Introduction

The *Sustainability in Action: Towards Zero Waste Strategy* (TZW), launched in 2005, supports Victorians to generate less waste and maximise opportunities for material recovery. This annual progress report assists in informing investment and policy decisions for the waste and resource recovery sector.

With the current strategy due to end in 2014, the Department of Sustainability and Environment is leading the development of a new waste policy which will inform future progress reports.

The TZW strategy sets four statewide targets for solid waste reduction, resource recovery and littering and specific targets and actions for Victoria’s municipal and business sectors to deliver more sustainable use of resources by 2014.

Information about Victoria’s performance relating to the Towards Zero Waste strategy has been collated from the results of the following two *Sustainability Victoria* surveys:

1. The Victorian Recycling Industry Annual Survey which collects data about the operations of Victoria’s material reprocessing sector and;
2. The Victorian Litter Report which rates the features of locations by auditing bins and infrastructure facilities, undertaking community surveys, recording littering behaviours and litter levels in public places across 216 Victorian locations.

Since the launch of the TZW Strategy in Victoria, there has been a shift in focus from waste management to a greater emphasis on resource management.

Waste materials that were once regarded as being of no value and sent to landfill, are now recognised as valuable resources with the potential to be developed into new products.

Resource management helps conserve raw materials and natural resources such as water, reduces energy use and carbon emissions and helps mitigate climate change and, through new industries, it creates economic growth and increased employment.

The financial period 2010-11 marked the seventh year of the 10-year TZW Strategy. Monitoring Victoria’s progress towards the final 2013–14 targets includes measurement against projected targets for the period 2010-11 which are shown in Table 1.

Summary of results

**Table 1: Summary of 2010–11 results against projected targets**

<table>
<thead>
<tr>
<th>2014 Targets</th>
<th>2010–11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 million tonne reduction in the projected quantity of solid waste generated by 2014 (reported as total solid waste generated)</td>
<td>Projected target: 10.45 million tonnes generated(^1)</td>
</tr>
<tr>
<td>75% by weight of solid waste recovered for reuse, recycling and/or energy generation</td>
<td>65%</td>
</tr>
<tr>
<td>Sectoral recovery rates:</td>
<td></td>
</tr>
<tr>
<td>&gt; Municipal solid waste (65%)</td>
<td>53%</td>
</tr>
<tr>
<td>&gt; Commercial and industrial waste (80%)</td>
<td>70%</td>
</tr>
<tr>
<td>&gt; Construction and demolition waste (90%)</td>
<td>70%</td>
</tr>
<tr>
<td>A 25% improvement in littering behaviour from 2003 levels</td>
<td>18.2%(^2)</td>
</tr>
</tbody>
</table>

1 Projected waste generation has been recalculated and updated using rebased GSP figures sourced from the Australian Bureau of Statistics and population figures sourced from the Department of Planning and Community Development.
2 2011 notional target based on calendar year.
3 The Victorian Litter Report 2011, *Sustainability Victoria*. 
Target 1

> In 2010–11, total waste generated by businesses and households in Victoria was 12.10 million tonnes of solid waste, up 6.7% from 11.4 million tonnes in 2009–10. To meet Target 1 in 2010–11 Victoria was required to reduce generation of solid waste to 1.02 million tonnes below the business as usual projection for this year (11.48 million tonnes).

> Actual results show generation of waste exceed the business as usual case by 630,000 tonnes, meaning that Victoria is not on track to meet the 1.5 million tonne reduction by the end of the TZW strategy in 2014.

> Despite the increase in solid waste generation, the majority of waste generated was recovered. Over 8.2 million tonnes of material was recovered (14% increase from the previous year) for reuse, recycling and energy generation, thereby diverting it from landfill. This increase is largely attributable to increases in the recovery of construction and demolition material; which is slowly gaining recognition as a useful replacement for virgin construction materials and garden organics which has benefited from above-average rainfall for the second year in a row.\(^4\)

> Solid waste recovered in 2010-11 increased by 9.3% from 2009-10, to be above 8.21 million tonnes and waste landfilled increased by 2% compared to 2009-10, to 3.88 million tonnes\(^5\).

> Solid waste generation per capita increased to 2.15 tonnes, an increase of 3.1% from 2009-10 following an 8.2% increase the previous year. This was an increase of 70 kilograms per person from 2009-10.

