Zero Waste SA

Mid-Term Review

South Australia's Waste Strategy 2005-2010

Compilation Report

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Document Reference Table

Revision	Date	Prepared by	Reviewed by	Approved by	Remarks
1	20 May 09	P. Howlett	K. Jones	K. Jones; P. Howlett	Draft for internal review

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1 Summary of Findings

1.1 The Setting

This compilation report presents findings from a three-stage Mid Term Review of South Australia's Waste Strategy 2005-2010.

The Mid Term Review is a review of South Australia's Waste Strategy 2005-2010, and not a review of Zero Waste SA (ZWSA). Accordingly, the review focused on the interventions contained in the Waste Strategy and the effectiveness with which they were deployed.

The Mid Term Review was commissioned in 2008 to review and examine progress with implementation of the Waste Strategy, and to provide guidance for the development of the next Waste Strategy 2010-2015. This report draws together the methodologies and the findings from all three stages, and suggests guidelines for shaping future initiatives.

1.2 The Positioning

South Australia's Waste Strategy 2005-2010 has had a significant impact on the amount of waste disposed of via landfill in the State. From a relatively low starting base, and with relatively poor waste data available, South Australia has made rapid improvements in a short space in time, and is currently among the leaders in Australian waste management reform and resource recovery.

Through the development and implementation of South Australia's first State Waste Strategy, ZWSA has achieved some excellent successes, forged some strong and productive collaborative partnerships, learnt some important lessons, and identified some areas of risk and shortcoming.

More specifically, implementation of the Waste Strategy 2005-2010 has delivered the following.

- ✓ South Australia at the forefront nationally in implementing waste reform.
- ✓ South Australia is seen as a model that could be emulated by other jurisdictions in Australia.
- ✓ Initiatives implemented to date continue to ensure the State is in a leading position in resource recovery and diversion of waste from landfill.

The wealth of learning from the implementation the Waste Strategy 2005-2010 provides a powerful platform for moving forward to complete the current Waste Strategy and embark on development of the next State Waste Strategy 2010-2015.

1.3 The Findings

The Mid Term Review looked at the interventions planned and implemented as part of the Waste Strategy, measured performance and assessed effectiveness. Key findings from the first two stages of the Mid Term Review are set out below under six headings.

- Technical review of achievements
- Stakeholder engagement

- Appropriateness of initiatives
- Appropriateness of targets
- Contributions of partners
- Positioning South Australia

(a) Technical Review

Municipal Solid Waste

- ✓ The 2006 target of 25% kerbside recovery rate for the whole of South Australia was comfortably achieved.
- ✓ The 2008 target of 50% kerbside recovery rate for the whole of South Australia is unlikely to be met, although it will be achieved in metropolitan Adelaide.
- ✓ The goal of all councils to provide high performance kerbside or equivalent systems servicing householders throughout South Australia by 2010 is unlikely to be met, but will be achieved in metropolitan Adelaide.

Commercial and Industrial Waste

- ✓ The 2006 target of a 5% increase in the 2004 recovery rate was not only met, but exceeded by a significant margin.
- ✓ The targeted recovery rate for 2007-08 is unlikely to be achieved.

Construction and Demolition Waste

- ✓ The 2006 target of a 20% increase in the 2004 recovery rate was not only met, but exceeded by a significant margin.
- ✓ The targeted recovery rate for 2007-08 is unlikely to be achieved.

Litter and Illegal Dumping

- ✓ The broad target of reducing the incidence of littering and illegal dumping in South Australia has not yet been achieved.

Hazardous Waste/Liquid Waste

- ✓ Whilst the release of the final hazardous waste strategy occurred after the deadline envisaged in the Waste Strategy, the consultation draft was released by the target date in 2005.

Waste Transfer and Landfill Disposal and Storage

- ✓ A comparison of audits (assuming comparable data) indicates that significant progress is being made in the requirement for waste to be subjected to transfer prior to dispatch to landfill disposal.

(b) Stakeholder Engagement

Awareness

- ✓ Participants in the consultation workshops were aware of the strategy, its objectives and goals, and the role Zero Waste SA plays as an advisory body encouraging behavioural change in organisations.
- ✓ Local council representatives believe that there is a good general understanding within the community and within Council of the importance of recycling and waste minimisation.
- ✓ Stakeholders consider the Waste Strategy targets to be attainable and realistic.

Participation

- ✓ ZWSA was identified as a catalyst for change that encouraged participation.
- ✓ Stakeholders identified achievements in the delivery of the Waste Strategy in which their respective organisations had played active roles.

Behaviour Change

- ✓ The highly accessible and action oriented nature of ZWSA was identified by stakeholders as an attribute that supports and encourages behavioural change.
- ✓ Stakeholders identified that ZWSA is effective in driving change through incentive as opposed to regulation.

(c) Appropriateness of initiatives

Criteria	Assessment
Appropriateness to markets	✓ The Waste Strategy identified the market weaknesses. ✓ The business plans appropriately allocated available resources to the failures in a strategic approach. ✓ The initiatives address both deliverability and environmental need. ✓ Close attention will need to be paid to both C&I and C&D waste streams in the second half of the Waste Strategy roll-out.
Appropriateness to stakeholders	✓ The Waste Strategy identified issues in both the municipal and C&I sectors. ✓ ZWSA shaped the initiatives appropriately to appeal to the stakeholder-agents best positioned to implement actions on behalf of ZWSA with residential waste generators. ✓ A similar approach now needs to be taken with the C&D sector and efforts strengthened in the C&I sector.

(d) Appropriateness of Targets

Criteria	Assessment
Strategic applicability of the targets	✓ The targets for metropolitan Adelaide municipal waste will be reached once food waste collections are introduced. ✓ Targets will not be met outside the metropolitan area. ✓ A new target basis will be required for metropolitan Adelaide in municipal waste. ✓ Regional councils will need assistance to achieve the original targets. ✓ The targets for C&I and C&D waste may create difficulties in the years ahead, due to diminishing returns. ✓ In the near future, a target may need to be considered to address the relentless growth in waste generation rates.
Attainability of the targets	✓ The targets have been set at a level that requires effort on the part of the residential community, but remains achievable, at least for metropolitan Adelaide. ✓ The municipal targets will not be met by the majority of non-metropolitan Councils. ✓ While the C&I and C&D targets were comfortably attained in 2005-06, initiatives to be introduced in the remaining years of the current Waste Strategy will need to deliver strong returns if the targets are to be met.
Geographical suitability of the targets	✓ The targets for municipal waste are highly likely to be attained in metropolitan Adelaide, but not outside this region. ✓ Ambitious attempts to meet the targets in non-metropolitan LGAs are commendable and highly worthy of support. ✓ Diminishing returns are soon expected to set in, meaning that beyond a reasonably sustainable level, further efforts may not be warranted. ✓ If regional enthusiasm wanes when targets are not met, it may be necessary to address the issue of whether uniform State targets are appropriate.

(e) Contributions of Partners

Criteria	Assessment
Local Government	✓ Local Government organisations have leveraged their commitment to the Strategy and its targets by facilitating its implementation in local communities. ✓ The targets set out in the Strategy have been effective in encouraging behavioural change. ✓ This is an excellent model and should be used to further develop the initiatives of the Strategy with other sectors. ✓ Issues associated with landfill closures, transport in regional areas and full hypothecation of the waste depot levy will remain problematic for relationships with Local Government.
Waste Industry	✓ The primary aim for the waste management sector is to foster behaviour change towards their customers' needs and interests in resource recovery and waste minimisation. ✓ In the first instance, this will require attitudinal and behaviour change on the part of many in the sector. ✓ The Waste Strategy will need to retain flexibility to deal with industry consolidation and the impacts of local and international economic conditions.
The built form sector	✓ Engagement of the built form sector has not been a key priority thus far. ✓ More traditional approaches have been used to encourage behaviour change in individual businesses. ✓ When creating partnerships for C&I and C&D wastes, it is important to understand the value proposition for partners. ✓ To address serious impediments at the shop/office floor, the solutions must commence with the owner/developer/manager of the buildings.
The State Government	✓ The State Government has both a credibility and leadership image issue with waste management reform. ✓ The State Strategic Plan calls for a reduction in waste to landfill across the whole community. ✓ It is inappropriate for the State Government to ignore its obligations in waste management reform.

(f) Positioning South Australia

Criteria	Assessment
How is South Australia positioned?	✓ South Australia is at the forefront nationally in implementing waste reform. ✓ South Australia is seen as a model that could be emulated by other jurisdictions in Australia. ✓ Initiatives implemented to date continue to ensure the State is in a leading position, marginally behind the ACT. ✓ With food waste collection in metropolitan Adelaide and aggressive pursuit of the C&I initiatives, South Australia may draw level with the ACT at the conclusion of this first Waste Strategy.

