Litter presents a threat to the natural environment, in particular, our waterways.
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The high level at which we consume and dispose of goods is adding to greenhouse gas emissions and climate change...
Moreland City Council is excited to introduce its Waste and Litter Strategy 2014 – 2017. This strategy will deliver on Council’s Plan for Moreland to have attractive and well maintained streetscapes, a community that is environmentally aware and focused on reducing consumption, and ultimately to ensure that Moreland’s natural environment is preserved and enhanced.

Council provides waste and street cleansing services in order to fulfil its obligation to ensure that public health is maintained. To do this Council spends millions of dollars annually managing waste and litter in Moreland. With a rapidly growing municipality the amount of waste generated each year in Moreland has been increasing, however recycling rates are plateauing. Higher levels of consumption and greater rates of disposal add to greenhouse gas emissions and increased energy and water use. Litter poses a significant threat to the natural environment, in particular our waterways. It negatively impacts on amenity and also represents wasted resources that could otherwise have been diverted away from landfill. In addition, escalating costs to dispose of waste at landfills in Victoria are leading to an increase in illegal rubbish dumping, particularly at charity stores and high density dwellings.

With all of these factors in mind, Council’s Waste and Street Cleansing Services must evolve to manage waste and litter more effectively. Moreland’s first Waste Management Strategy adopted in 1996 included a range of initiatives and programs aimed at improving the way Council managed the municipal waste stream. The next Waste and Litter Strategy 2007 - 2012 made a paradigm shift away from simply ‘waste management’ to focus on the more difficult task of ‘waste minimisation’.

This strategy for 2014-2017 aims to incorporate both approaches in order to effectively manage the growing waste to landfill stream. There are five key issues addressed in the strategy. The volume and impact of organic waste, in particular food, being sent to landfill is priority area, along with the addressing the issues related to residential waste and the growing number of housing developments in Moreland. There is the continuing work on improving options for resource recovery so, where possible, material is diverted from landfill. Lastly there is the on-going issue of addressing the volume and cost of illegally dumped rubbish and litter with a view to keeping Moreland’s streets, open spaces and waterways clean and tidy.

All the actions proposed throughout this strategy incorporate the three elements of education, infrastructure and enforcement as it is recognised that combining these elements together will better engender long term behaviour change.

This strategy sets out an ambitious and targeted plan to more effectively manage waste and litter in Moreland. It encourages collaboration across relevant Council areas and external partners, including our community, to implement the positive actions that will reduce waste generation, recover more resources and keep Moreland clean and tidy.
Of the 115 actions listed in the strategy 95 were completed with 20 in progress or behind target when the strategy review began.
Since Moreland adopted the Waste and Litter Strategy 2007 -2012 much has changed in the area of waste management and policy, particularly changes in government at both the state and federal levels.

The previous state government’s Towards Zero Waste Strategy has been replaced by Getting Full Value, setting new priorities and directions for waste management and resource recovery in Victoria. The landfill levy continued to increase annually, making the option of disposing of waste to landfill increasingly less economically viable.

At the national level a carbon pricing mechanism was introduced and then repealed. New product stewardship legislation was introduced which made it possible for industry to take responsibility for the end of life management of their products.

We have also seen economic change, population growth and changing patterns of work and leisure which have had an effect on consumption and contributed to the continuing growth in waste generation. Community expectations about how Council delivers waste services have changed as there is now a generation who have grown up with recycling services being more readily available. Progress has been made in the recycling industry with more materials than ever being collected for recycling, yet there is a need for further industry development to enable improved sorting and greater recovery.

Social change may be slow however it is necessary to achieve waste minimisation. Knowledge about how to successfully encourage behaviour change is constantly evolving. It is widely understood that the provision of information alone will not change behaviours for the majority of people. Information is important, however, to educate for long term changes to patterns of behaviour requires programs that are tailored to meet the needs of diverse audiences. Behaviour change programs are often more resource intensive than simply providing information yet they provide the best model to enable a shift towards new practices that engender long-term, sustainable benefits.

The previous strategy provided a range of actions to foster waste minimisation in the community. Education programs, new services and infrastructure are some of the approaches taken. Of the 115 actions listed in the strategy 95 were completed with 20 in progress or behind target when the strategy review began. Many of the actions completed from the previous strategy have now become standard operating or educational practice. Successes from the previous strategy include:

- Addition of new items in the kerbside recycling bin
- Installing recycling stations for hard to dispose of items at Council Citizen Service Centres
- Collecting televisions and computers through the annual hard waste collection
- Creating the Zero Waste for a Week Challenge annual behaviour change program

Other actions proposed in the strategy were not always related to the intended goals, many were too specific and inflexible to changing needs, target audiences and resources available. There was a lack of prioritisation for the 115 actions and its attempt to cover all waste streams equally meant no focus on where the biggest gains in terms of resource recovery or behaviour change could be made. This strategy takes on board these lessons and prioritises key action areas with an aim of maximising gains.
Moreland City Council works with the community to manage the municipal solid waste stream for a clean city where resources are recovered and waste reduced in an environmentally, socially and financially responsible manner.
VISION
3.
**MUNICIPAL FOOD WASTE**
- To reduce the percentage of food waste in the waste to landfill stream
- To increase the number of households composting

**RESIDENTIAL WASTE AND CHANGING HOUSING TYPES**
- To increase resource recovery at flats, units and apartments
- To increase opportunities for delivery of Council waste services at all housing types

**CLEANLINESS OF STREETS, OPEN SPACE AND WATERWAYS**
- To reduce the amount of litter in Moreland
- To work with the broader community to improve litter management practices

**RESOURCE RECOVERY**
- To increase the quantity and type of materials being diverted from landfill to recycling
- To increase the recovery rate for green waste and recycling

**ILLEGAL RUBBISH DUMPING**
- To reduce the incidence of illegal rubbish dumping in Moreland
- To work with the broader community to improve waste management knowledge, opportunities and practices
Council’s Street Cleansing is responsible for a range of activities including litter collection and disposal, street, footpath, laneway and shopping area cleaning...
A local government is the body charged with the responsibility to collect and dispose of residential waste and litter within its municipality. Along with this local government educates and promotes services available to residents and contributes significantly to the strategic planning of waste and litter management activity. This Waste and Litter Strategy 2014-2017 sets the strategic direction for waste and litter management in Moreland with the two units bearing the most responsibility in its delivery being Waste Services and Street Cleansing.

Council’s waste service delivery is underpinned by a number of key contracts for collection and disposal services. The suite of waste contracts is aligned to expire or be reviewed in 2017, except for green waste contracts which are in transition from SITA to Veolia Environmental Services (VES) from 2012-2014 as the new VES facility comes on line. The contract with VES will expire in 2028. Table 1 provides the current suite of Waste Services contracts.

<table>
<thead>
<tr>
<th>RESOURCE STREAM</th>
<th>CONTRACT</th>
<th>EXPIRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garbage, recycling and green waste collection (South of Bell St)</td>
<td>Citywide</td>
<td>2017</td>
</tr>
<tr>
<td>Garbage, recycling and green waste collection (North of Bell St)</td>
<td>In-house</td>
<td>2017</td>
</tr>
<tr>
<td>Garbage disposal</td>
<td>Boral</td>
<td>2015</td>
</tr>
<tr>
<td>Recycling receive</td>
<td>Polytrade</td>
<td>2017</td>
</tr>
<tr>
<td>Green waste receive (South of Bell St)</td>
<td>Veolia Environmental Services</td>
<td>2028</td>
</tr>
<tr>
<td>Green waste receive (North of Bell St)</td>
<td>SITA Environmental Services</td>
<td>2014</td>
</tr>
<tr>
<td>Hard waste collection</td>
<td>WM Waste Management Services</td>
<td>2017</td>
</tr>
<tr>
<td>Hard waste disposal</td>
<td>Boral/Sims Metals/others</td>
<td>2015</td>
</tr>
</tbody>
</table>

The contract tender process is an opportunity for Council to engage with the waste industry and assess technological advances, market changes and policy directions that will enable greater resource recovery opportunities.

Council’s Street Cleansing is responsible for a range of activities including litter collection and disposal, street, footpath, laneway and shopping area cleaning, dumped rubbish and graffiti removal and collection of rubbish from community events such as Clean Up Australia Day. The waste collected from Street Cleansing operations is disposed at the Hanson landfill site.
The Waste and Litter Strategy 2007-2012 provided strategic direction for Council’s waste and litter management priorities over five years. It also provided a framework for the organisation to shift its focus from that of just ‘waste management’ to include the more difficult task of ‘waste minimisation.’

The previous strategy proposed 115 actions to meet these objectives, many of these have since become business as usual such as the increased diversion of materials for recycling, including the recovery of TVs and computers through the hard waste collection, and the creation of the annual waste avoidance campaign the Zero Waste for a Week Challenge.

Despite a range of improvements occurring over the life of the previous strategy, the target of a 3% decrease in waste to landfill per annum was not achieved. Kerbside collection figures show that from 2006-07 to 2011-12 the amount of garbage collected by Council increased by 7.8% whilst recycling tonnages only increased by 1.4%. However, over the same period the estimated residential population increased by 8.5%.