Target 2

> The amount of solid waste recovered for recycling in Victoria continued to increase to 47% in 2010–11, compared to 66% for 2009–10 and exceeding the 2010-11 projected target of 65% by three percentage points. Total recovery has been above target for the life of the strategy and is on track to achieve the target of 75% by weight of solid waste recovered for reuse, recycling and/or energy generation by 2014.

Target 3

> Victoria’s municipal solid waste (MSW) sector recovered 47% of its solid waste in 2010–11, down from 48% in 2009–10; six percentage points below the 2010–11 resource recovery projected target of 53%.

> Victoria’s commercial and industrial (C&I) sector continued to increase its resource recovery rate, recovering 66% in 2010–11; compared to 65%\(^6\) in 2009–10, but four percentage points below the 2010-11 resource recovery projected target of 70%.

> Victoria’s construction and demolition (C&D) sector continued to increase its resource recovery rate, recovering 83% in 2010–11, compared to 80%\(^7\) in 2009–10. The sector exceeded the 2010–11 projected target by 13 percentage points and has now exceeded the 2013–14 target of 80%.

Target 4

> Littering behaviour in 2011 has improved by 23.4% since 2003 and is on track to meet the projected target for 2014, exceeding the 2011 notional target by 5.3 percentage points.

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4 Annual Climate Summary 2011, Bureau of Meteorology.

5 The figure represents the amount of waste accepted at licensed Victorian landfills, excluding material used as cover. The Environment Protection Act 1970 provides a rebate for cover material of 15% (at the relevant municipal rate) for each tonne of waste deposited at a landfill. The figures shown above were calculated by taking the tonnes of material received at landfills (including cover material sourced off site) and reducing this by 15% to allow for cover material. It is noted that some landfills source cover material on-site (e.g. from quarrying activities) and that this is not measured in the tonnes of waste received at landfills. Where landfills have claimed a recycling rebate, this has been subtracted from the figure. Prescribed waste (including low level contaminated soil) deposited to landfill, including where used as cover, is not included in the above figures. A number of reviews of landfill levy returns are currently being undertaken and therefore this data may be subject to change. Source: EPA Victoria.

6 Cleanfill has been removed from the 2005 landfill audit used by Sustainability Victoria to determine the landfill profile between years 2004–05 and 2008–09. This has resulted in updated performance figures for years 2004–05 to 2008–09. Refer to Measuring Performance for more information.

7 Ibid
Target 1

A 1.5 million tonne reduction in the projected quantity of solid waste generated by 2014

This target represents a reduction in the projected quantity of solid waste generated by 2014, from a business as usual case, by 1.5 million tonnes.

Figure 1 shows that in 2010–11, total solid waste generated in Victoria was 12.1 million tonnes, up 6.9% from 11.3 million tonnes in 2009–10 and a return to the slight upward trend that spiked in 2009–10.

Total generation of solid waste was higher than the projected target of 10.45 million tonnes indicating that Victoria will not achieve the 1.5 million tonne reduction from business as usual. This continues to remain a significant challenge, especially in light of Victoria’s projected population growth.

Solid waste generation has increased from 9.85 million tonnes in 2004–05 to 12.10 million tonnes in 2010–11. This increase in solid waste generation above projected figures has not, however, resulted in an overall increase in solid waste sent to landfill during the strategy period.

Solid waste landfilled increased by 2% compared to 2008–09, to 3.88 million tonnes. Over the life of the strategy however solid waste landfilled has decreased from 4.42 million tonnes in 2004–05; a reduction of over half a million tonnes.

Figure 2 illustrates the trend in solid waste generation and recovery in Victoria relative to economic and population trends between 2002–03 and 2010–11. The Australian Bureau of Statistics (ABS) updates Gross State Product (GSP) figures each year for the previous 20 years. This means that the trend for GSP and per capita remains the same for the previous years, but the actual reported GSP figure changes in subsequent years. For example, in the 2009–10 Progress Report solid waste generation per $million GSP was 38.7 tonnes and in this report it is 38.0 tonnes.

Solid waste generation per capita increased to 2.15 tonnes, continuing the rise that began in 2009–10 and continuing to reverse the downward trend that began in 2005–06; the only other time it rose above 2 tonnes in the data reporting period. This represented an increase of 60 kilograms per person in 2010–11, an increase of 3.1% from 2009–10. Of the 2.15 tonnes generated per person, 1.46 tonnes was recovered, an increase of 5.5% from the 2009–10 figure of 1.39 tonnes recovered per capita.

