately become the responsibility of others, such the economic development team for new waste industries.

OBJECTIVE 1

We will continue to deliver waste services in a manner that is sustainable, accessible and innovative. We will monitor these services and respond to new trends and opportunities.

To achieve this, we will:

<table>
<thead>
<tr>
<th>ACTION</th>
<th>PRIORITY</th>
<th>OUTCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Complete a study into best practices data systems and implement to assist in future planning</td>
<td>High</td>
<td>Credible data provided for good decision making</td>
</tr>
<tr>
<td>1.2 Attract a waste to energy or waste to fuel operator that utilises the feedstocks generated via the kerbside the bin system</td>
<td>High</td>
<td>Reduced reliance on access to Albury Landfill. Future proofing against legislative changes for cross border waste movement Reduced waste to landfill</td>
</tr>
<tr>
<td>1.3 Review bin installations and replace with suited infrastructure. This may include solar bins where practical.</td>
<td>Medium</td>
<td>Reduced collection costs</td>
</tr>
<tr>
<td>1.4 Explore the development of and implement an incentive program to encourage reduced waste generation behaviour</td>
<td>High</td>
<td>Decreased waste to landfill</td>
</tr>
<tr>
<td>1.5 Develop program to work with real estate agents and body corporates to engage with tenants to reduce waste</td>
<td>Medium</td>
<td>Reduced contamination in the various bins</td>
</tr>
<tr>
<td>1.6 Explore and implement a program which encourages reuse of materials and goods before they become hard waste. This could include support for Repair Café, ‘Library of Things’ and other reuse or sharing programs.</td>
<td>Low</td>
<td>Increased reuse and repurposing options</td>
</tr>
<tr>
<td>1.7 Complete a review of opportunities to inform contract specifications and ensure they are responsive to industry innovation and technology</td>
<td>High</td>
<td>Best practice options incorporated into specifications</td>
</tr>
<tr>
<td>ACTION</td>
<td>PRIORITY</td>
<td>OUTCOME</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>1.8</td>
<td>Low</td>
<td>Possible savings realised, Clear leadership</td>
</tr>
<tr>
<td>1.9</td>
<td>High</td>
<td>Credible data provided for good decision making</td>
</tr>
<tr>
<td>1.10</td>
<td>Medium</td>
<td>Increased recycling options, Clear leadership</td>
</tr>
<tr>
<td>1.11</td>
<td>High</td>
<td>Decreased greenhouse emissions by avoiding waste to landfill</td>
</tr>
<tr>
<td>1.12</td>
<td>Medium</td>
<td>More readily adopted practices by consumers</td>
</tr>
<tr>
<td>1.13</td>
<td>High</td>
<td>Reduced waste to landfill, Reusable goods made available for reuse</td>
</tr>
<tr>
<td>1.14</td>
<td>Low</td>
<td>Reduced waste to landfill</td>
</tr>
</tbody>
</table>
**OBJECTIVE 2**

Wodonga’s public places including parks, streets and laneways are valued by our community. We will work in partnership with the community to ensure these places provide a clean, welcoming and safe environment for a range of uses.

To achieve this, we will:

<table>
<thead>
<tr>
<th>ACTION</th>
<th>PRIORITY</th>
<th>OUTCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Review and replace signage in parks and streets to ensure information is consistent and correct</td>
<td>Low</td>
<td>Consistent messaging</td>
</tr>
<tr>
<td>2.2 Review and update bin infrastructure and community engagement to meet the needs of residents and visitors</td>
<td>Medium</td>
<td>Consistent messaging and practices</td>
</tr>
<tr>
<td>2.3 Participate in the Keep Australia Beautiful and Clean up Australia Day programs</td>
<td>High</td>
<td>Good community involvement and increased awareness</td>
</tr>
<tr>
<td>2.4 Introduce more public place recycling options, particularly at sport events and sports facilities</td>
<td>Medium</td>
<td>Good community involvement and increased awareness</td>
</tr>
<tr>
<td>2.5 Develop a ‘Dumped Rubbish and Litter’ education program, integrating infrastructure, education and enforcement</td>
<td>Medium</td>
<td>Reduced collection costs</td>
</tr>
<tr>
<td>2.6 Develop and deliver targeted waste stream education and engagement programs to focus on problem materials, such as cigarette butts and syringe litter in open spaces</td>
<td>High</td>
<td>Increased safety in parks and reserves</td>
</tr>
<tr>
<td>2.7 Develop and implement a robust engagement program with businesses and their local communities to reduce the oils and litter load entering storm water drains</td>
<td>Medium</td>
<td>Reduced pollution</td>
</tr>
<tr>
<td>2.8 Review the council’s development and construction management plans to ensure waste minimisation and litter management is included and reported on</td>
<td>Medium</td>
<td>Reduced pollution Enhanced visual appearance of new estates</td>
</tr>
<tr>
<td>ACTION</td>
<td>PRIORITY</td>
<td>OUTCOME</td>
</tr>
<tr>
<td>--------</td>
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</tr>
</tbody>
</table>
| 2.9    | Develop a strategy to ultimately remove all dog bag dispensers in parks and develop a program to encourage all dog owners to carry own pet waste bag | Low | Cleaner parks and gardens  
Increased responsible pet ownership |
| 2.10   | Identify other opportunities to include ancillary litter reduction in the council’s Local Laws | Low | Provide a suited legislative mechanism to deal with the issue |
| 2.11   | Increase and improve relationships and support to sustainability groups and ‘Friends of’ groups | Medium | Better collaboration  
Good flow of ideas between agencies |
| 2.12   | Work with local sporting clubs that generate significant waste to improve diversions | Medium | Increased recycling and less cost of disposal to clubs |
| 2.13   | Monitor illegal dumping and litter hotspots (via CCTV if necessary) and increase infrastructure and/or education in those areas | High | Reduced pollution and increase education |
**OBJECTIVE 3**