Conversely per capita figures over the same timeframe show a decrease of 0.5% per person for garbage and a decrease of 6.5% per person for recycling. However the per capita measure is complicated by the fact that a growing number of residents who now live in higher density developments are utilising private waste collection services.

Between 2006 and 2011 a total of 3,025 dwellings with private waste collection services were granted planning approval in Moreland. This means that whilst the residents appear in the population figures the waste they generate may not appear in the tonnages collected by Council, therefore potentially skewing results indicating less waste per person is being generated.

“from 2006-07 to 2011-12 the amount of garbage collected by Council increased by 7.8% whilst recycling tonnages only increased by 1.4%.”
5.1 WASTE GENERATION

In 2011-12 Moreland collected 29,303 tonnes of garbage. This represents 199 kilograms of waste per person per year or 3.8 kilograms per person per week. This is slightly higher than the Victorian average for 2010-11 which was 197kg per person per year. Over the same period 16,690 tonnes of recycling and 9,766 tonnes of green waste were also collected. Since 2006 waste generation in Moreland has been steadily increasing. Despite a steady diversion of recyclables and an increase in the amount of green waste collected, the amount of garbage collected has not decreased but has increased by 2,121 tonnes between 2006 and 2012.

One of the main reasons that waste is on the rise is that there are more of us producing it. From 2006 to 2011 the population of Moreland grew by 8.5% and overall waste generation grew by 7.8% (this includes garbage, recycling and green waste). In Victoria there has been an increase of 7% in the total amount of waste generated, from roughly 8 million tonnes in 2000 to 12.1 million tonnes in 2011.\footnote{Department of Sustainability and Environment, 2012, Draft Victorian Waste and Resource Recovery Policy}

With increasing recovery of green waste and a steady recovery rate for recycling one would expect to see a decline in the amount of garbage collected annually. Yet this has not occurred with the garbage collection continuing at between around 30,000 tonnes per annum. Despite having access to additional bins for recycling and green waste, households are still managing to fill their garbage bins, predominantly with food waste.

Figure 1 shows that for the period of 2000 to 2006 garbage generation in Moreland remained steady with a slight decline in 2006-07. There was a steady increase in recycling generation in the same period with a spike in 2007-08. There has been a recent steady increase in the amount of green waste collected after the years of drought experienced last decade. It is expected that this will continue to grow as more households take up the optional green waste service, currently used by 65% of Moreland households.
Comparing garbage tonnages from the north to the south of the municipality it appears that garbage generation in the south is decreasing. Figure 2 shows that during 2002 and 2011 garbage generation in the north has trended upwards compared to a slight downward trend in the south.

There are a number of factors that could be contributing to the difference in garbage generation between the north and the south.

Household size and income impact on the amount of waste generated. The 2011 Census reveals the number of one, two, three and four bedroom dwellings is similar in the north and south of Moreland while for five bedroom dwellings there were more in the north (10.5%) compared to the south (6.7%).
Additionally, household income is generally higher in the north compared to the south with 16.5% of households reporting an annual income of higher than $78,000 compared to 9.5% in the south, and only 55% of households in the north reporting an annual income of below $41,599 compared to 66% in the South.\(^2\)

In the south there is a higher occurrence of developments using private waste collections and the waste from these is not counted in Council tonnages. There is a greater number of households composting in the south, reducing the volume of food waste in the garbage stream. Food waste makes up 48% of the average garbage bin in Moreland, so any diversion of this material is significant. Figure 3 from the Moreland City Council 2010 Composting Survey shows more southern Moreland residents compost compared to residents in the north.

![Figure 3: Percentage of Households in Moreland Composting by Suburb](image)

**FIGURE 3: PERCENTAGE OF HOUSEHOLDS IN MORELAND COMPOSTING BY SUBURB**

Figure 4 shows that whilst garbage generation trends differently in the north compared to south, recycling generation is tracking relatively evenly. This suggests that there are no discernable differences in recycling behaviour across the municipality. Council’s in-house waste team service the area north of Bell Street and according to the 2011 Australian Bureau of Statistics (ABS) has 31,682 dwellings. The area south of Bell Street is serviced by an external contractor, and in 2011 contained 31,359 dwellings.

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\(^2\) Australian Bureau of Statistics 2011 Census
Moreland’s waste generation rates overall reflect a similar trend to state wide waste generation, which have also increased over the past decade. Figure 5 shows a trend similar to Moreland in state wide annual recycling and garbage tonnages from 2000-01 to 2009-10.3

In addition to population growth another significant impact on waste generation is the increasingly shorter lifespan of products and the ongoing shift towards disposal and replacement of items rather than repair or reuse. In the past many household items were purchased for life, now some are discarded as soon as an updated model is released and others appear to have built-in obsolescence. Goods are entering the waste stream at a greater rate than ever before.

Increasing population growth and consumerism are expected to drive the amount of waste collected across Victoria up by 4% per year and towards 17 million tonnes by 2022.4

3  Sustainability Victoria, 2009-10 Victorian Local Government Annual Survey
4  Department of Sustainability and Environment, 2012, Draft Victorian Waste and Resource Recovery Policy
5.2 CONSUMPTION AND WASTE AVOIDANCE

The more waste we generate, the greater the risks to our health and the environment. These include groundwater and land contamination, greenhouse gas emissions, odour, noise, dust and litter. Waste generation also represents a waste of the resources used to produce those products including water, oil and other finite natural resources.

Waste avoidance involves implementing changes in order to reduce the amount of waste being produced. To be effective it involves changes to the way goods are manufactured – making goods that are durable and reusable, not single use or disposable, goods that can be disassembled and reused or recycled at the end of their useful life. It also involves changes to the way goods are packaged and transported – reusable, returnable or recyclable packaging, and transporting goods across shorter distances so less packaging is required.

Most importantly waste avoidance involves a fundamental shift in public behaviour to reduce overall consumption levels through changes to the way we purchase and consume goods.

The benefits of waste avoidance are:
- Maximising the use of all resources;
- Reducing the costs of collecting, transporting and processing waste; and
- Reducing the environmental impacts of waste including landfill space, energy use, greenhouse gas emissions and water use.

The avoidance of sending any waste to landfill would require the elimination of problematic materials and a new approach to product design that banishes disposability or planned obsolescence. Local governments generally have responsibility for managing municipal waste, yet very little control over the products and waste that flow into their communities. Therefore in order for waste avoidance to become a reality it requires the involvement of all levels of government, the manufacturing and packaging industries, the waste management sector as well as the community.
5.2.1 Resource sharing, waste salvage, reuse and redistribution

A considerable amount of waste in the municipal waste stream has the potential to be salvaged, reused or redistributed. There are currently a wide range of community based programs that aim to do this. Producers swaps, food banks and open tables all aim to share and redistribute surplus food that may otherwise end up going to waste. These programs provide a local neighbourhood based alternative to supermarkets for fresh produce and food staples. Other programs such as The Phoenix Fridge Program and CERES Bike Shed will salvage, refurbish and resell unwanted second hand goods and bikes. These programs keep usable second hand goods circulating rather than going to landfill and also reduce the need to buy new products.

There are a wide range of web based communities that promote the gifting of unwanted items or sharing/borrowing goods as an alternative to purchasing new products. Examples of these communities include Freecycle, Streetbank, Open Shed and the Swap Exchange.

5.2.2 Packaging

One of the most obvious by-products of consumption in an increasingly globalised marketplace is packaging. Used to market and promote products, prevent spoilage and damage to goods, increase shelf life and safeguard consumer health, packaging is often hard to avoid when purchasing groceries.

The production of packaging uses energy and finite resources, for example water and oil. The energy used to produce packaging generally accounts for 10% of the supply chains energy; however this can vary significantly depending on the food type, as shown in Table 2.

### TABLE 2: ENERGY REQUIREMENTS OF CONSUMER PRODUCTS

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FOOD SUPPLY</th>
<th>PACKAGING (primary and transport)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>52%</td>
<td>28%</td>
</tr>
<tr>
<td>Bread</td>
<td>46%</td>
<td>5%</td>
</tr>
<tr>
<td>Cheese</td>
<td>79%</td>
<td>5%</td>
</tr>
<tr>
<td>Fruit (fresh)</td>
<td>56%</td>
<td>23%</td>
</tr>
<tr>
<td>Fruit (produce)</td>
<td>51%</td>
<td>20%</td>
</tr>
<tr>
<td>Soft drink</td>
<td>26%</td>
<td>46%</td>
</tr>
</tbody>
</table>

Whilst the Australian Packaging Covenant (APC) stated in its 2014 Annual report that up to 65% of packaging is recycled, there is still 35% going to landfill or ending up as litter. Packaging litter accounts for 41% of the Victorian litter stream. Litter has significant impacts on the natural environment, particularly in the oceans. At least 77 species of marine wildlife found in Australian waters have been impacted by entanglement or ingestion of plastic debris during the last 35 years. Potential solutions for the packaging litter problem is to increase the number of litter and recycling bins, introduce reverse vending machines or legislate for container deposits.