8 The figure represents the amount of waste accepted at licensed Victorian landfills, excluding material used as cover. The Environment Protection Act 1970 provides a rebate for cover material of 15% (at the relevant municipal rate) for each tonne of waste deposited at a landfill. The figures shown above were calculated by including the tonnes of material received at landfills (including cover material sourced off site) and reducing this by 15% to allow for cover material. It is noted that some landfills source cover material on site (e.g. from quarrying activities) and that this is not measured in the tonnes of waste received at landfills. Where landfills have claimed a recycling rebate, this has been subtracted from the figures. Prescribed waste (including low level contaminated soil) deposited to landfill, including where used as cover, is not included in the above figures.

A number of reviews of landfill levy returns are currently being undertaken and therefore this data may be subject to change Source EWR Victoria.

9 Ibid


11 Based on the Victoria in Future projections 2008 – Population projections, Department of Planning and Community Development

12 Historical figures have been recalculated and updated using rebased GSP figures sourced from the ABS and population figures sourced from the Department of Planning and Community Development.
Target 2

75% by weight of solid waste recovered for reuse, recycling and/or energy generation by 2014

Victoria’s resource recovery rate increased to 68% for 2010–11, compared to 66% for 2009–10, remaining above the 2010–11 projected target of 65%. Over 8.21 million tonnes of material was diverted from landfill and recovered for reuse, recycling and energy generation. This represents an increase of 776,000 tonnes, or 9% from the previous year.

As well as the 9% increase in solid waste recovered, there was also an increase in solid waste disposed to landfills up 2% for the second year in a row, from 3.80 to 3.88 million tonnes.\(^{13}\)

The C&D sector continues to be the backbone of the overall recovery rate, meeting the 2013–14 target in 2010–11 of 83% recovery. The overall recovery rate continued to increase despite recovery of MSW material falling one percentage point to 47%. The recovery rate for the C&I sector increased by one percentage point to 66%.

Highlights from the resource recovery industry include:

> After falling to less than a million tonnes recovered in 2009–10, recovery in the paper / cardboard category increased by 21% in 2010–11 to over 1.2 million tonnes, the largest ever annual result. The bulk of the increase was made up of Other (mixed paper), with over 805,000 tonnes recovered, while printing & writing paper entirely sourced from the commercial & industrial sector jumped 32% to almost 60,000 tonnes.

> Metal recovery decreased by 1% in 2010–11 to nearly 1.4 million tonnes and, although it should be noted that metal recovery did increase by 28% in 2009–10 after a 19% decrease in 2008–09, reflecting an upward trend overall.

> Glass material recovered for reprocessing in Victoria in 2010–11 increased by 25% to more than 195,000 tonnes, the largest quantity recovered since 2006–07 when glass recovery in Victoria exceeded 200,000 tonnes for the first time since records began.

\(^{13}\) The figure represents the amount of waste accepted at licensed Victorian landfills, excluding material used as cover. The Environment Protection Act 1970 provides a rebate for cover material of 15% (at the relevant municipal rate) for each tonne of waste deposited at a landfill. The figures shown above were calculated by taking the tonnes of material received at landfills (including cover material sourced off site) and reducing this by 15% to allow for cover material. It is noted that some landfills source cover material on-site (e.g. from quarrying activities) and that this is not measured in the tonnes of waste received at landfills. Where landfills have claimed a recycling rebate, this has been subtracted from the figures. Prescribed waste (including low level contaminated soil) deposited to landfill, including where used as cover, is not included in the above figures. A number of reviews of landfill levy returns are currently being undertaken and therefore this data may be subject to change. Source EPA Victoria
Target 3

Sectoral resource recovery targets by weight of solid waste recovered for reuse, recycling and/or energy generation to be achieved by 2014.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Target</th>
</tr>
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<tbody>
<tr>
<td>Municipal solid waste</td>
<td>65%</td>
</tr>
<tr>
<td>Commercial and industrial waste</td>
<td>80%</td>
</tr>
<tr>
<td>Construction and demolition waste</td>
<td>80%</td>
</tr>
</tbody>
</table>

a) Municipal solid waste
Recovery of municipal solid waste decreased from 48% to 47% in 2010-11 while municipal waste sent to landfill decreased by just over 4,000 tonnes from 1,655,000 tonnes in 2009-10.
The amount of material recovered was just short of 1.5 million tonnes; a decrease of 1% from the previous year. The most significant decrease was Metal which dropped by 30%, while the most significant increase was of Organic material which increased by 14%.
This decrease can be almost entirely attributed to inconsistent reporting for the Victorian Recycling Industry Annual Survey from a reprocessor of organic material.