1.4 A Way Ahead

The Mid Term Review concluded with a third stage, ***Propel***, where a vision for a waste management landscape in South Australia in 2020 was crafted. That vision helped define a set of principles which in turn underpin high-level aspirations to which the South Australian community can strive in the next phase of waste management reform.

The vision builds on existing practices, infrastructure and systems, using the key message, "***un-mixing wastes un-locks the value***", to develop an alternative approach to the current waste hierarchy, with both upstream and downstream options.

The principles and aspirations are set out over the page, followed by a snapshot of what a future waste management landscape might involve for the South Australian community in 2020 when those aspirations and principles have been fully realised.

Aspirations

- ✓ Our decisions are based on lowest environmental impact
- ✓ The prices we pay reflect full life cycle cost
- ✓ We manage resources in closed loops
- ✓ Our whole community participates and shares the load
- ✓ We lead in pursuit of coordinated policy across jurisdictions

Principles

- Incentives provide reward and encouragement
- Embodied energy in resources assumes greater significance
- Consumers are educated to make informed decisions
- Responsibility is shared along the value chain
- Price signals send appropriate messages to decision-makers

A 2020 Landscape

- ➔ Consumers pay the full cost at purchase
- ➔ Consumers un-mix waste before discard to suit recovery
- ➔ Discards are streamed for collection and drop-off
- ➔ ZWSA facilitate the system with strategic incentives
- ➔ Existing recycling facilities are expanded
- ➔ All streams are intercepted before disposal
- ➔ Embodied energy in resources provides increased incentive
- ➔ Waste disposed declines dramatically
- ➔ South Australia remains a leader in waste reform
- ➔ South Australia's leadership set the national agenda

2 Introduction and Background

2.1 Introduction

In July 2008, Wright Corporate Strategy and KJA were engaged by Zero Waste SA (ZWSA) to undertake a Mid Term Review of South Australia's Waste Strategy 2005-2010.

The Mid Term Review process comprised three project stages with associated reports: *Review, Reflect,* and *Propel*.

The **Stage 1 Report – *Review*,** involved a review and assessment of the work, progress and performance to date in delivering on the objectives and targets of the Waste Strategy: what was intended; what was done; and the level of success. This involved four key tasks: background research; numerical analysis; engaging stakeholders to assess views and perceptions; and a relative assessment of initiatives or programs implemented as part of the Waste Strategy.

The **Stage Two Report – *Reflect***, involved taking stock: looking back on the work completed in implementing the Waste Strategy to date, and assessing the appropriateness of the outcomes in relation to the policy context that was set for the Waste Strategy.

The **Stage 3 Report – *Propel*,** examined the positioning options that ZWSA and the Board might consider to propel South Australia beyond its current position in waste management policy and reform. It presented a set of strategic guidelines that have the potential to maintain South Australia as a leader in innovation and methodology.

This Compilation Report sets out the background to the assignment, outlines the methodology adopted for the Mid Term Review, and summarises the key findings.

2.2 Background

The Government of South Australia established the Zero Waste SA Act 2004 (the Act) and the Office of Zero Waste SA (ZWSA) to enable State and Local Government, the business sector and community to work together to drive a new strategy for waste avoidance and reduction, waste reuse and recycling and waste disposal.

The requirement to prepare a Waste Strategy for South Australia was part of a range of waste reforms associated with the establishment of ZWSA. This requirement was later enshrined in Part 4 of the Act.

South Australia's Waste Strategy 2005-2010 was released with whole of Government support in July 2005, after a two-year development process involving the ZWSA Board and staff. South Australia's Waste Strategy 2005-2010 was based on the best available evidence and information at that time, and was the first state-wide waste strategy for South Australia.

South Australia's Waste Strategy 2005-2010 provides both direction and a call to action. Importantly, it recognises that changing people's awareness, values, attitudes

and behaviour to a sustainable course is critical for achieving many of its strategies, goals and targets. Changing the hearts and minds of businesses, industry, Governments, communities and individuals is a key feature of South Australia's first Waste Strategy.

The five-year strategy is focused on five key objectives.

- **Foster sustainable behaviour** – simply providing information will not influence people to recycle or re-use material or resources in a sustainable way.
- **Less waste** – to achieve a substantial reduction in the amount of waste going to landfill in South Australia, materials must be redirected towards more beneficial uses.
- **Effective systems** – South Australia needs to establish, maintain and increase the capacity of recycling systems and re-processing infrastructure in metropolitan and regional areas.
- **Effective policy instruments** – economic, regulatory and other policy measures must be introduced to achieve the necessary traction in the market place to encourage avoidance, reduction, re-use and recycling of waste.
- **Successful cooperation** – the targets outlined in the Waste Strategy, as well as future strategies, will only be achieved with the successful cooperation of a range of stakeholders.

Within these objectives, intervention initiatives were developed and implemented with the aim of achieving the following waste diversion gains in the three key solid waste streams.

Key material recovery and recycling targets

Waste stream	By 2006	By 2008	By 2010	By 2014
Municipal solid waste	At least 25% of all material presented at the kerbside is recycled	50% of all material presented at the kerbside is recycled	75% of all material presented at the kerbside is recycled (if food waste is included)	Reduce waste to landfill by 25% (as required by *South Australia's Strategic Plan*)
Commercial and Industrial (C&I)	5% increase in recovery and use of C&I materials	15% increase in recovery and use of C&I materials	30% increase in recovery and use of C&I materials	Reduce waste to landfill by 25% (as required by *South Australia's Strategic Plan*)
Construction and demolition (C&D)	20% increase in recovery and use of C&D materials	35% increase in recovery and use of C&D materials	50% increase in recovery and use of C&D materials	Reduce waste to landfill by 25% (as required by *South Australia's Strategic Plan*)

3 Methodology

3.1 Overview

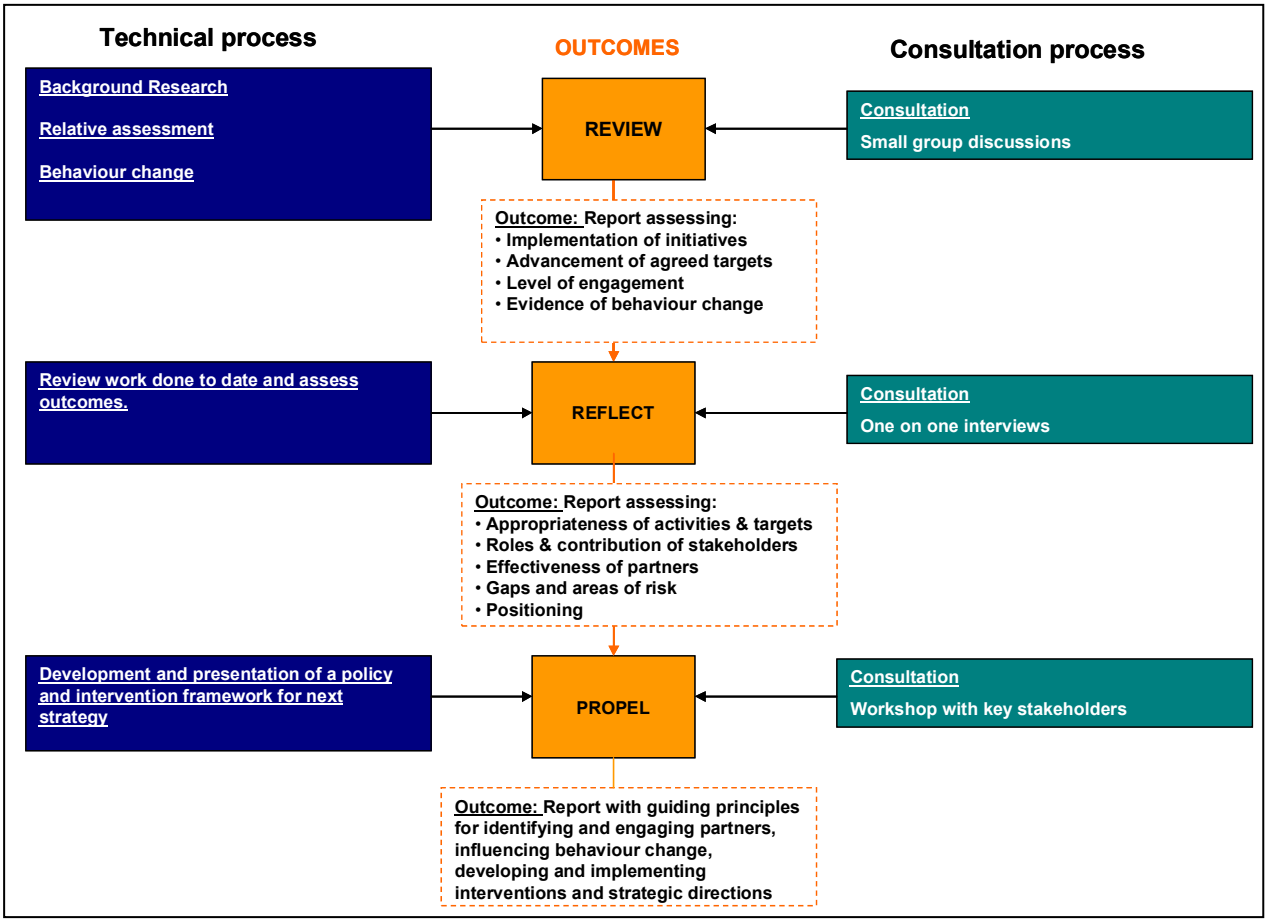
The Mid Term Review is a review of South Australia's Waste Strategy 2005-2010 and not a review of Zero Waste SA. Accordingly, the review focused on the interventions contained in the Waste Strategy and the effectiveness with which they were deployed.