Whilst most packaging has the potential to be recycled, there are newer types of emerging, including composite packaging (two or more layers of bonded materials) which cannot be easily separated by the consumer so they can recycle them. The metallised plastic used for chip packets is an example of this type of packaging. The APC is a voluntary agreement between government and industry which aims to

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5 Incpen, Table for One – the energy cost to feed one person, 2009
6 Australian Packaging Covenant, Annual Report, 2013
7 Sustainability Victoria, Victorian Litter Report, 2011
8 Dept. of the Environment, Water, Heritage and Arts, Impacts of plastic debris on Australian marine wildlife, 2009
encourage more sustainable packaging design, increase recycling rates and reduce packaging litter. Organisations sign the Covenant to signal their commitment with 925 current signatories. Initiatives undertaken so far include reducing the weight or thickness of packaging (light-weighting), switching from heavy to light material (for example glass to plastic), using recycled content materials and re-designing packaging to eliminate components.

5.2.3 Zero waste for a week challenge – a waste avoidance campaign

In response to the challenge of changing behaviour to reduce consumption and avoid waste, Moreland developed a waste avoidance program, called Zero Waste for a Week Challenge. Residents participated by foregoing the use of their garbage bin for one week and instead learning purchasing and consumption habits that generate less waste. The program ran in 2010, 2012 and 2013 with a total of 323 households participating and evaluations show a 90% success rate for reducing waste, and continuing with purchasing and consumption changes after the challenge.

5.3 THE FUTURE OF WASTE

Council has introduced a range of interventions that attempt to divert waste from landfill. These include:

- Introducing a green waste service
- Shifting from crates to mobile garbage bins for recycling
- Introducing smaller 80 litre garbage bins
- Providing compost bins to residents
- Increasing the opportunities to recycle items in the kerbside bin
- Creating drop-off points
- Expanding recovery options from hard waste collections
- Providing ongoing education and engagement opportunities for the community

These interventions have succeeded at diverting significant volumes of recyclables and green organic waste from landfill.

Council provides its services to collect and dispose of waste; however there is limited potential to impact on diversion rates further without significant technological advances and infrastructure to sort, recover and process waste. The partnerships Council creates with industry and the state government are important in providing the opportunities for investment in new technology systems. Other countries and states have invested in waste to energy plants, large scale food waste composting facilities and front end sorting at landfill to increase the recovery of materials.

Large scale interventions will be necessary to make the next step-change towards a zero waste future and will require political and economic will of government and industry. An example of this is the successful procurement of the Veolia Environmental Services facility to process green waste from 11 local councils across the northern region of metropolitan Melbourne.

“90% success rate for reducing waste, and continuing with purchasing and consumption changes after the challenge.”
5.4 COMPOSITION OF THE GARBAGE BIN

In 2012 a kerbside garbage bin audit was undertaken to determine the composition of the average Moreland garbage bin and identify any changes since the 2006 audit. Results (by weight) from the 2012 audit are presented in Figure 6 with comparative results shown in Figure 7.

In 2012 food waste made up almost half the contents of the average garbage bin at 48% by weight. This is 7% higher than the state average of 41%. At least 19% of the materials found in the garbage bin could have been recovered through existing kerbside collection services (recyclables 10%, paper/cardboard 4%, garden waste 5%). Furthermore 65% of the contents of the garbage bin were biodegradable, meaning they produce methane as they decompose in landfill.

![Figure 6: Composition by weight of average Moreland garbage bin, 2012](image)

The audit highlights a slight decrease in the average amount of green waste disposed of in the garbage bin, which is likely due to an increase in the number of green waste bins collected since 2006. Around 65% of households are now using the green waste bin collection service.

![Figure 7: Comparison of garbage bin contents by weight from 2006 to 2012](image)
There was an unexpected increase in the average amount of recyclables being disposed of in the garbage bin, which could be due to the changes in the range of materials now acceptable in the recycling bin and the lack of residential knowledge, including reliance on recycling information that is out of date. Given the audit was a random sample and did not include all areas of Moreland, it is not possible to extrapolate comparisons, particularly between suburbs. Further research is required to explore geographical differences in waste generation across Moreland.

5.4.1 Food waste

Australian households discard up to 20% of the food they purchase costing an estimated $5.2 billion nationally ($1036 per household per year) on wasted food.9

Approximately 14,065 tonnes of food waste are sent to landfill each year in Moreland with the annual cost to Council approximately $1.4 million. The majority of municipal food waste comes from residential properties however Council also collects from over 3,600 businesses as part of its kerbside collections and there are 170 businesses using Council’s Commercial Plus services, so some food waste will be generated there.

There are currently 16,000 businesses operating in Moreland, of which 1,200 are registered food businesses which would generate a greater volume of food waste than a residential property. The market provides some solutions for commercial food waste recovery with new technology and industry expansion opening up further opportunities.

The National Greenhouse Accounts Factors July 2013 provides formulas to determine the amount of greenhouse gas emissions generated by different waste materials. According to this measurement tool one tonne of food waste being sent to landfill equates to 1.6 tonnes of carbon dioxide equivalent emissions (CO2-e) being produced.10 Therefore, if Moreland diverted all food waste from landfill it would result in a CO2-e saving of 22,505 tonnes annually. This amount is greater than Council’s entire annual corporate emissions produced from all operations across the municipality (21,254 tonnes).

In the near future there may be an opportunity to divert food waste away from landfill through a kerbside food waste collection service. The food waste could be collected via Council’s current green waste bin service. Previously this option has not been available to Council as Melbourne does not have any composting facility with the capacity to accept large volumes of food waste. The new VES in-vessel composting facility that commenced operation in late 2013 is licensed by the Victorian Environmental Protection Authority (EPA) to accept a mix of food waste and green waste. Moreland, along with ten other local councils in our region, entered into the contract to use the new facility under the conditions that acceptance of food waste will be gradually phased in. The capacity of the new facility requires negotiation and consultation with the user group of councils, the contract superintendent, Metropolitan Waste and Resource Recovery Group (MWRRG) and the facility operator VES. The EPA will closely monitor the facility and there are concerns the facility may reach capacity within 6 to 9 years.

A kerbside food waste collection service would enable diversion of significant amounts of food waste from the landfill stream, reducing Council’s costs imposed through the landfill levy and any potential carbon pricing mechanism. It will require significant funding and service changes to make a food waste kerbside collection service available to all residents, and take several years to establish the infrastructure and contracts to deliver the service. However, it is the best option for achieving any further significant reduction in waste to landfill tonnages.

9 NSW EPA Love Food Hate Waste (www.lovefoodhatewaste.nsw.gov.au)
10 Commonwealth of Australia, National Greenhouse Accounts Factors, July 2013
5.5 RESOURCE RECOVERY IN MORELAND

The 2012 garbage bin audit found recyclables made up 14% of the average garbage bin, increasing almost 4% since 2006’s audit. It equates to 4,020 tonnes of recycling lost to landfill every year and represents $160,800 in lost revenue. The average contamination rate for recycling in Moreland is 15%, which is higher in comparison to the 2011 Victorian average of 9.3% and 8.2% for the metropolitan Melbourne region.

5.5.1 Recycling behaviour

Council’s 2011 research into residents recycling behaviour and attitudes found that whilst Moreland residents believe they have a good understanding of recycling, their behaviour indicates something different. Residents appear to have knowledge gaps when it comes to the items not recyclable, with 30% - 50% reporting they place non-recyclable items in the recycling bin.

Around one third of residents will generally place an item in the garbage if they are unsure it can be recycled. If a recyclable item is dirty/smelly they will generally place it in the garbage bin rather than clean it. One third of residents’ dispose of bathroom recyclables, like toilet paper rolls, in the garbage.

Culturally and Linguistically Diverse (CALD) households reported a lower understanding of the items that can be recycled. They were also reported placing bagged recyclables in the recycling bin and would recycle if it did not require additional effort.

Males were also more likely to only recycle if it does not require additional effort and reported more often they do not find recycling convenient.

Residents reported they were more likely to refer to Council’s waste and recycling calendar than brochures or booklets with almost half saying they rely on Council for recycling information. For those looking elsewhere it tended to generally be younger people using the internet and older people using the local paper.

In addition, research conducted for the Get It Right on Bin Night program found that CALD households are more likely to rely on word of mouth, community forums, ethnic radio, written word or symbols for information with the preferred forums being in-language information sessions, existing community and cultural groups and delivery by local community leaders.

Almost all Moreland respondents (94%) felt that recycling had a positive effect on the environment. What motivates people to continue to recycle, or to recycle more, is understanding the positive environmental benefits, not Council incentives or feeling Council appreciates their recycling efforts.