Wodonga requires contemporary, adaptable waste infrastructure to service the changing needs of our community. We will seek opportunities for technological and infrastructure innovation in order to improve our services to the community.

To achieve this, we will:

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>PRIORITY</th>
<th>OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Review the existing waste reduction and promotion of waste minimisation programs at festivals and events</td>
<td>Medium</td>
<td>Leading by example</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduce cost of waste disposal at events</td>
</tr>
<tr>
<td>3.2 Develop and implement a staged program to bring all bin infrastructure to a standard</td>
<td>Medium</td>
<td>Consistent messaging</td>
</tr>
<tr>
<td>3.3 Increase the amount of materials that are recycled at the Waste Transfer Station, such as polystyrene, tyres, e-waste and mattresses</td>
<td>High</td>
<td>Reduced volume of materials into landfill</td>
</tr>
<tr>
<td>3.4 Investigate and trial an option for diverting food waste from restaurants</td>
<td>High</td>
<td>Reduced volume of materials into landfill.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduced business cost.</td>
</tr>
<tr>
<td>3.5 Investigate and pilot technology to process food waste from the commercial sector.</td>
<td>High</td>
<td>Reduced volume of materials into landfill.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduced business cost.</td>
</tr>
<tr>
<td>3.6 Investigate and trial an option for diverting food and garden waste at the Waste Transfer Station.</td>
<td>High</td>
<td>Reduced volume of materials into landfill.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduced business cost.</td>
</tr>
<tr>
<td>3.7 Ensure town planning provisions provide suited buffers for future waste businesses</td>
<td>High</td>
<td>Suited land available for waste industries</td>
</tr>
</tbody>
</table>
**OBJECTIVE 4**

We will engage the Wodonga community through targeted and tailored education programs to be mindful of their consumption and rethink how they manage resources and generate waste.

To achieve this, we will:

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>PRIORITY</th>
<th>OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rename the Waste Transfer Station to a resource recovery facility</td>
<td>High</td>
<td>Alignment with state naming</td>
</tr>
<tr>
<td>Work with and assist schools to develop and deliver the SEED program</td>
<td>High</td>
<td>Consistent messaging</td>
</tr>
<tr>
<td>Develop a ‘Sustainable Consumption’ program to influence the culture of how the community buys and uses products</td>
<td>Low</td>
<td>Consistent messaging</td>
</tr>
<tr>
<td>Develop an innovative approach to communications and engagement relating to waste minimisation and resource recovery</td>
<td>Medium</td>
<td>Consistent messaging</td>
</tr>
<tr>
<td>Develop and implement a pilot program to recycle soft plastics</td>
<td>High</td>
<td>Reduced waste to landfill</td>
</tr>
<tr>
<td>Partner with Men’s Shed, Repair Café, the SAC and others to deliver a program taking up opportunities to reuse repairable waste materials</td>
<td>Low</td>
<td>Reduced waste to landfill</td>
</tr>
<tr>
<td>Work with cafes and restaurants to promote the use of re-useable, takeaway coffee cups</td>
<td>High</td>
<td>Decreased waste to landfill</td>
</tr>
<tr>
<td>Develop and promote a plastic bag minimisation program</td>
<td>High</td>
<td>Decreased waste to landfill</td>
</tr>
<tr>
<td>Develop a network of businesses that displace consumption of new goods, such as second hand, op shops, repairs, recycled timber, freecycle and Gumtree, and promote them wherever possible</td>
<td>High</td>
<td>Decreased waste to landfill</td>
</tr>
<tr>
<td>Investigate expanding the recycling drop-off services for items such as household batteries, fluorescent globes and electronic waste to more locations</td>
<td>Low</td>
<td>Increased recycling options</td>
</tr>
<tr>
<td>Review purchasing practices at the council to promote improved waste management outcomes</td>
<td>Medium</td>
<td>Decrease waste to landfill</td>
</tr>
<tr>
<td>Adopt a green procurement approach, buying environmentally preferred products in line with the procurement policy</td>
<td>Medium</td>
<td>Decrease waste to landfill</td>
</tr>
</tbody>
</table>
**OBJECTIVE 5**