The review of the Waste Strategy was undertaken in three stages.

- **Stage 1** broadly reviewed and assessed progress towards meeting the objectives and targets of the Waste Strategy.
- **Stage 2** involved a more detailed analysis of the issues and the roles of partners and the targets, as well as identifying ideas and opportunities to be considered in the preparation of the next Waste Strategy 2010-2015.
- **Stage 3** used the results of Stages 1 and 2 to develop a vision for the next Waste Strategy 2010-2015, and to recommend opportunities to improve the current Waste Strategy.

A summary of each of the review stages is outlined diagrammatically at Figure 1.

Figure 1 Diagrammatic Plan of the Mid Term Review



3.2 Main Tasks for Stage 1 – Review

Stage 1 of the Mid Term Review involved two aspects: a review of the Waste Strategy from a ***technical*** or performance perspective, and a review of the Waste Strategy from the perspective of a wide range of ***stakeholders***.

The ***technical review*** of the Waste Strategy was informed by the multiple documents providing a background for the development of the Waste Strategy, and by data that provided evidence of delivery on targets and objectives.

Each of the following six thematic waste areas covered in the Waste Strategy was addressed:

- Municipal Solid Waste;
- Commercial and Industrial Waste;
- Construction and Demolition Waste;
- Litter and Illegal Dumping;
- Hazardous Waste and Liquid Waste; and
- Waste Transfer and Landfill Disposal and Storage.

For each waste area, the Waste Strategy's objectives and targets were reviewed and tested against available data. Specific data sources included:

- published reports from ZWSA, the EPA and other relevant organisations;
- unpublished and confidential data from the South Australia Grants Commission;
- the Australian Bureau of Statistics; and
- KESAB.

A bibliography of documents referenced is presented at Attachment 1.

The Stage 1 review process aimed to understand the initiatives implemented in pursuit of the Waste Strategy, and how successfully those initiatives achieved the goals and objectives of the Waste Strategy.

Where the Waste Strategy targets stretched beyond 2008-09, forward projections based on measured and observed trends were used to obtain an indication of possible achievement level.

The ***stakeholder review*** involved facilitated workshops with stakeholders and partner groups that contributed to or were influenced by the waste initiatives that have been implemented by Zero Waste SA.

Separate workshops were held with representatives from the following sectors.

- Metropolitan councils
- Regional councils

- EPA
- Property developers and construction contractors
- Council waste subsidiaries
- Waste and recycling businesses
- Stakeholder groups such as KESAB, WMAA, ACOR, PNEB
- Zero Waste SA management team.

In addition, efforts were made to contact all parties that had submitted formal comment on the background paper to the Waste Strategy [ZWSA (2005(1)].

In Stage 1, nine workshops were held, attended by a total of 44 participants. A full list of attendees and parties consulted in this stage is presented at Attachment 2.

Sustainable behaviour change is the foremost objective of the Waste Strategy. It is of critical importance if waste management reforms are to be locked in and permanent reductions in the per capita rate of waste generation and disposal are to be achieved. Therefore, the workshops followed a structured agenda aimed at identifying evidence of awareness, participation and ultimately behaviour change that might be attributable to the Waste Strategy.

During the stakeholder engagement sessions, stakeholders were asked about their views on the reason for the changes, information that was fed into the Stage Two consultations with key opinion leaders.

3.3 Main Tasks for Stage 2 – Reflect

For Stage 2, the project team considered the Strategy and its implementation from seven review perspectives.

Issues for Success – why have initiatives been successful, why have some failed, and what makes for successful interventions and partnerships?

Partner Analysis – what roles have partners played thus far? Looking at Local Government success, what makes for success in partner selection and engagement? How can learning with partnering be taken forward with the business and Government sectors?

Gap and Risk Analysis – does the Waste Strategy address the policy context, and are there gaps in the initiatives implemented? Is the material published by ZWSA supportive of behaviour change, is it aimed at reporting on progress with targets, is it adequate and appropriate?

Positioning ZWSA – how does South Australia's Waste Strategy sit relative to initiatives in other jurisdictions? Is South Australia still in a leading position?

Appropriateness of the Targets – how do the targets reflect the policy objectives of the Government, and is the money spent on initiatives matched by return in advance on objectives?

Market Dynamics – how has the map or landscape of the market dynamics changed since the Waste Strategy was developed, and how will the landscape look by 2010 and 2015?

Engaging for Success – which are the successful engagements, and what can we learn from them?

3.4 Main Tasks for Stage 3 – *Propel*

The final stage of the Mid Term Review drew heavily on the consultations and findings from the two earlier stages to highlight key strengths and weaknesses which, if managed effectively, might provide valuable experiences and tools for future progress.

The final stage also included a visioning workshop, harnessing the views and ideas of a select group of influential stakeholders, to establish frameworks for the future within which the experiences and tools developed from the implementation of the Waste Strategy might be harnessed productively.

The third stage of the Mid Term Review concluded with development of a set of guiding principles that ZWSA and the Board might use during the remainder of the current Waste Strategy 2005-2010 and in the development of the next Waste Strategy 2010-2015.

4 The Technical Review

4.1 Municipal Solid Waste

The Waste Strategy contains both targets for key material recovery rates and specific objectives and targets for each of the three main waste streams. The recovery and recycling targets for municipal solid waste are set out at Table 1.

Table 1 Municipal Waste Recovery and Recycling Targets

By 2006	By 2008	By 2010	By 2014
At least 25% of all material presented at the kerbside is recycled.	50% of all material presented at the kerbside is recycled.	75% of all material presented at the kerbside is recycled (if food waste is included).	Reduce waste to landfill by 25% (as required by South Australia's Strategic Plan) relative to 2002-03 disposals.

The Waste Strategy embraces five objective areas, and sets goals within each. For municipal solid waste, the primary focus for the Waste Strategy initiatives in the first three years, the five targets are detailed in Box 1.

Box 1 - Objectives and Targets for Municipal Solid Waste

Objective 1 Fostering Sustainable Behaviour
Target/Goal:

- ✓ Increase the recovery, recycling and use of kerbside collected waste to 50% by 2008 (excluding food waste).
- ✓ Increase the recovery, recycling and use of metropolitan kerbside collected waste to 75% by 2010 (including food waste)

Objective 2 Reduce Waste
Target/Goal:

- ✓ Increase the recovery, recycling and use of metropolitan kerbside collected waste to 50% by 2008 (excluding food waste).
- ✓ Increase the recovery, recycling and use of metropolitan kerbside collected waste to 75% by 2010 (including food waste).
- ✓ Increase the recovery, recycling and use of household waste in non-metropolitan centres through drop-off and kerbside collection services where appropriate.

Objective 3 Implement Effective Systems
Target/Goal:

- ✓ All councils to provide high performance kerbside or equivalent systems servicing householders throughout South Australia by 2010.

Objective 4 Implement Effective Policy Instruments
Target/Goal:

- ✓ All councils to provide high performance kerbside or equivalent systems servicing householders throughout South Australia by 2010.

Objective 5 Cooperate Successfully
Target/Goal:

- ✓ Establish effective metropolitan and regional local government waste management groups working cooperatively on regional waste management issues.

Objectives 1 and 2 have waste diversion targets, whilst Objectives 3, 4 and 5 have goals relating to service delivery and collaboration.

To review progress towards the targets and goals, data was obtained from the South Australia Grants Commission on the services offered and the amounts of kerbside waste collected by all Councils across the State.

Whilst data was provided for each Council in South Australia, for progress review purposes three groupings of Councils have been used and will be reported on. These are summarised at Table 2, over the page.