The exception were residents who reported a lower understanding of what items to recycle (including CALD households) or had an overflowing bin on collection day. These residents felt that incentives from Council to do the right thing would encourage them ‘a lot’ to continue to recycle or to recycle more.
5.5.2 Education and engagement programs in Moreland

Moreland City Council offers a range of waste and recycling education and engagement programs to the community to improve recycling and recovery practices. These include the following:

- School incursions for kindergartens, primary and secondary schools
- Materials Recovery Facility (recycling centre) tours
- Zero waste for a week challenge
- Community workshops and information displays at local events
- Online resources and materials through Council’s website
- Printed material including waste collection information
- Responses to waste/recycling queries from public via email and phone

Council has an annual bin inspection program which aims to reduce contamination in household recycling bins by providing direct feedback and education to residents on their recycling bin. The program involves visually assessing bins on the morning they are put out for collection. Where a recycling bin has contamination identified it is either given a warning or rejection, depending on the level of contamination. In the weeks following a further inspection in the same area is carried out to determine if contamination levels have changed. In the first year of the program 90% of the bins inspected showed no visible contamination with 9% receiving a warning and 1% a rejection. The main contaminants found during inspections were bagged recycling (57%) and rubbish (20%). The further inspection found there to be an 11% reduction in warnings and a 52% reduction in rejections, providing a good justification for the education program to continue.

5.5.5 Resource recovery programs in Moreland

It was evident from the 2012 garbage bin audit there are a number of waste items being disposed of that could be recovered through systems outside Council’s kerbside recycling collections. Such items include batteries, mobile phones, paint, fuels, household chemicals and electrical waste. This information is important for Council in forming partnerships with state government and industry to provide further recycling services, in particular safe disposal for more hazardous products.

There is a range of Council managed resource recovery programs and recycling services for Moreland residents, as shown Table 3. Where an item cannot be recycled within the municipality, Council promotes recycling services at nearby locations such as Moonee Valley and Darebin in its print and online waste information resources.

“90% of the bins inspected showed no visible contamination with 9% receiving a warning and 1% a rejection.”
In 2012 the introduction of the Product Stewardship Act 2011 enabled the previous Federal Government to launch the National Television and Computer Recycling Scheme. The scheme had a target to recycle 30% of all televisions and computers manufactured or sold in Australia in the first year, aiming for up to 80% by 2022. It aimed to shift the responsibility for recycling of these products to the industry producing them and over time it is hoped the scheme will replace current Council provided services. The opportunity for Councils to remove such items from the waste stream is important given electronic waste is one of Australia’s fastest growing waste streams. Moreland has utilised the National Television and Computer Recycling Scheme in a variety of ways, through special collection days and by separating such items placed out in hard waste kerbside collections. There are two permanent drop-off locations for televisions and computer items close to Moreland, at both Moonee Valley’s and Banyule’s council operated transfer stations. Residents can also use the drop-off services offered by some retail stores. There is currently a review of the National Television and Computer Recycling Scheme and if deemed successful other items listed on the National Waste Policy implementation plan for product stewardship action may follow including packaging, tyres, batteries and mercury containing light globes.

11 Clean Up Australia: E-Waste Fact Sheet
5.6 HOUSING CHANGES IN MORELAND

Housing in Moreland is changing, from low density houses to medium/high density housing like apartments, townhouses and flats. Census data reveals that in 2006 medium to high density housing (flats, units, semi detached houses and townhouses) made up 32.1% of the housing stock in Moreland. This increased in the 2011 Census to 34.6%.

Medium/ high density developments impact on the delivery of street cleansing and waste services. Increased street car parking can limit access to bins for collection and to the kerb and channel for street sweepers. Cars parked in front of bins increase the risk of injury for waste vehicle drivers who must exit their vehicles to move the bins. The limited access for street sweepers makes it difficult to maintain regular sweep activity across the municipality.

Council’s current waste service was designed for older style detached and semi-detached housing, not for medium/high density developments. Issues at multi-unit dwellings (MUDs) for Waste Services include inadequate storage space and street frontage for bins, amenity impacts of bin storage areas, cluttered streets on collection days, cars parked in front of bins and working out collection points that waste vehicles can service.

MUDs are, on average, generating less waste than houses, yet they also have lower recycling rates. This can often be attributed to recycling systems either not being available or the established waste system disadvantages recycling, for example garbage disposal chutes on each floor and recycling located in the basement or garage.

5.6.2 Waste Management Plans

Developers of medium /high density dwellings are generally required to provide a Waste Management Plan (WMP) outlining how waste management will be undertaken following occupation. Smaller developments generally do not need to provide a WMP; however Council does not currently have guidelines for WMPs. There are permit conditions that outline the main points to be covered in a WMP, if its requested. A WMP is requested to provide Council with the details for how waste services will operate in the building and Council can enforce these requirements as they form a condition of permit provided.

5.6.3 Private waste collection services

In some cases where Council may not be able to provide waste services suitable to a proposed development, there is the option to acquire private waste collection services. As the trend towards higher density housing continues there is an increase in the use of private waste services, which in turn impact on Council’s ability to influence how waste services are delivered across the municipality. The impacts due to a loss in control for waste services in Moreland include:

- Recycling facilities provided not adequately servicing the needs of tenants e.g. located in inconvenient areas such as the car park or bin storage area;
- Recycling facilities can be removed by Owners’ Corporation following occupation e.g. due to cost or inconvenience of maintenance;
Building may have different waste infrastructure and recycling rules to Council however residents will still be receiving waste information from Council;

Collection days may be different to Council resulting in more trucks on roads, more noise for neighbouring properties, more complaints for Council;

Non-uniformity in bins (e.g. body and lid colours) can lead to confusion.

Further to the complications caused by non-uniform infrastructure and different collection days and systems, the waste generation data for the municipality will also be distorted as only the waste collected by Council waste services is recorded. This also equates to lost revenue from the recycling stream and data, which is essential for strategic, policy and infrastructure planning.

An example in Table 4 outlines the amount of recycling that is potentially lost when ten new MUD developments, totalling 937 residential dwellings, in Moreland were granted planning permission to use private waste services to collect their waste and recycling.

### Table 4: Potentially Recycle Lose From Private Waste Services in MUD Developments

<table>
<thead>
<tr>
<th>Generation Category</th>
<th>Weight/Household/Week (average)</th>
<th>Total for 10 MUD Developments (average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste</td>
<td>10 kg</td>
<td>491 tonnes per year</td>
</tr>
<tr>
<td>Recycling</td>
<td>5.7 kg</td>
<td>280 tonnes per year</td>
</tr>
<tr>
<td>Total</td>
<td>15.7 kg</td>
<td>771 tonnes per year</td>
</tr>
</tbody>
</table>

5.6.4 Household food waste management

Food waste generation is another issue as medium/high density dwellings generally having no provision for managing food waste on-site, with no open space to house compost bins or worm farms. Increasingly residents living in MUDs, who do not want to send their food waste to landfill, expect Council to provide solutions. In the long term residents may be able to access any combined green/food waste service, where space exists to house additional bins on the property. In the interim on-site facilities, such as a food dehydrator or in-ground compost bins, would increase opportunities for residents to compost and ensures the management of such material remained the responsibility of the tenants/building manager. There is also community composting hubs which could go some way to providing further solutions.

As the trend towards higher density housing continues there is an increase in the use of private waste services...
5.7 ILLEGAL RUBBISH DUMPING

Litter and illegally dumped rubbish are highly visible forms of environmental pollution and costly to remove. Council’s Street Cleansing Unit collects around 1,500 tonnes of dumped rubbish every year and in the last five years costs to dispose of illegally dumped rubbish has doubled, from $69,000 in 2008-09 to $153,000 in 2012-13. Reports from the community about illegally dumped rubbish have increased by 191% since 2007 from 1,400 to 4,069 in 2013.

5.7.1 Most commonly dumped items

A new reporting tool means Council can now categorise items of dumped rubbish when reported. In Figure 9 and Table 4 there is a breakdown in the number and type of dumped items reported from June 2012 to May 2013.

"...costs to dispose of illegally dumped rubbish has doubled, from $69,000 in 2008-09 to $153,000 in 2012-13."

**FIGURE 9: DUMPED RUBBISH REPORTS, JUNE 2012 – MAY 2013**

The two most commonly reported dumped items are furniture and household rubbish, these categories combined account for almost half of all reports. Council provides services for the collection of all reported dumped rubbish types with the exception of ‘building site rubbish’ and those classified as ‘Other’.

**Note:** information only includes items reported by residents, not items collected from known ‘hot spots’ on Street Cleansing regular maintenance rounds.
5.7.2 Moreland’s ‘hot spots’

In Figure 10 is an illustration showing that the majority of illegally dumped rubbish reports for the area of Moreland is south of Bell Street.

![Figure 10: Illegally Dumped Rubbish Reports by Suburb from June 2012 – May 2013](image)

The information in Figure 10 means there is likely to be differing motivations behind dumping of rubbish from one suburb, or area, to another. Therefore the response from Council will need to vary accordingly.

The higher incidence of dumping in the south may be a result of the higher percentage of rental properties and higher turn-over of residents (and goods). This is indicated in Figure 11 which shows a higher percentage of rental properties in the southern end of the municipality. Housing in the south is generally higher density, with limited off-street parking and less storage space for hard waste. Residents in the south are also more likely to have smaller, fewer cars or no car at all.