b) Commercial and industrial solid waste
Remaining below the projected target since the introduction of the strategy, the C&I sector’s resource recovery rate of 66% is below the 2010–11 projected target of 70%. Around 2.7 million tonnes of material was recovered. This was an increase of 12% or 278,000 tonnes recovered, and coincided with a 7% or 85,000 tonne increase of solid waste to landfill from this sector, compared with 2009–10.
However, despite the increase in tonnes recovered, C&I is not currently on course to meet its 2014 resource recovery target of 80% without further efforts.
The increase in recovery from the C&I sector is due to large increases in the recovery of metal and materials such as asphalt, brick and concrete recovered by businesses.
Sustainability Victoria conducted landfill audits in 1999, 2005 and 2009. Due to anomalies with the cleanfill category in the 2009 audit, further analysis of the cleanfill category was undertaken. As a result, previous performance figures for C&I were updated for the reporting years 2004–05 to 2008–09. For further information about the update refer to the Measuring Performance section of this report.

c) Construction and demolition solid waste
In 2010–11, the C&D sector resource recovery rate increased to 83%, against a 2010–11 projected target of 70%, and achieved the target set for 2013–14. Over 4 million tonnes were recovered, a 15% increase compared to 2009–10. In 2010–11 there was an estimated 2% (about 17,000 tonnes) reduction in C&D waste landfilled compared to 2009–10.
The improved recovery reflects growing integration between Victoria’s construction, demolition and recycling industries; as well as the increasing use of recycled concrete in the construction of roads, pavements and other civil infrastructure.
Increased development and the full operation of new and upgraded reprocessing plants (with some grant support from Sustainability Victoria), and the adoption of improved screening and blending technologies that promote the use of lower grade materials, such as crushed brick and asphalt, have also contributed to the improved recovery.

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14 Cleanfill has been removed from the 2009 landfill audit used by Sustainability Victoria to determine the landfill profile between years 2004–05 and 2008–09. This has resulted in updated performance figures for years 2004–05 to 2008–09. Refer to Measuring Performance for more information.
15 ibid
Target 4

A 25% improvement, from 2003 levels, in littering behaviours by 2014

This target focuses on the prevention of litter rather than its clean-up, and results are based on data obtained from the Victorian Litter Report.

In 2011, the improvement in littering behaviour, at 23.4%, is on track to meet the 2014 target, exceeding the 18.2% notional target by 5.2 percentage points (see Figure 7).

Work under the Victorian Litter Strategy continues to ensure that Victoria progresses towards achieving the TZW littering target.

Figure 7: Littering prevention performance improvement trends

Measuring performance

Sustainability Victoria prepares an annual assessment of the State’s progress against the Towards Zero Waste Strategy’s targets, to inform this progress report. This Towards Zero Waste Strategy: 2010–11 progress report is one of four performance reports relating to waste and resource recovery released by Sustainability Victoria. The three other performance reports are the Victorian Recycling Industries Annual Survey, the Victorian Litter Report, and the Victorian Local Government Annual Survey.

The Towards Zero Waste Strategy: 2010–11 progress report draws upon the results obtained through the Victorian Recycling Industries Annual Survey, waste disposed to landfill reported by EPA, landfill audits commissioned by Sustainability Victoria, Gross State Product figures obtained from the ABS, and Victorian population figures obtained from the Department of Planning and Community Development.

Data on waste disposed to landfill and recyclables collected by councils is mandatory to report while all other data on waste recovered is voluntary to report.

Data to inform all performance reports are collected from a range of government and industry organisations and engaged consultants. To ensure the accuracy of the data Sustainability Victoria undertakes a range of validation and cross-checking of data with industry and councils.

Sustainability Victoria continues to improve data collection and reporting to support continued monitoring of performance in the waste and resource recovery sector and underpin development of future activities and new waste policy.

More information

If you would like to read more about Victoria’s Towards Zero Waste Strategy visit www.sustainability.vic.gov.au

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