Table 2 LGA Groupings for Review on Targets

Region	Abbreviation	Number of LGAs
Metropolitan LGAs	MET	19
Central LGA Region	CLGAR	15
Rural and Regional LGAs	REG	34
Total		**68**

In the analyses undertaken for this review, "kerbside recovery rate" relates to the amount of materials set out for resource recovery as a percentage of the total amount of wastes set out for collection at kerbside. This is the intended meaning of the term as used in the Waste Strategy.

Progress in respect of the diversion targets – the data provided by the SA Grants Commission covered the years 2001-02 through 2006-07. For the review, data for years 2003-04 to 2006-07 was used and projected forward to 2007-08 using historical rates of waste generation per head of population and forward projections of population.

Analysis of the data enabled calculation of municipal waste generation rates as set out at Table 3.

Table 3 Trend Rates – Municipal Solid Waste Generation

Region	Trend Rate (% change p.a.)	Trending
MET	+8.5%	Down
CLGAR	0.0%	Down
REG	-0.1%	Down

These rates represent the annual change in total municipal solid waste managed by Councils across the State, including general waste, recyclables, organics and hard waste.
Similar calculations were made for the trend rates in the split between general waste, recyclables, organics and hard waste, which are presented at Tables 4, 5 and 6.

Table 4 Trend Rates – Recyclables as a Percent of Total Waste

Region	Trend Rate (% change p.a.)	Trending
MET	+2.64%	Down
CLGAR	+2.60%	Down
REG	-0.44%	Up

Table 5 Trend Rates – Organics as a Percent of Total Waste

Region	Trend Rate (% change p.a.)	Trending
MET	+0.98%	Up
CLGAR	+0.07%	Up
REG	+0.36%	Down

Table 6 Trend Rates – Hard Waste as a Percent of Total Waste

Region	Trend Rate (% change p.a.)	Trending
MET	+1.59%	Up
CLGAR	+0.13%	Down
REG	-1.19%	Up

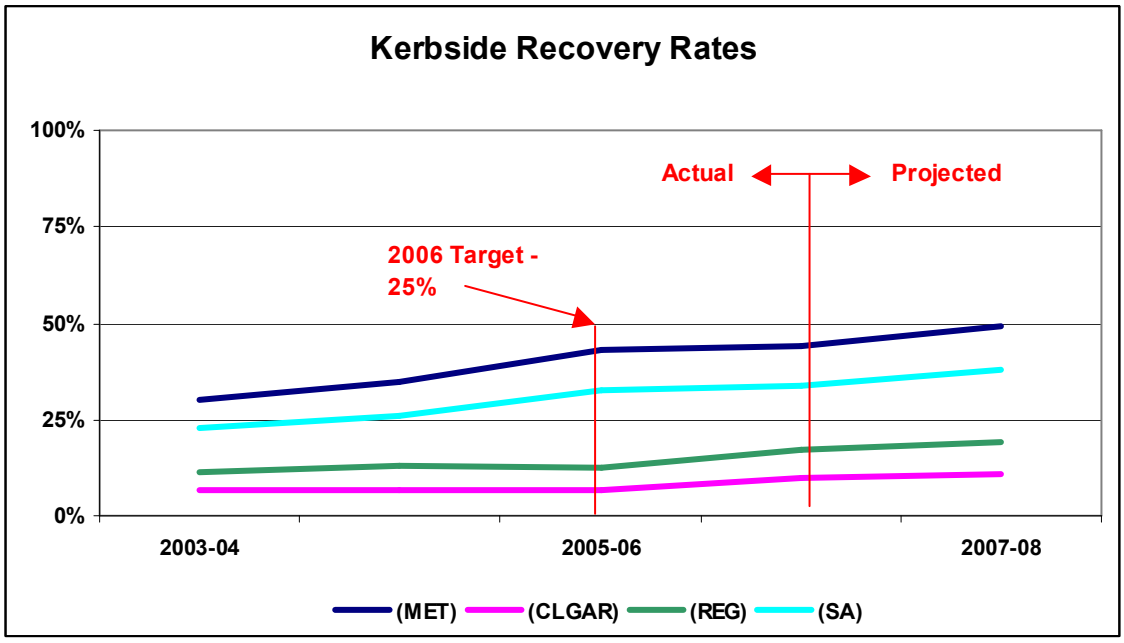
Kerbside recovery rates were then projected to 2007-08 to test the progress to 2008 in terms of recovery rate.

For the computation of kerbside recovery rates, no allowance was made for resources that may have been recovered from the hard wastes set out for kerbside collection. This position has necessarily been adopted owing to the lack of definitive broad-based data on resource recovery rates from hard waste, other than from a limited set of audits conducted at a sub-set of metropolitan councils for ZWSA (Flinders Bioremediation 2007).

In addition, no allowance was made for hazardous wastes, even though data was present in the information provided by the SA Grants Commission.

At Figure 1, over the page, a graph of the kerbside recovery rate is presented for each of the three regions, plus the State as a whole from 2003-04 through to 2007-08.

Figure 1 Kerbside Recovery Rates 2003-04 to 2007-08



From Figure 1, it can be seen that ***the 2006 target of 25% kerbside recovery rate for the whole of South Australia*** (light blue line) was comfortably achieved.

This achievement for the whole State is primarily due to a strong recovery rate in the MET region (dark blue line) at 43%. For the CLGAR region (pink line), the recovery was just 7% and for the REG region (dark green line), the recovery rate was slightly higher at 13%.

Looking towards the 2008 target of a 50% kerbside recovery rate for the State, the picture is not so positive.

The respective contributions from the three regions towards the whole of State position by 2008 are set out at Table 7.

Table 7 Expected Kerbside Recovery Rates by 2008

Region	Target Recovery Rate	Expected Recovery Rate
MET	49%	50%
CLGAR	11%	50%
REG	19%	50%
State	38%	50%

While the MET region is approaching the target, up from 43% to 49% in the two years from 2006 to 2008 (some 7% improvement each year), the CLGAR region has moved forward 7% to 11% in the two years from 2006 to 2008 (an impressive 28% each year), and the REG region has moved forward 13% to 19% in the two years from 2006 to 2008 (an equally sound 23% improvement each year).

Whilst all three regions are achieving progress, the general trend rates are positive, and the MET region has virtually reached the 2008 target by 2007-08***, the 2008 target of 50% kerbside recovery rate for the whole of South Australia*** looks unlikely to be achieved outside metropolitan Adelaide.

Progress in respect of service goals – the review team examined the data provided by the SA Grants Commission relating to the waste services offered by 68 Councils, to investigate progress towards the general service goal: *All councils to provide high performance kerbside or equivalent systems servicing householders throughout South Australia by 2010*.

This review over the five years from 2002-03 to 2006-07 showed similar trends for both recyclables and organics. Findings are presented at Table 8.

Table 8 Waste Services Provided by Councils 2002-03 to 2006-07

Service	Level of Service	Commentary on Service Levels
Recycling (all services)	→ Steady	The number of Councils offering recycling services, either as kerbside collected or drop-off only, has remained steady at around 53 (78%).
Recycling (collections)	↑ Increasing	The number of Councils offering kerbside recycling collections – weekly or fortnightly – has increased from 33 (49%) to 40 (59%), with a corresponding decline in drop-off service only from 20 to 13.
Organics (all services)	→ Steady	The number of Councils offering organics services, either as kerbside collected or drop-off only, has remained steady at around 52 (76%).
Organics (collections)	↑ Increasing	The number of Councils offering kerbside organic collections –fortnightly or monthly – has increased from 16 (24%) to 21 (31%), with a corresponding decline in drop-off service only from 35 to 30.
Hard Waste (all services)	↓ Declining	The number of Councils providing a hard waste service – either collected or drop-off only – has declined from 60 (88%) to 50 (74%).

In respect of both recyclables and organics, while the total service level has remained steady, kerbside collections are increasing, improving the availability and convenience to households and contributing to the higher levels of recyclables recoveries noted in Table 7.

The service level for hard waste services appears to be dropping.

On the basis of this service level review, it can only be concluded that the goal of ***all councils to provide high performance kerbside or equivalent systems servicing householders throughout South Australia by 2010*** is unlikely to be met outside metropolitan Adelaide.

4.2 Commercial and Industrial Waste

For commercial and industrial (C&I) waste, the Waste Strategy identifies a group of key wastes to be addressed, including *food/kitchen wastes; cardboard; paper; wood/timber; metals; plastics; green organics; tyres/rubber*, accompanied by specific resource recovery and reuse targets as set out at Table 9.

Table 9 C&I Waste Recovery Targets

By 2006	By 2008	By 2010	By 2014
5% increase in recovery and use of C&I materials from 2004 weights.	15% increase in recovery and use of C&I materials from 2004 weights.	30% increase in recovery and use of C&I materials from 2004 weights.	Reduce waste to landfill by 25% (as required by South Australia's Strategic Plan) relative to 2002-03 disposals.