![Figure 11: Housing Tenure by Moreland Statistical Local Area - 2011](image)
5.7.3 Reasons for illegal dumping

A residential survey completed for the review of the previous Waste and Litter Strategy found 8% of respondents had illegally dumped rubbish with items including couches, mattresses, televisions, tyres, green waste and computers. The reasons given for the dumping included:

- Limited hard rubbish collection service
- Lack of transportation
- Cost to dispose of waste at landfill
- Thinking someone else would make use of it

A state wide survey identified further motivations for illegal dumping, including:

- Insufficient service capacity or frequency
- Lack of storage space for bulky waste, particularly at medium to high density housing
- Lack of enforcement and a perception that they won’t get caught
- Increasing consumption and a higher turnover of goods
- Transient population

Another reason relates to the strict standards imposed by charities on the items they accept for resale, in particular furniture. This can disproportionately affect student and low income households who may be trying to donate goods that were already second hand when they purchased them.

5.7.4 Bin size incentives

The ‘Less Waste Less Cost’ program introduced in 2007 provided an economic incentive for residents to downsize from a 120 or 240 litre to an 80 litre garbage bin with 78% of residents having made the shift to the smaller option. The potential impacts of bin downsizing when households aren’t implementing other waste minimisation practices include dumping household waste and the misuse of street and park litter bins, or neighbours bins, for any excess waste. The high percentage of 80 litre bins in use could explain why household rubbish is one of the most dumped items reported in Moreland.

5.7.5 MUDs and rental properties

It is common for dumping to occur in front of MUDs and rental properties. Tenancies expire all year round, and most renters will not have the option of accessing the annual hard waste collection at the time they move out. Many participate in what is known as ‘informal recycling’ and will leave their goods on the nature strip in the belief that ‘someone else will make use of it’. On occasion this does occur and when goods aren’t picked up or get damaged, it is frequently assumed this is Council’s responsibility.

In these instances instead of Council collecting the goods, a notice could be issued to the renter to remove the goods. The tenant is responsible for any littering or dumping that can be traced back to them. The property owner or manager is obliged under Section 45E of the Environment Protection Act to supply the contact details of the tenant to Council. If the dumped items cannot be traced back to the tenant, then the responsibility to remove the goods becomes that of the property manager or owner. Other Councils experience success in this area by working with real estate agents to identify and track down tenants who leave goods behind. For Council to implement this type of approach, options for providing additional resources would need to be explored.
5.7.6 Donating versus illegal dumping

Across the state and in Moreland dumping at charity stores, outside opening hours, continues to be an issue. Goods get picked over by others and exposed to the weather, leaving previously good items unfit for resale. Additionally some people knowingly dump rubbish or unusable goods on charities. Charities spend millions of dollars each year cleaning up dumped rubbish. Often the burden is shifted onto Councils to dispose of dumped items when left on the footpath.

In Moreland charity stores generally consider all items ‘donated’ outside of store opening hours will not be fit for resale and consider all items as dumped rubbish. In Figures 12 and 13 there are examples of dumping that occurs outside the Brotherhood of St Laurence charity store in Brunswick. The site, along with three more charity store locations, is attended several times a week by Council’s Street Cleansing Unit to remove dumped rubbish from the footpath.

**FIGURE 12:** DUMPED RUBBISH OUTSIDE A BRUNSWICK CHARITY STORE

**FIGURE 13:** DUMPED RUBBISH ON FOOTPATH OUTSIDE A CHARITY STORE IN BRUNSWICK
5.7.7 Deterring charity store & bin dumping

Due to continual dumping at charity donation bins, Council stopped issuing permits for charity bins on Council land. This does not stop charity donation bins from existing on private land.

The Victorian State Government recently tested a number of interventions to deter dumpers at 44 charity stores across the state. These included signage, sensor lighting, CCTV cameras and perimeter fencing, where appropriate. The trial found the only deterrent leading to a reduction in dumping was perimeter fencing. In many cases it only moved the problem to public land where it is Council’s responsibility to pick up the dumped items. Generally the trial found that once someone has committed to ‘donating’ their goods they will not be deterred from this course of action except by a physical barrier.

These findings highlight the importance of education and enforcement to deal with the on-going issue outside charity stores and the Victorian Litter Action Alliance (VLAA) has developed a toolkit to specifically prevent this illegal dumping.

5.7.8 Enforcing the laws

As well as escalating waste management and resource costs, illegal dumping creates other impacts. Waste left on a footpath or thoroughfare causes an obstruction, potentially leading to legal action should someone trip and fall. There is the question of liability, particularly when items are dumped in front of charity stores and footpath obstruction is also a breach of the Disability Discrimination Act.

Authorised officers use legislation under Section 45E of the Environment Protection Act 1970 to enforce ‘deposit of litter’ offences. This includes authority to request information via a Section 45ZI form from suspected litterers to outline how, when and where the litter left their possession. Unlike other crimes in the case of littering the ‘onus is reversed’ and offenders must prove they didn’t do it. If no reply is received a notice to remove litter can be issued, if this is not complied with a fine of $1,700 can be issued.

A number of local councils have employed dedicated Litter Prevention Officers (LPOs) to focus on enforcing litter and dumped rubbish infringements. Hume, Greater Dandenong and Whittlesea have LPO’s, while Darebin recently increased to two LPO’s plus administrative support. The use of CCTV footage by LPO’s has led to securing up to $100,000 of infringement notices in a year.

5.7.9 A response model

Council has the potential to respond in a number of ways to the illegal dumping, through both collection and enforcement activities, as a means to modify dumping behaviour. Table 5 outlines current and alternative options along with outlining the desired response model. A fast collection response with little or no enforcement allows offenders to believe collection of illegal dumped items is a free year round waste collection service provided by Council. A slow collection with hard enforcement sends a message that Council will investigate all incidents of illegal dumping to identify the offender and make them responsible for removing the items.

| TABLE 5: ILLEGAL DUMPING ENFORCEMENT AND COLLECTION RESPONSE MODELS |
|----------------|----------------|----------------|
| RESPONSE       | ENFORCEMENT    | COLLECTION    |
| Current response | Soft           | Quick         |
| Alternative option 1 | Soft           | Slow         |
| Alternative option 2 | Quick          | Quick         |
| Desired response     | Quick           | Slow         |
5.8 LITTERING

Litter is a sign of a wasteful society representing a financial loss in materials that could have been recycled or reused. Litter has environmental and social impacts, is unsightly and internationally recognised as having links to other anti-social behaviours such as graffiti and property destruction.

Littering behaviour studies have found that people generally litter where they already see litter, leading to it accumulating. The presence of litter makes people feel unsafe in their communities and a perception an area is not being cared for and maintained.

Surveys consistently show people feel littering is an important environmental issue and thousands participate every year in Clean Up Australia Day. Despite this people still litter and the community expects governments to take a lead role in preventing litter and cleaning it up where it occurs.

Litter, particularly plastic, persists in the environment for many years causing serious environmental impacts such as the death of an estimated 100,000 marine creatures each year through entanglement or ingestion.

High rainfall and flooding events can wash a huge volume of litter into waterways such as the Merri Creek via the stormwater system, leaving a trail of plastic debris along the creek corridor. Changes to weather patterns resulting from climate change will mean such events occur more frequently. Council needs a response mechanism to deal with these events and improvements to infrastructure to trap litter before it enters the stormwater system.

5.8.1 Litter statistics

The most recent Victorian Litter Report indicates that cigarette butt litter is still the most significant litter item making up 54% of the litter stream by count, as can be seen in Figure 14. Packaging litter accounts for 41% of the Victorian litter stream with beverage containers alone making up 29% of the litter stream by count. The most littered sites were at transport hubs and train stations. These sites have been the most littered site types in every Victorian Litter Report since 2003.13

![VICTORIAN LITTER STREAM BY COUNT, 2011](image)

FIGURE 14: VICTORIAN LITTER STREAM BY COUNT, 2011

Whilst the majority of packaging is recycled, at least 35% ends up in landfill or as litter.14 The National Litter Index 2012-13 indicates that whilst there has been a decrease in the amount of cigarette butt litter by count, the number of packaging items per square km nationally remained unchanged from last year (19 out of 56 items15.)

5.8.2 Litter from commercial areas

In 2010 Council introduced new Footpath Declared Area Guidelines in order to comply with the Federal Government’s Disability Discrimination Act 1992. Under the guidelines traders using the footpath for business purposes must now provide Council with a Waste Management Plan outlining how the business will control resulting rubbish.

In addition the footpath trading guidelines, Council can enforce a requirement of the General Local Law for employers to take reasonable steps to ensure that employees and visitors to their premises do not deposit cigarette butt litter on a public place in the vicinity of the commercial and industrial premises. This clause has already been used to good effect in some commercial areas across Moreland, with potential for wider application.