We will collaborate with a range of partners to advocate for improved opportunities to rethink consumption behaviour and the production and management of our waste.

To achieve this, we will:

<table>
<thead>
<tr>
<th>DELIVERABLE</th>
<th>PRIORITY</th>
<th>OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocate for the development of the Waste Transfer Station into a bulk up facility to service surrounding local government areas</td>
<td>High</td>
<td>Reduced transport costs</td>
</tr>
<tr>
<td>Advocate for national solutions to problematic wastes (such as packaging and hazardous wastes)</td>
<td>High</td>
<td>Consistent systems both sides of the border</td>
</tr>
<tr>
<td>Encourage builders and developers to source separate wastes onsite</td>
<td>High</td>
<td>Less litter on sites and less pollution escapes</td>
</tr>
<tr>
<td>Apply for suited funding to progress these various priorities</td>
<td>High</td>
<td>Reduce cost to community</td>
</tr>
<tr>
<td>Advocate and develop a policy to deal with the introduction of container deposit legislation in NSW.</td>
<td>High</td>
<td>Consistent systems both sides of the border</td>
</tr>
<tr>
<td>Lobby business to achieve reduced resource consumption and decrease waste production locally</td>
<td>Medium</td>
<td>Consistent systems both sides of the border</td>
</tr>
<tr>
<td>Partner with ‘Friends of’ groups and ‘Our native garden’ to engage residents in caring for areas and ownership of litter</td>
<td>Medium</td>
<td>Good collaboration Increased relationships</td>
</tr>
<tr>
<td>Advocate for a statewide approach on plastic bag minimisation programs.</td>
<td>High</td>
<td>Consistent messaging and practices across the state</td>
</tr>
<tr>
<td>Implement a local plan to reduce the volume of soft plastic waste</td>
<td>High</td>
<td>Consistent systems both sides of the border</td>
</tr>
<tr>
<td>Strengthen the waste arrangements between Albury and Wodonga councils in line with the two cities one community vision and action plan, including lobbying both state governments to recognise and support the unique waste arrangements currently in place</td>
<td>High</td>
<td>Consistent and complimentary systems both sides of the border</td>
</tr>
<tr>
<td>Be an active participant in the planning and future visioning of waste programs for the region with AlburyCity</td>
<td>High</td>
<td>Consistent and complimentary systems both sides of the border</td>
</tr>
<tr>
<td>DELIVERABLE</td>
<td>PRIORITY</td>
<td>OUTCOMES</td>
</tr>
<tr>
<td>-------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>5.12 Seek changes to the Statewide Waste Resource Recovery Infrastructure Plan (SWRRIP) that recognises the unique arrangements between Albury and Wodonga councils under the Regional Deal</td>
<td>High</td>
<td>Provide a suited legislative mechanism to deal with this issue</td>
</tr>
<tr>
<td>5.13 Maximise opportunities through the Regional Deal to strengthen our long term sustainability in waste management</td>
<td>High</td>
<td>Better flow of ideas between agencies</td>
</tr>
<tr>
<td>5.14 Support all efforts by AlburyCity to meet the Halve Waste targets</td>
<td>High</td>
<td>Consistent and complementary systems both sides of the border</td>
</tr>
<tr>
<td>5.15 Investigate the possibility of using the Local Law to make it illegal to dispose of paint, batteries or building materials in domestic bins</td>
<td>Low</td>
<td>Reduced pollution Legal and appropriate disposal of all waste products</td>
</tr>
</tbody>
</table>

### 14.0 References and acknowledgements

EC Sustainable (2015) – *North East Victorian Region Domestic Kerbside Waste and Recycling Audit 2013*

DELWP (2017) – *Turning waste into energy, discussion paper*

NevRwaste (2008) – *2008 Garbage Bin Audit*


Waste Minimisation and Recycling Strategy 2017, *Boorondara City Council*