Within each of the five objective areas, the Waste Strategy identifies slightly different sectors of industry and government to be specifically targeted by intervention initiatives, as shown at Box 2, over the page.

Box 2 Target Industry Sectors for C&I Initiatives

Objective 1 Fostering Sustainable Behaviour
Target Sectors:

- ✓ manufacturing sector (general), food product manufacturers; retail sector (general), food services and retail sector; business and industry (general); recyclers, re-processors (resource recovery); State and local government.

Objective 2 Reduce Waste
Target Sectors:

- ✓ manufacturing sector (general), food product manufacturers; retail sector (general), food services and retail sector; business and industry (general); recyclers, re-processors (resource recovery); State and local government.

Objective 3 Implement Effective Systems
Target Sectors:

- ✓ business and industry; waste industry (collectors, transporters, processors); Commonwealth, State and local government.

Objective 4 Implement Effective Policy Instruments
Target Sectors:

- ✓ business and industry, waste transporters; EPA, State and Commonwealth governments, EPHC.

Objective 5 Cooperate Successfully
Target Sectors:

- ✓ business and industry; EPA, State and Commonwealth governments, EPHC.

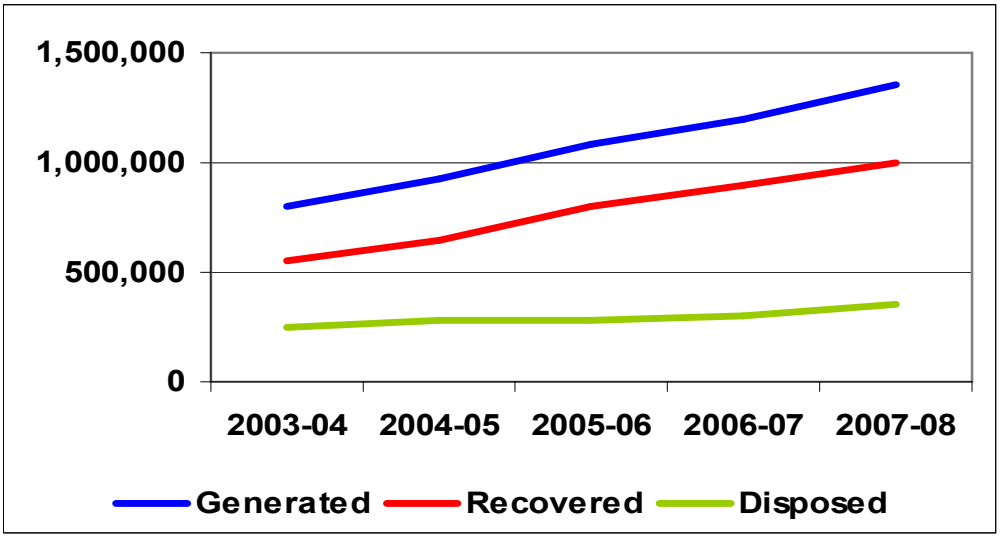
Progress in respect of recovery and reuse target In contrast to the municipal solid waste figures, data on the C&I sector is fragmented, and reliable information is difficult to obtain from a single source.

To test progress on recovery and reuse, multiple sources of data have been referred to, including:

- the Blue Book [WCSMI (2001) and WCSMI (2007)];
- the Productivity Commission inquiry into waste generation in Australia [Hyder (2006)];
- recycling activity reports prepared for ZWSA [Nolan (2004(1)), Nolan (2004(2)) and Hyder (2008)]; and
- landfill disposal audits prepared for ZWSA [WACS, CRH&A(2000), WACS (2004, and WACS (2007)].

At Figure 2 (over the page), the data values obtained from the multiple reports are plotted from 2003-04 to 2007-08.

Figure 2 C&I Waste Generation, Recovery & Disposal 2000-01 to 2007-08



Using known data, interpolated data and projected data, an assessment progress on recovery and reuse for the C&I sector in South Australia is presented at Table 10.

Table 10 Assessment of Progress on C&I Target to 2007-08

	Generated (tonnes)	Recovery (tonnes)	Recovery Rate
2003-04	800,000	550,000	69%
2005-06	1,080,000	800,000	74%
2007-08	1,350,000	1,000,000	74%

The Waste Strategy target is ambiguous, as there is no definition of the basis on which the change to be measured. Three possible measures include: the gain in absolute tonnage recovered; the percentage point improvement in the recovery rate; and the percentage change in recovery rate.

In Figure 2 and Table 10, the data is interpreted through each of these measures.

In absolute tonnage terms

- ✓ By 2005-06 - *recovery rate increased 45%* (800,000 tonnes up from 550,000 tonnes).
- ✓ By 2007-08 – *recovery rate should increase by 82%* (1,000,000 tonnes up from 550,000 tonnes).

In recovery percentage point terms

- ✓ By 2005-06 - *recovery rate increased 5 percentage points* (74% up from 69%).
- ✓ By 2007-08 – *recovery rate should hold steady* (74%).

In recovery rate terms

- ✓ By 2005-06 - *recovery rate increased 7%* (5 percentage points on 69%).
- ✓ By 2007-08 – *recovery rate should hold steady* (74%).

Using the first definition, the 2006 target of a 5% increase in the 2004 recovery rate was easily exceeded; and the 2007-08 recovery rate will easily exceed the target.

However, assuming that the intention is to increase the actual recovery rate, thus reducing the amount of waste destined for disposal, the data indicates that the 2005-06 target will be met, but the 2007-08 target is unlikely to be met.

The divergence in this is further highlighted by Table 10A.

Table 10A Changes in C&I Generation & Recovery to 2007-08

Two-Year Intervals	Generated (tonnes)	Recovery (tonnes)
2003-04 to 2005-06	+280,000	+250,000
2005-06 to 2007-08	+270,000	+200,000

Clearly, resource recovery over the two 2-year intervals is declining at a faster pace than generation, resulting in progressive erosion of resource recovery rates.

4.3 Construction and Demolition Waste

For construction and demolition (C&D) waste, the Waste Strategy identifies a group of key wastes to be addressed, including *soil; rocks; rubble; concrete; asphalt; bricks; timber; metals; plastics; plasterboard; asbestos; garden organics*. These are accompanied by specific resource recovery and reuse targets, as set out at Table 11.

Table 11 C&0 Waste Recovery Targets

By 2006	By 2008	By 2010	By 2014
20% increase in recovery and use of C&D materials from 2004 weights.	35% increase in recovery and use of C&D materials from 2004 weights.	50% increase in recovery and use of C&D materials from 2004 weights.	Reduce waste to landfill by 25% (as required by South Australia's Strategic Plan) relative to 2002-03 disposals.

The Waste Strategy identifies slightly different sectors of industry and government to be specifically targeted with intervention initiatives in each of the five objective areas, as shown at Box 3.

Box 3 Target Industry Sectors for C&D Initiatives

Objective 1 Fostering Sustainable Behaviour
Target Sectors:

- ✓ building and construction industry; re-processors (resource recovery); government departments (e.g. PIRSA – Planning SA, DAIS; South Australian Housing Trust), local government; higher education (universities and TAFE sector).

Objective 2 Reduce Waste
Target Sectors:

- ✓ resource recovery and salvage yards; architects; builders.

Objective 3 Implement Effective Systems
Target Sectors:

- ✓ building and construction industry; re-processors (resource recovery), waste transporters; government.

Objective 4 Implement Effective Policy Instruments
Target Sectors:

- ✓ waste depot operators, reprocessors (resource recovery); government departments (e.g. DAIS, SA Housing Trust).

Objective 5 Cooperate Successfully
Target Sectors:

- ✓ building and construction industry; re-processors (resource recovery); State and local government.

Progress in respect of recovery and reuse target Data on the C&D sector is even more fragmented and difficult to obtain than in the C&I sector. The same sources of data used in the C&I estimates have been used for the C&D estimates, with the exception of the landfill audit data.

At Figure 3, below, the data values obtained from the multiple reports are plotted from 2003-04 to 2007-08.