5.8.3 Potential for a Container Deposit Scheme

A Container Deposit Scheme (CDS) is a system that places responsibility for the end-of-life management of beverage containers with the beverage industry. A deposit is placed on beverage containers which consumers can redeem by returning empty bottles to a collection point. The Council of Australian Government (COAG) continues to move slowly on the issue of whether to introduce a national CDS and in April 2014 it decided to hold off the public release of a Packaging Impacts Decision Regulatory Impact Statement until it could be assessed further.

Proponents of a CDS point to South Australia as an example where recovery rates for beverage containers are high compared to other states and littering rates for beverage containers are low.

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13 Sustainability Victoria, Victorian Litter Report, 2011
14 Australia Packaging Covenant, Annual Report, 2013
15 Keep Australia Beautiful, National Litter Index, 2012-13
In 2013 the national recycling rate for all post consumer packaging was 64.2%. However the recycling rate for plastics was only 42.9% and 45.3% for glass (these figures include materials other than beverage containers). This compares to a recycling rate of 74% for plastics and 84% for glass in South Australia.

If a CDS were introduced it would be likely to have two main impacts on Moreland. The first would be a reduction in the amount of beverage containers littered and disposed of in street litter bins, both of which would reduce litter clean up and disposal costs. A CDS would also lead to a reduction in revenue from the recycling stream if householders were to collect beverage containers in order to redeem deposits. A report commissioned by the National Packaging Covenant Industry Association provides estimates for the percentage of each material stream in the current kerbside recycling mix that would be eligible for inclusion in a CDS.

5.8.4 Dog Excrement

One type of litter not included in state and national litter counts is dog excrement. It is estimated that the 900,000 dogs in Victoria produce 90 tonnes of dog excrement each day. For Moreland, with 11,082 dogs registered, that equals around 1.1 tonnes of dog excrement per day. When left on nature strips and in other public places, dog excrement is unsightly and unpleasant and can compromise the health and enjoyment of people using these spaces. Droppings contain harmful bacteria and nutrients which can cause pollution when entering waterways and the ocean via the stormwater system. Additionally contact with infected dog excrement can lead to the infection Toxocara canis.

The current approach to managing dog excrement is outlined in *The Moreland City Council General Local Law* as well as the *Domestic Animal Management Plan 2013 – 2017*. Both place responsibility to clean up after dogs with the owner who must ‘carry and produce upon demand by an Authorised Officer, the means of picking up and removing any faeces that may be deposited by the dog’; and ‘remove and hygienically dispose of faeces deposited on or in a public place by the dog’.

5.8.5 Biodegradable Litter

Leaf litter is another litter stream that can adversely impact on the community and the environment if not managed correctly. Green waste entering the stormwater system adds nutrients and dissolved organic matter that can have negative impacts on marine environments. Leaf litter can create a slip hazard, be unsightly and increase the risk of drain blockages and localised flooding. Leaf litter makes up the majority of litter collected by street sweepers in residential areas, as opposed to commercial areas which generate a higher volume of non-biodegradable litter.

Council’s Leafy Street Program addresses leaf litter during the periods of year, Summer and Autumn, when quantities are higher. An additional street sweeper assists on approximately 40 streets in the municipality that have been identified as experiencing higher leaf litter falls.
The National Waste Policy aims to provide a framework to produce less waste for disposal and manage waste as a resource to deliver economic, environmental and social benefits.
6.1 FEDERAL GOVERNMENT

6.1.1 National Waste Policy: Less Waste, More Resources

The Federal Government’s National Waste Policy: Less Waste, More Resources was agreed by all Australian environment ministers in November 2009 and sets Australia’s waste management and resource recovery direction until 2020. The National Waste Policy aims to provide a framework to produce less waste for disposal and manage waste as a resource to deliver economic, environmental and social benefits.

The aims of the National Waste Policy are to:

1. Avoid the generation of waste, reduce the amount of waste (including hazardous waste) for disposal.
2. Manage waste as a resource.
3. Ensure that waste treatment, disposal, recovery and re-use is undertaken in a safe, scientific and environmentally sound manner.
4. Contribute to the reduction in greenhouse gas emissions, energy conservation and production, water efficiency and the productivity of the land.

The National Waste Policy sets directions in six key areas and identifies sixteen priority strategies that would benefit from a national or coordinated approach. These strategies build on current directions and complement existing activity. They are also intended to 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 reuse resources.
6. **Providing evidence**: Access by decision makers to meaningful, accurate and current waste and resource recovery data and information to measure progress and educate and inform the behaviour and the choices of the community.
**6.1.2 Emissions reduction**

In 2010, the Commonwealth Government formally agreed to a target to reduce Australian greenhouse gas emissions by 5 per cent compared with 2000 levels by 2020. One of the key mechanisms for achieving reductions in carbon emissions was the Carbon Pricing Mechanism, established under the Clean Energy Act 2011. In the waste sector those facilities with emissions over a 25,000 tonne per annum threshold were required to pay a carbon price.

In July 2014 the Carbon Pricing Mechanism was repealed so liabilities from emissions are incurred up to 30 June 2014. It is not yet clear how the Commonwealth Government’s proposed Direct Action Plan, which includes an Emissions Reduction Fund, will impact on the waste sector.

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**6.2 VICTORIAN STATE GOVERNMENT**

**6.2.1 Getting Full Value - Victorian Waste and Resource Recovery Policy**

*Getting Full Value - Victorian Waste and Resource Recovery Policy* was released by the Department of Environment and Primary Industries in April 2013. The policy sets out a long term vision for waste management and resource recovery in Victoria and replaces the Towards Zero Waste and the Victorian Litter strategies.

*Getting Full Value* provides a practical and integrated approach to managing waste for the protection of human health and the environment across the state. The policy has a clear focus on driving productive resource use by improving systems to recover and recycle materials with an economic value. It also outlines strategies to improve markets for recycled products and commits the government to providing the necessary certainty to encourage investment and innovation in Victoria’s waste management and resource recovery system.

The policy has four key objectives which are: environmental protection; public health and wellbeing; economic prosperity; and an integrated and efficient waste management and resource recovery system.

The policy goals are to:

- Assist Victorians to reduce the waste they generate and save Victorians’ money through efficient use of resources.
- Facilitate strong markets for recovered resources.
- Facilitate a Victorian waste and resource recovery system that maximises the economic value of waste.
- Reduce the environmental and public health risks of waste.
- Reduce illegal dumping and littering.
- Reform and strengthen the way institutions work and are governed to effectively implement waste policy.

In contrast to the previous strategies, *Getting Full Value* does not set recovery targets for the Municipal Solid Waste (MSW), Commercial & Industrial (C&I), and Construction & Demolition (C&D) waste sectors. The policy outlines an approach to measuring performance on the four policy objectives based on achieving specified outcomes, delivering enabling outcomes and monitoring and reporting on policy indicators. In the 2013-14 budget $12 million over four years was allocated to the state environment agencies for the delivery of the policy objectives.
6.2.2 Metropolitan Waste Resource and Recovery Plan

The Metropolitan Waste and Resource Recovery Group (MWRRG) is a Victorian state agency, established under the Victorian Environment Protection (Amendment) Act 2006. The 2009 MWMG Strategic Plan was developed in three separate parts: the Metropolitan Plan, the Municipal Solid Waste Infrastructure Schedule and the Metropolitan Landfill Schedule. As the majority of municipal solid waste is comprised of food and garden waste the Strategic Plan has a focus on this material. The Plan proposes that recyclable materials and biodegradable organic materials be recovered in purpose built Advanced Resource Recovery Facilities (ARRT’s) across Melbourne to be established in the future.
6.3 LOCAL GOVERNMENT

The Moreland Waste and Litter Strategy 2014-2017 fits within a well developed context of policies and strategies that share the goal of achieving a more sustainable and liveable city. The following documents are of specific relevance.

6.3.1 Moreland 2025 Community Plan

The Moreland 2025 Community Plan was developed through extensive engagement and consultation with the Moreland Community. The first of its kind for Moreland, the purpose of the Community Plan is to provide a roadmap to a future that ensures future generations live in a place that we would be proud of.

A number of population indicators within the Community Plan align with the objectives of the Waste and Litter Strategy. These indicators will be measured and evaluated as the Community Plan is delivered over the next twelve years.

6.3.2 Council Plan 2013 – 2017

The Council Plan 2013 – 2017 sets a number of strategic directions and outcomes that relate directly to the objectives of this strategy. These include:

- **Looking better:** Attractive and well maintained built environment, streetscapes and landscapes.
- **Consumption reduction:** Community is focused on reducing consumption.
- **Sharing responsibility:** Moreland community is environmentally aware and active.
- **Enhancing natural environment:** Moreland’s natural environment is preserved and enhanced.

6.3.3 Municipal Strategic Statement (awaiting Ministerial approval)

Council has approved a new Municipal Strategic Statement (MSS) with Objective 15 relating to waste management.

**Objective 15:** To maximise waste recycling and reduce the amount of waste going to landfill

The MSS strategies to support these objectives are:

15.1 Encourage the provision of easily accessible dedicated storage areas for the collection and sorting of waste.

15.2 Encourage the allocation of bins to accommodate different waste streams, including recyclables, rubbish (non recyclable waste), oversized household items, green waste and hazardous waste (such as batteries and fluorescent light bulbs).
6.3.4 Zero Carbon Evolution
2014–2020

The Zero Carbon Evolution strategy sets out Council’s plan to work with the Moreland community to achieve a 22 per cent reduction in carbon emissions across the community by 2020. The five key strategies underpinning the Zero Carbon Evolution are:

• Generating local renewable energy
• Using energy efficiently
• Low-emissions transport
• Minimising the urban heat island effect
• Activating the community to reduce emissions

Successful implementation of the strategy will require significant collaboration, effort and investment from Moreland residents, businesses, organisations and all levels of government. A key activity under Strategy 5: Activating the community to reduce emissions involves achieving a significant reduction in the quantity of food waste from Moreland households and businesses going to landfill.

6.3.5 Open Space Strategy
2012 – 2022

The Moreland Open Space Strategy sets Council a cohesive direction for the future provision, planning, design and management of publicly owned open space that is set aside for leisure, recreation and nature conservation purposes. The main aim is to preserve and enhance its environmental values and provide for future community needs.

6.3.6 Council’s Integrated Water Management Plan (IWMP) 2014–20

Council adopted this plan, alternatively called the Moreland Watermap 2020 in June 2014, setting out the path to a water sensitive city. The plan takes into account the Council Plan 2013–17 and progress made towards the targets in the previous IWMP to set Moreland on the course to become a water sensitive city.

“Successful implementation of the strategy will require significant collaboration, effort and investment from Moreland residents, businesses, organisations and all levels of government.”
The following section sets out the strategic direction for how the strategy will be implemented to meet the objectives for each Key Action Area.
IMPLEMENTING THE STRATEGY – THE ACTION PLAN
### 7.1 MUNICIPAL FOOD WASTE

#### Strategic direction
Reduce food waste to landfill by optimising home composting and encouraging food waste avoidance until such time as a kerbside food waste collection service becomes viable.

#### Objectives
- To reduce the percentage of food waste in the waste to landfill stream
- To increase the number of households composting

#### Actions

<table>
<thead>
<tr>
<th>ACTION</th>
<th>TIMING</th>
<th>RESPONSIBILITY</th>
<th>BUDGET REQUIRED</th>
<th>MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7.1.1 Home waste make-over program</strong>&lt;br&gt;Examine funding options to trial a face-to-face engagement program offering a range of tailored solutions in a pilot area of 1,000 households that aims to demonstrate how improving waste management practices such as starting a home composter and avoiding food waste can save money.</td>
<td>Year 2</td>
<td>Waste Services</td>
<td>Grant funding / Operating Project budget bid</td>
<td>Establish baseline, Number of households adopting changes, bin audits, bin weights</td>
</tr>
<tr>
<td><strong>7.1.2 Composting education program</strong>&lt;br&gt;Trial a new compost bin sale and delivery program that incorporates education, to increase the take up and success of home composting.</td>
<td>Year 2</td>
<td>Waste Services</td>
<td>Within existing budget</td>
<td>Number of households composting, Measure 1 year of new service from 2010 baseline</td>
</tr>
<tr>
<td><strong>7.1.3 Food waste avoidance campaign</strong>&lt;br&gt;Undertake a food waste avoidance campaign as part of the existing zero waste for a week challenge or as a separate program.</td>
<td>Year 2 - ongoing</td>
<td>Waste Services</td>
<td>Within existing budget</td>
<td>Number of households participating in program</td>
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<tr>
<td><strong>7.1.4 Food waste dehydrator investigation</strong>&lt;br&gt;Examine funding options to trial a food waste dehydrator to test the cost, energy use and capacity of this new technology.</td>
<td>Year 3</td>
<td>Waste Services</td>
<td>$40,000 purchase cost, subject to grant/partnership funding</td>
<td>Food recovery rates, payback period</td>
</tr>
<tr>
<td><strong>7.1.5 Community composting hubs</strong>&lt;br&gt;Use lessons learnt in trial to adapt and expand the opportunity for residents who are unable to compost at home to take food waste to a composting hub. Focus on establishing hubs where a third party is able to manage regular maintenance.</td>
<td>Ongoing</td>
<td>Waste Services</td>
<td>Grant funding</td>
<td>Number of hubs and households using hubs over 1 year from 2012 baseline</td>
</tr>
<tr>
<td><strong>7.1.6 Kerbside food waste collection service</strong>&lt;br&gt;Prepare and implement a transition plan for the inclusion of food waste in the green waste kerbside collection service.</td>
<td>TBC</td>
<td>Waste Services</td>
<td>Subject to successful operating project bid/increase in waste charge</td>
<td>Number of households using Green Waste bin for food waste: bin audits from 2012 baseline</td>
</tr>
</tbody>
</table>
7.2 RESIDENTIAL WASTE AND CHANGING HOUSING TYPES

Strategic direction
 Improve waste services for different residential development types through the provision of better tools for planners and developers and a review of Council’s waste services for multi unit dwellings and high density areas.

Objectives:
• To increase resource recovery at flats, units and apartments
• To increase opportunities for delivery of Council waste services at all housing types

Actions

<table>
<thead>
<tr>
<th>ACTION</th>
<th>TIMING</th>
<th>RESPONSIBILITY</th>
<th>BUDGET REQUIRED</th>
<th>MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2.1 Review waste charge policy: Review the Waste Charge Policy for an equitable charge that fully funds the delivery of Waste Services and Street Cleansing Services as well as waste minimisation programs.</td>
<td>Year 1</td>
<td>Waste services</td>
<td>Within existing budget</td>
<td>Revised waste charge policy adopted</td>
</tr>
<tr>
<td>7.2.2 Waste management plan template: Develop a template for use by developers when preparing waste management plans for residential, commercial and mixed use multi-unit developments.</td>
<td>Year 2</td>
<td>Waste services</td>
<td>Within existing budget</td>
<td>Guidelines and template in use</td>
</tr>
<tr>
<td>7.2.3 Design guidelines for waste management planning: Develop guidelines and schematics for planners and developers to refer to during pre-approval process when planning waste management systems for new buildings or renovations.</td>
<td>Year 2</td>
<td>Waste services</td>
<td>$30,000; subject to operating project bid/grant funding applications</td>
<td>Guidelines created</td>
</tr>
<tr>
<td>7.2.4 Trial collection service at medium to high density housing: Investigate contractual implications/costs of utilising a contracted collection service for waste, recycling and cardboard collections at medium to high density housing where Council is unable to deliver a kerbside waste service.</td>
<td>Year 3</td>
<td>Waste services</td>
<td>Within existing budget</td>
<td>Trial undertaken</td>
</tr>
<tr>
<td>7.2.5 Review waste service options for different housing types: Review the model for delivery of waste services and determine the viability and cost of providing a range of service options for different housing types.</td>
<td>Year 4</td>
<td>Waste services</td>
<td>Within existing budget</td>
<td>Review recommendations for inclusion in policy</td>
</tr>
</tbody>
</table>
## Strategic direction

Improve resource recovery by optimising the use of current recycling services provided by council and other agencies and by increasing the range of materials able to be recycled through Council services.

### Objectives:

- To increase the quantity and type of materials being diverted from landfill to recycling
- To increase the recovery rate for green waste and recycling

### Actions

<table>
<thead>
<tr>
<th>ACTION</th>
<th>TIMING</th>
<th>RESPONSIBILITY</th>
<th>BUDGET REQUIRED</th>
<th>MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.3.1 Resource recovery at Council’s Operations Centre:</td>
<td>Year 1</td>
<td>Waste Services / Street Cleansing</td>
<td>Within existing budget</td>
<td>Amount and cost of waste to landfill from Operations Centre</td>
</tr>
<tr>
<td>7.3.2 Enabling reuse of second hand goods:</td>
<td>Year 2</td>
<td>Waste Services</td>
<td>Within existing budget</td>
<td>Program/s or opportunities identified and implemented</td>
</tr>
<tr>
<td>7.3.3 Recycling service for schools:</td>
<td>Year 2</td>
<td>Waste Services</td>
<td>Within existing budget</td>
<td>Measure number of schools participating from 2015 baseline</td>
</tr>
<tr>
<td>7.3.4 Increase recycling rates:</td>
<td>Year 2</td>
<td>Waste Services</td>
<td>Within existing budget</td>
<td>Measure number of households upsizing or using temporary service, level of contamination, no. of businesses using Commercial Plus from 2015 baseline</td>
</tr>
<tr>
<td>7.3.5 Hazardous waste recovery:</td>
<td>Year 3</td>
<td>Waste Services / Facilities Management</td>
<td>$15,000 per year within existing budget</td>
<td>Amount of hazardous waste in garbage and recycling streams, identified through bin audits compare to 2012 baseline</td>
</tr>
<tr>
<td>7.3.6 Annual audit program:</td>
<td>Ongoing</td>
<td>Waste Services</td>
<td>$30,000 per year within existing budget</td>
<td>One audit per year</td>
</tr>
<tr>
<td>7.3.7 Bin Lid changeover:</td>
<td>Year 1-4</td>
<td>Waste Services</td>
<td>$0.5 million; subject to successful grant funding/operating project bid</td>
<td>5,000 bin lid changeovers per month</td>
</tr>
</tbody>
</table>

### 7.3 RESOURCE RECOVERY

**Strategic direction**

- To increase the quantity and type of materials being diverted from landfill to recycling
- To increase the recovery rate for green waste and recycling
### Strategic direction
Reduce the incidence of illegal rubbish dumping by reallocating resources to increase enforcement activity and through a review of current waste services to improve capacity, frequency and participation.