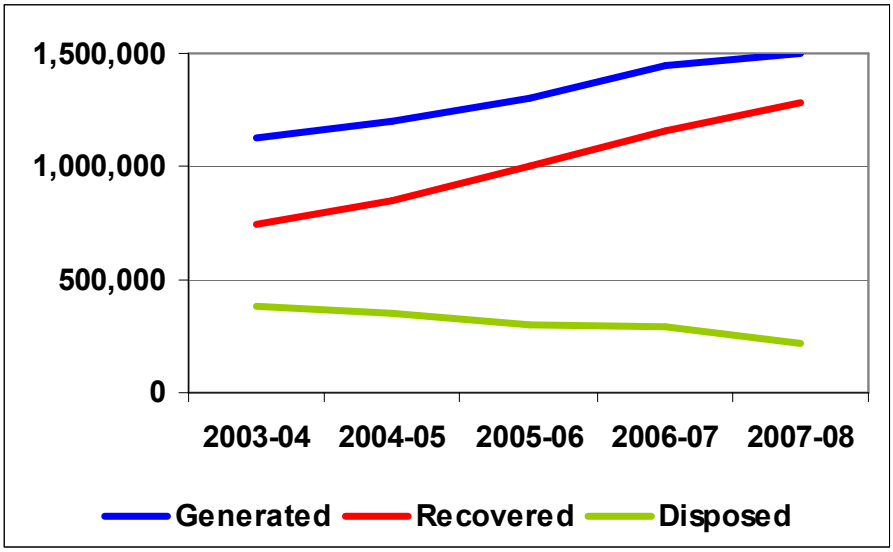


Figure 3 C&D Waste Generation, Recovery & Disposal 2000-01 to 2007-08

Progress assessment on recovery and reuse for the C&D sector is presented at Table 12.

Table 12 Assessment of Progress on C&D Target to 2007-08

	Generated (tonnes)	Recovery (tonnes)	Recovery Rate
2003-04	1,125,000	740,000	66%
2005-06	1,300,000	1,000,000	77%
2007-08	1,500,000	1,280,000	85%

As with the C&I sector, the Waste Strategy target has no agreed basis on which the change is to be measured. The same three possible measures - the gain in absolute tonnage recovered; the percentage point improvement in the recovery rate; and the percentage change in recovery rate – may apply here.

In Figure 3 and Table 12, the data is interpreted through each of these measures.

In absolute tonnage terms

- ✓ By 2005-06 - *recovery rate increased 35%* (1,000,000 tonnes up from 740,000 tonnes).
- ✓ By 2007-08 – *recovery rate should increase by 73%* (1,280,000 tonnes up from 740,000 tonnes).

In recovery percentage point terms

- ✓ By 2005-06 - *recovery rate increased 11 percentage points* (77% up from 66%).
- ✓ By 2007-08 – *recovery rate should increase by 19 percentage points* (85% up from 66%).

In recovery rate terms

- ✓ By 2005-06 - *recovery rate increased 17%* (11 percentage points on 66%).
- ✓ By 2007-08 – *recovery rate should increase by 29%* (19 percentage points on 66%).

Using the first definition, the 2006 target of a 20% increase in the 2004 recovery rate was easily exceeded; and the 2007-08 recovery rate will easily exceed the target.

However, assuming that the intention is to increase the actual recovery rate, thus reducing the amount of waste destined for disposal, the data indicates that the 2005-06 target will be met, but the 2007-08 target is unlikely to be met.

The divergence in these measures is further highlighted by Table 12A.

Table 12A Changes in C&D Generation & Recovery to 2007-08

Two-Year Intervals	Generated (tonnes)	Recovery (tonnes)
2003-04 to 2005-06	+175,000	+260,000
2005-06 to 2007-08	+200,000	+280,000

Clearly, resource recovery over the two 2-year intervals is declining at a faster pace than generation, resulting in progressive erosion of resource recovery rates.

4.4 Litter and Illegal Dumping

The Waste Strategy identifies a group of key litter wastes to be addressed when tackling litter and illegal dumping, including *plastic bags; cigarette butts; fast food wrappers; confectionery wrappers; hard waste (near charitable collection bins)*. The Strategy also lists two targets with no time horizons:

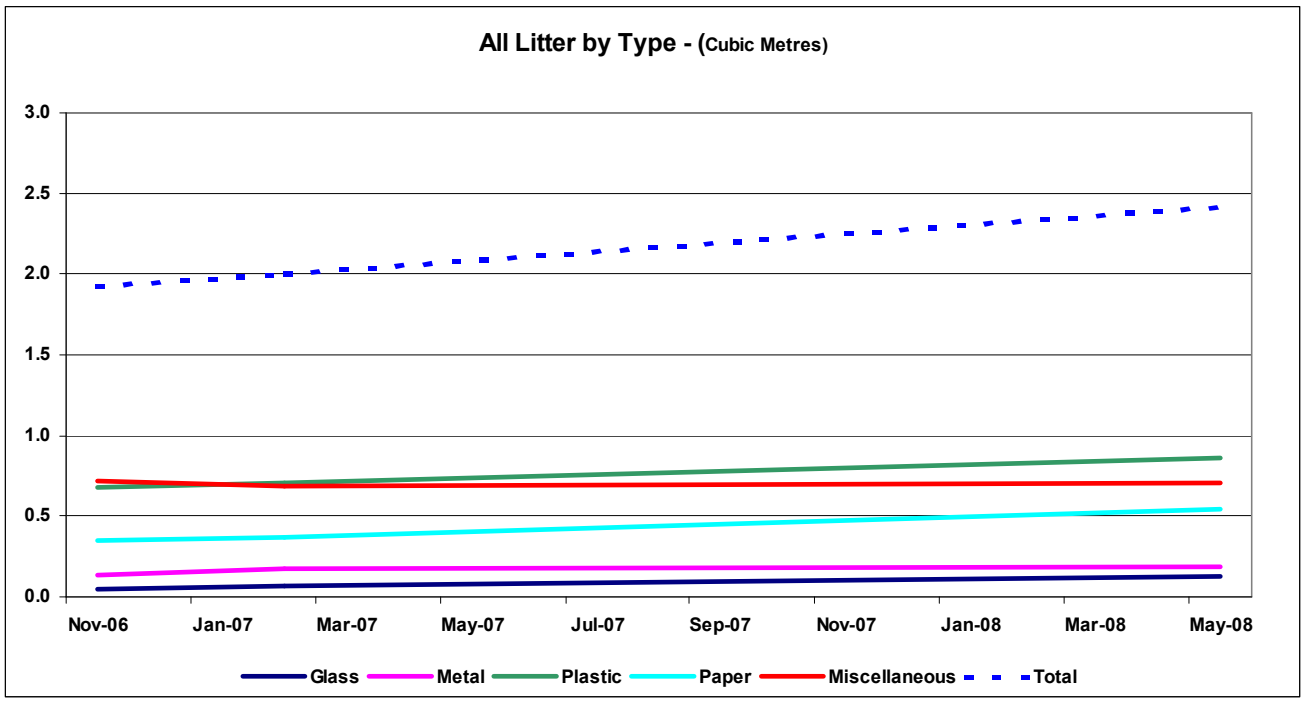
- reduce the incidence of littering and illegal dumping in South Australia; and
- demonstrate the benefits of adopting waste avoidance and reduction behaviours.

The first target is clearly measurable, while achievements on the second can only be implied, perhaps through achievements in the first.

For this review, litter count data was obtained from KESAB, a key partner of ZWSA that is leading the efforts on litter and illegal dumping under fixed term funding arrangements.

Figure 4 presents a graph of litter counts in cubic metres of litter collected, showing counts for each of the key litter stream materials, plus a plot for the total litter count over the period.

Figure 4 Litter Count Data November 06 to May 08



The data shows increasing litter capture over the 18 month period in which the sample counts were obtained, with increases in all materials streams monitored.

Clearly, the broad target of ***reducing the incidence of littering and illegal dumping in South Australia*** is not being achieved thus far.

4.5 Hazardous Waste/Liquid Waste

The Waste Strategy has one clear hazardous waste target:

- South Australia will have a Hazardous Waste Strategy by December 2005.

In October 2005, the EPA released a draft Hazardous Waste Strategy [EPA (2005)] for consultation, with a final strategy covering the period 2006-10 [EPA (2008)] published earlier this year.

Whilst the release of the final hazardous waste strategy was outside the time frame envisaged in the Waste Strategy***, the consultation draft was released in 2005***.

4.6 Waste Transfer and Landfill Disposal and Storage

This area of endeavour was not rated in the Waste Strategy and no time horizons were placed on the target:

- eliminate waste or its consignment to landfill, and advance the development of resource recovery and recycling by developing markets, infrastructure and other initiatives.

However, this issue has significant potential to deliver on the overall goals of ZWSA and the Waste Strategy, especially considering the first two strategic intent statements included for this issue:

- ✓ prevent the development of further landfills servicing metropolitan Adelaide; and
- ✓ ensure all metropolitan generated waste is processed through a transfer station, material recovery facility, resource recovery facility or equivalent facility, and not disposed direct to landfill.

The current oversupply of landfill serving metropolitan Adelaide presents a significant market impediment to the Waste Strategy's aim of reducing waste to landfill. However, the strategic intent of ensuring that all Adelaide wastes are presented through a transfer station or resource recovery facility before dispatch to landfill, will become a significant intervention measure, and an opportunity to increase resource recovery.