### Objectives:
- To reduce the incidence of illegal rubbish dumping in Moreland
- To work with the broader community to improve waste management knowledge, opportunities and practices

### Actions

<table>
<thead>
<tr>
<th>ACTION</th>
<th>TIMING</th>
<th>RESPONSIBILITY</th>
<th>BUDGET REQUIRED</th>
<th>MEASURE</th>
</tr>
</thead>
</table>
| **7.4.1 Promote the donation and reuse of goods**
Raise awareness about alternatives to illegal dumping and disposal. Promote programs that salvage/reuse waste items and provide information on the correct channels for donating goods to charity. | Year 1 | Waste Services / Street Cleansing | Within existing budgets | Number of communication activities and enquiries |
| **7.4.2 Review ‘Less Waste Less Cost’ program**
Review cost incentive to downsize to an 80 litre residential garbage bin. Establish baseline data for number of overfilled bins placed at kerbside. Educate residents about the impacts of placing bins at kerbside with lid not fully closed. | Year 2 | Waste Services / Urban Safety | Operating Project budget bid | Number of bins overfilled, number of households downsizing/upsizing over 1 year period |
| **7.4.3 Review enforcement for illegal dumping at rental properties**
Review current process for managing illegal dumping at rental properties. Work with real estate agents/property managers to place onus of responsibility for removing goods on the exiting tenant. Consider charging property owner/manager the cost for removal of dumped rubbish. Consider cost as part of Waste Charge policy review. | Year 2 | Urban Safety / Street Cleansing / Waste Services / Revenue Services | Within existing budgets | Number of infringements issued annually compared to 2013 baseline |
| **7.4.4 Review enforcement for illegal dumping**
Review current resourcing and processes for enforcement of illegally dumped rubbish offences. | Year 2 | Urban Safety / Street Cleansing | Within existing budgets | Number of infringements issued annually compared to 2013 baseline |
| **7.4.5 Hard Waste collection review**
Review frequency and model of residential hard waste collections to identify whether the current service adequately meets the needs of residents. | Year 2 | Waste Services | Within existing budgets | Review recommendations to inform contract renewal |
| **7.4.6 Audit waste service provision at mixed use developments**
Investigate occurrences of boarding houses and mixed use developments providing insufficient bins for residential occupants. Consider options for ‘differential rate’ for rental and/or mixed use developments in Waste Charge policy review. | Year 3 | Waste Services / Street Cleansing / Revenue Services | Within existing budgets | |
### Strategic direction

Reduce litter by reallocating resources to increase enforcement activity, better supporting community members undertaking litter clean-up activities and improving public litter bin and street sweep infrastructure.

#### Objectives:

- To reduce the amount of litter in Moreland
- To work with the broader community to improve litter management practices
- Better supporting community members undertaking litter clean-up

#### Actions

<table>
<thead>
<tr>
<th>Measure</th>
<th>Budget Required</th>
<th>Responsibility</th>
<th>Timing</th>
<th>Action</th>
</tr>
</thead>
</table>
| Number of public litter bins installed over one year | Number of bins installed over one year | Urban Services / Property Managers | Year 1 | 7.5.5 Public litter bins and street sweeping
| Number of litter bins and street cleaning periods | Number of litter bins and street cleaning periods | Street Cleansing | Year 3 | Gross pollutant traps, litter clean-up initiatives
| Number of lenticular signs installed over one year | Number of signs installed over one year | Urban Services / Property Managers | Year 2 | 7.5.3 Litter in commercial areas - signages and educational signs
| Number of premises providing ashtrays | Number of premises providing ashtrays | Place Manager / Urban Safety / Waste Services | Year 2 | Litter in commercial areas
| Number of premises with educational signage | Number of premises with educational signage | Urban Services / Property Managers | Year 2 | Signage, banners, and bin use provision of General Local Law

**Notes:**

- Gross pollutant traps are reviewed the processes and resourcing for the installation and maintenance of.
- Litter clean-up initiatives provide free clean-up kits to community members undertaking voluntary.
- Litter clean-up initiatives provide free clean-up kits to community members undertaking voluntary.
- Litter clean-up initiatives provide free clean-up kits to community members undertaking voluntary.
More broadly Council’s Community Plan sets out goals that this strategy will consider throughout its delivery.
A monitoring and evaluation plan will be developed to ensure that the delivery of the Waste and Litter Strategy’s key action areas and objectives remains on track, within budget and is effective in meeting its vision for Council to manage waste and recover resources responsibly.

8.1 KEY INDICATORS

The five key indicators used to measure the outcomes from the delivery of this strategy are:

1. Annual tonnage of waste to landfill
2. Annual tonnage of recovered materials (recycling, green and hard waste)
3. Annual tonnage of illegally dumped rubbish
4. Numbers of participants in projects and educations programs and services
5. Total greenhouse gas emissions from waste to landfill

More broadly Council’s Community Plan sets out goals that this strategy will consider throughout its delivery. Table 5 provides the two relevant themes along with their direction, outcome, measure and the source of data required.

TABLE 5: COMMUNITY PLAN INDICATORS

<table>
<thead>
<tr>
<th>THEME: MORELAND’S PLACES AND SPACES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direction</strong></td>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>Looking better</td>
<td>Attractive, clean and well maintained built environment, streetscapes and landscapes</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>THEME: ENVIRONMENTALLY SUSTAINABLE MORELAND</th>
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<tbody>
<tr>
<td><strong>Direction</strong></td>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>Consumption reduction</td>
<td>The Moreland community is reducing consumption of resources</td>
</tr>
<tr>
<td>Percentage of households always carrying out at least two actions to reduce consumption out of consideration for the environment</td>
<td>Moreland household survey</td>
</tr>
</tbody>
</table>

| Sharing responsibility | Moreland community is environmentally aware and active | Recycling tonnage per capita | Council |
8.2 ENGAGING STAKEHOLDERS

There are a number of important stakeholders who will be engaged to successfully deliver the Waste and Litter Strategy 2014-2017. Aside from Waste Services and Street Cleansing, the Units charged with the strategy’s delivery and other internal stakeholders include Councillors, Moreland Executive Group, Urban Safety, Development Advisor, Planning, Environmentally Sustainable Development, Recreation Services, Open Space, Citizen’s Services, Economic Development, Place Managers, Arts and Culture and Youth Services.

The external stakeholders include a mix of service contractors, state government agencies along with local residents, traders, businesses, schools, community groups and members. The organisations include CERES, Citywide, EnviroCom, Merri Creek Management Committee, Metropolitan Waste and Resource Recovery Group, Moreland Energy Foundation, Neighbourhood houses, Polytrade, Sustainability Victoria, Sustainable Moreland Advisory Group, Victorian Litter Action Alliance and the Waste and Litter Reference Group.

8.3 DELIVERY TIMEFRAME

The timeframe for the delivery of the strategy is set out in Table 6, including the timeframes for the mid and final review stages.

**TABLE 6: STRATEGY TIMELINE**

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<tbody>
<tr>
<td>Waste and litter strategy 2014-17</td>
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<tr>
<td>Mid strategy review</td>
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<td>Contract tender process</td>
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<tr>
<td>Review waste and litter strategy</td>
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<tr>
<td>Waste and litter strategy 2018-22</td>
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</tbody>
</table>

MORELAND WASTE & LITTER STRATEGY 2014 – 2017
### 8.4 STRATEGY DELIVERY PHASES

The three main phases are outlined here in Table 7 and provide a framework for the actions to be delivered in this strategy.

**TABLE 7: WASTE AND LITTER STRATEGY PHASES OF DELIVERY**

<table>
<thead>
<tr>
<th>PHASE 1</th>
<th>Program development, education and data gathering</th>
<th>2014 - 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Implement pilot projects in areas that statistically represent the Moreland population.</td>
<td></td>
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<tr>
<td></td>
<td>• Monitor participants and gather data on waste practices across community segments.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Test education methods with sample group.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Evaluate success at achieving program objectives.</td>
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</tr>
<tr>
<td></td>
<td>• Share success with participants and consider opportunities for further program roll out</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>PHASE 2</th>
<th>Research and benchmarking</th>
<th>2015 - 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Literature review and research of developments in waste management industry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Benchmarking against other Council contracts</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHASE 3</th>
<th>Develop specifications for new waste contracts</th>
<th>2016 - 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Utilise evaluation results from pilot programs and results of research and benchmarking to develop specifications to ensure Moreland has state-of-the-art waste services.</td>
<td></td>
</tr>
</tbody>
</table>