Three landfill audits were consulted for this review [WACS, CRH&A (2000); WACS (2004; and WACS (2007)], with the aim of understanding how much waste was received at intermediate transfer or sorting stations prior to dispatch to the landfills. During the period over which these audits were conducted, methodologies for the audits were modified, making comparisons between audits problematic. It should also be noted that the primary aims of the audits included composition and source of wastes, rather than waste routing.

The 2000 audit gives no indication of how much waste passes through a transfer or sorting facility prior to dispatch to landfill. The 2004 data suggests that a minimum of 18% of materials first passed through transfer facilities. The 2007 data suggests that figure may have increased to upwards of 70%. This indication of significant change can be mainly attributed to the closure of the Wingfield landfill.

If this data analysis is accurate, then significant progress is being made in achieving the objective of ***requiring wastes to be subjected to transfer prior to dispatch to landfill disposal.***

4.7 Expenditure on Initiatives to Deliver the Strategy

The Waste Strategy contains a series of *158 next step* actions to be initiated over five years, with each action associated with one of the five objectives of the Waste Strategy.

In addition, the Business Plans identify some *48 project*s for which funds have been allocated over the four years 2005-06 through 2008-09. Each of the projects is associated with one of the six Waste Areas.

The relationship between the Waste Strategy and the Business Plans is relatively complex. The Next Steps, which were developed at the same time as the Waste Strategy, are an indication of the types of actions and interventions that appeared appropriate at the time. By contrast, the Projects funded in the Business Plans reflect actual initiatives implemented.

In order to understand the allocation of financial resources, the four most recent Business Plans for ZWSA (2005-06 through 2008-09) have been reviewed and analysed from two perspectives:

(a) the waste stream targeted, and

(b) the intended outcome from the spend.

In both analyses, both "corporate overheads" and expenditures allocated to the "All Wastes" categories in the business plans have been spread across the various (waste streams or outcome) areas on a pro-rata basis.

The results of the analysis of expenditure allocation are presented numerically at Table 13 and Table 14 and graphically at Figure 5 and Figure 6.

Table 13 Waste Stream Expenditure Allocation 2005-06 to 2008-09

	2005-06	2006-07	2007-08	2008-09	Total
Municipal Solid Waste	6,583,680	3,207,191	4,243,528	4,577,105	**$18,611,504**
C&I	692,938	512,126	1,249,687	3,393,247	**$5,847,998**
C&D	105,481	64,016	57,945	53,975	**$281,417**
Litter & Illegal Dumping	754,532	549,469	706,933	521,761	**$2,532,695**
Hazardous & Liquid Wastes	1,675,370	1,071,198	1,158,906	1,066,912	**$4,972,385**
Total	**$9,812,000**	**$5,404,000**	**$7,417,000**	**$9,613,000**	**$32,426,000**

Table 14 Outcome Targeted Expenditure Allocation 2005-06-to 2008-09

	2005-06	2006-07	2007-08	2008-09	Total
Education & Communication	2,297,913	1,457,517	2,244,023	4,322,655	**$10,322,107**
Capacity Building	7,211,683	3,778,277	3,925,008	4,320,392	**$19,235,360**
Data & Knowledge Acquisition	245,031	104,732	861,389	540,120	**$1,751,271**
Partnerships & Leverage	57,373	63,474	386,580	429,834	**$937,261**
Total	**$9,821,000**	**$5,404,000**	**$7,417,000**	**$9,613,000**	**$32,426,000**

Figure 5 Waste Stream Expenditure Allocation 2005-06 to 2008-09

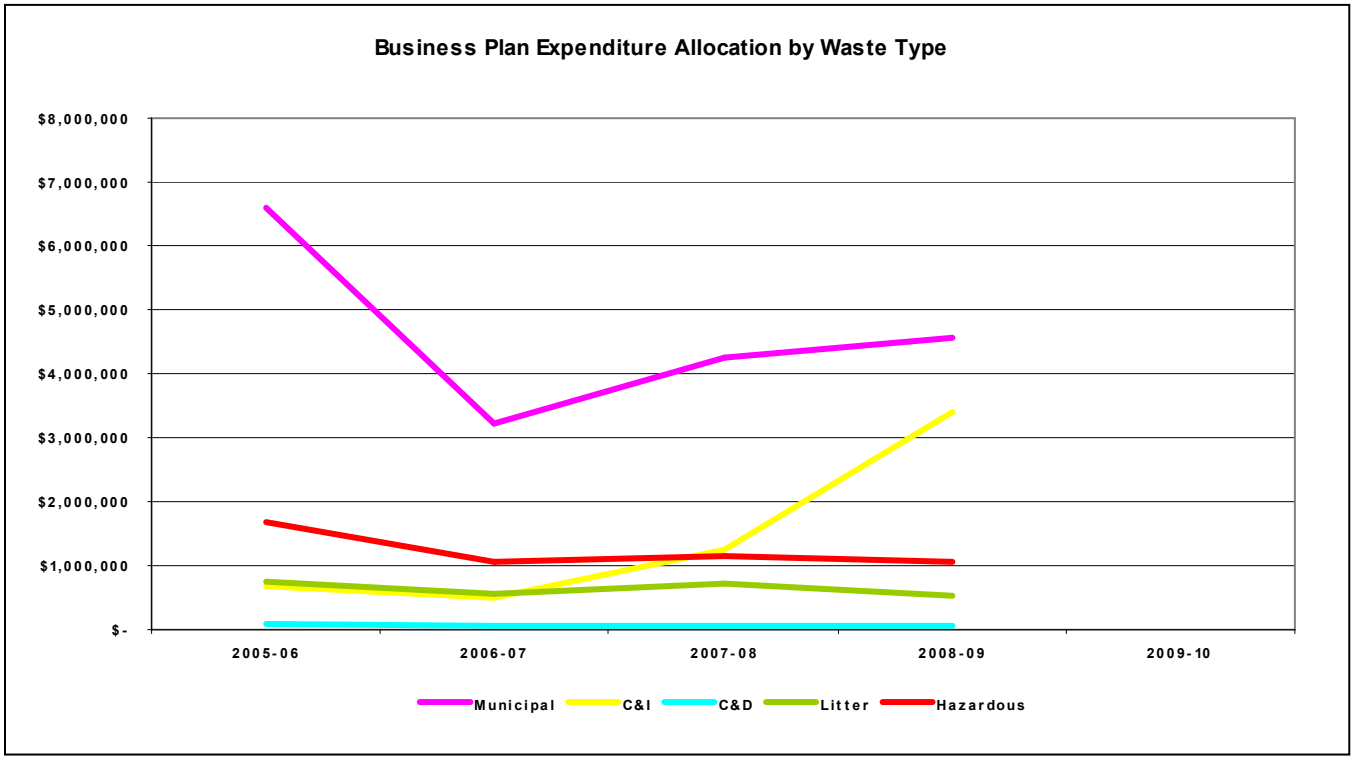
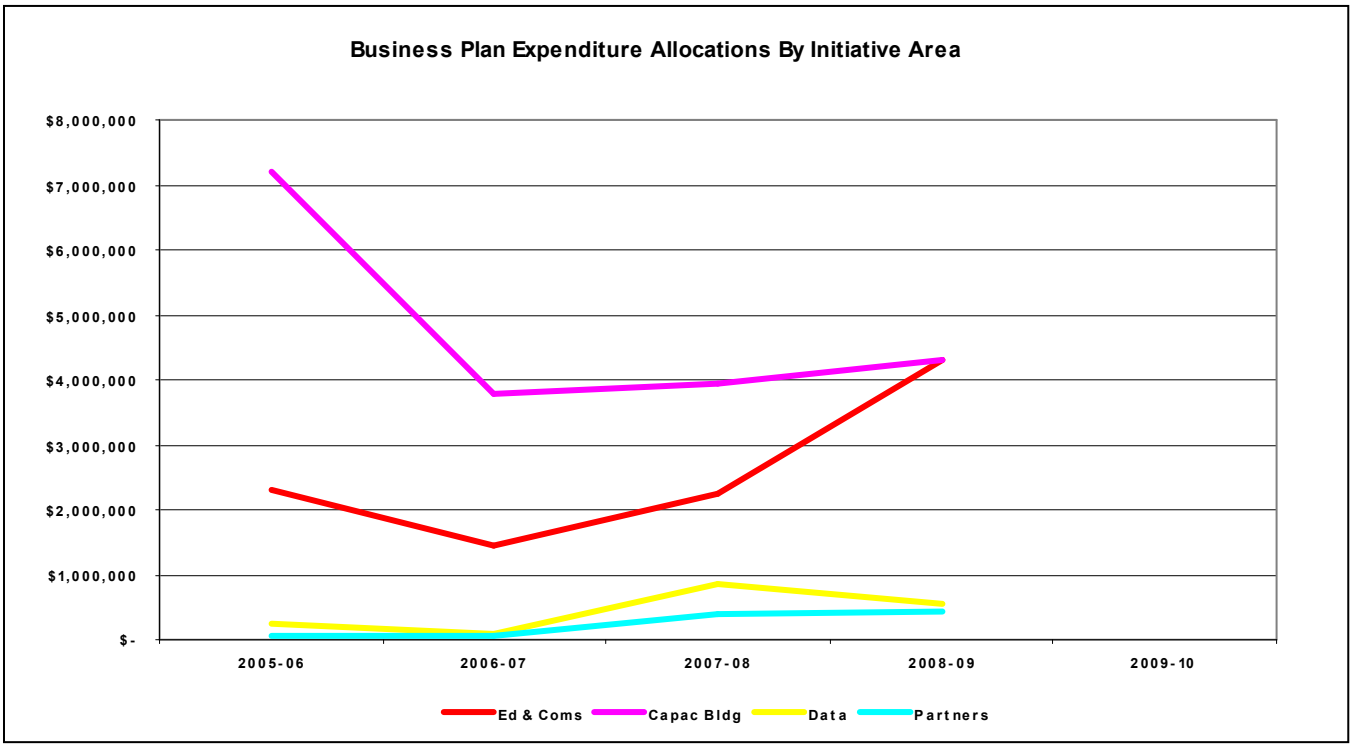


Figure 6 Outcome Targeted Expenditure Allocation 2005-06-to 2008-09



The allocations for each waste stream in Table 13 are compared with the attainment of targets or goals at Table 15.

Table 15 Waste Stream Expenditure and Delivery on Targets

Stream	Allocation ($mil)	Allocation (%)	Delivery on Targets
Municipal	$18.6	58%	- 2006 target for SA achieved - 2008 target for SA unlikely - 2010 goal for services unlikely
C&I	$5.8	18%	- all targets exceeded
C&D	$0.3	1%	- all targets exceeded
Litter	$2.5	8%	- target not being achieved
Hazardous	$5.0	15%	- target achieved

The targeted expenditure in Table 14 is compared with the delivery on targets in Table 16, over the page.

Table 16 Outcome Targeted Expenditure and Delivery on Targets

Stream	Allocation ($mil)	Allocation (%)	Delivery on Targets
Education & Communication	$10.36	32%	A key area for securing sustainable change; ongoing reinforcing expenditure is warranted.
Capacity Building	$19.2	60%	A high early spend in capacity building has established a base from which gains should be extracted in the remaining years of the Waste Strategy; future expenditure should decline in this area.
Data & Knowledge Acquisition	$1.8	5%	Data is improving, but remains poor and fragmented, making analysis and review difficult and measurement of progress problematic; additional resources should be allocated.
Partnerships & Leverage	$0.9	3%	Evidence of collaboration is good in some areas, but the extent of leverage is unclear; increased resources with targeted deliverables should deliver returns.

5 The Appropriateness of Initiatives

The Government of South Australia recognises that resource recovery and waste disposal to landfill are significant issues that impact on the sustainability of life and business across the State. Waste was included as a key element in Objective 3 of South Australia's Strategic Plan – Achieving Sustainability.

The Waste Strategy 2005-2010 is one of the tools that the Government required to support the Strategic Plan, particularly the drive to reduce the State's ecological footprint as a part of Objective 3.

The Waste Strategy documents areas of systemic and market failure impeding the reduction of waste disposal, and establishes a set of initiatives to be implemented in response.

The ***appropriateness*** of these initiatives was assessed relative to:

- the markets – do the initiatives address the weaknesses and failures in the markets?; and
- the stakeholders – do the initiatives target the right stakeholders and provide them with the requisites to bring about the targeted change?

A summary of the assessment is presented at Table 17.

Table 17 Assessment of the Appropriateness of the Initiatives

Criteria	Assessment
Appropriateness to markets	✓ The Waste Strategy identified the market weaknesses. ✓ The business plans appropriately allocated available resources to the failures in a strategic approach. ✓ The initiatives address both deliverability and environmental need. ✓ Close attention will need to be paid to both C&I and C&D waste streams in the second half of the Waste Strategy roll-out.
Appropriateness to stakeholders	✓ The Waste Strategy identified issues in both the municipal and C&I sectors. ✓ ZWSA shaped the initiatives appropriately to appeal to the stakeholder-agents best positioned to implement actions on behalf of ZWSA with residential waste generators. ✓ A similar approach now needs to be taken with the C&I and C&D sectors.

5.1 Appropriate to Markets

(a) Municipal Waste

At the time the Waste Strategy was implemented, latest waste data (2003-2004) indicated that South Australian waste recovery rates were around 55%. The municipal sector was performing at a significantly lower rate, with recovery rates around 23%.

This compared poorly with the ACT, at that time arguably the sector leader thanks to its aspirational *"No Waste by 2010"* strategy. Using a two-bin kerbside collection configuration, overall recovery rates in the ACT had almost reached 70%, with municipal waste recovery at 55%.

The Waste Strategy identified objectives to be attained, set targets and identified initiatives, with the municipal sector singled out for special attention in the early years. The aim was to bring South Australia into contention as the leader in waste management reform.

The objectives involved visions for:

- ✓ behavioural change;
- ✓ expectations for regulatory intervention; and
- ✓ a need for system change, with introduction of infrastructure to enable the community to reach the targets.

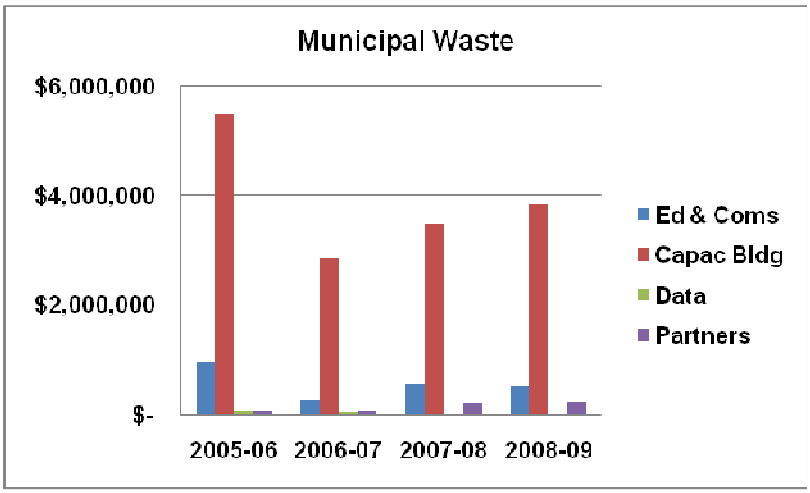
The Waste Strategy identified systemic failures in community attitudes and behaviours, and the availability of infrastructure and systems.

Of a total of $22.6 million allocated to various initiatives in the first three years of the Waste Strategy, 62% - $14.0 million – went to municipal waste sector interventions.

At Figure 7, over the page, allocation of the spend in the municipal sector is shown against four key outcome areas, listed below.

- *Education and communications* – awareness raising and dissemination of information to improve the knowledge on which citizens base decisions about waste disposal and resource recovery.
- *Capacity building* – the infrastructure and facilities that the community requires in order to implement significant change.
- *Data* – the knowledge of what is actually happening regarding waste generation, resource recovery and waste disposal that permits informed decision making.
- *Partners* – the third parties engaged by ZWSA to achieve buy-in to the reform agenda from a wide stakeholder base.

Figure 7 Expenditure Allocation in Municipal Waste 2005-06 to 2008-09



The Waste Strategy identified and focused the efforts of intervention on the following key areas.

- Capacity building (infrastructure and systems), with interventions such as the Regional Implementation Program (formerly called the Regional Infrastructure Grants) and the Kerbside Incentives Program, that were rolled-out to provide the necessary infrastructure. These initiatives represented $11.8 million, or some 50%, of the total spend on interventions over the first three years.
- Behaviour change (education and communications), with interventions in the municipal sector such as the sustainable schools initiative, assistance to Local Government on education and awareness raising, and public place events waste management.

By 2007-08, the initiatives of the Waste Strategy had delivered a marked improvement in municipal sector recovery rates, and improved South Australia's performance relative to other jurisdictions.

(b) Non-Municipal Waste Streams

The Waste Strategy initially targeted issues in the municipal sector, with projects in this area consuming 67%, 59% and 57% respectively of the total spend over the first three years.

In addition, the Waste Strategy also identified market issues in the non-municipal sectors, developing a staged approach to addressing these issues over the five-year term of the Waste Strategy.

In relation to C&D waste, the waste disposal levy, and its subsequent increase, was seen as very effective, owing to the relatively high specific gravity of C&D waste. C&D waste already boasted a relatively high recovery rate (around 66% in the 2003-04 data); with the levy as a major disincentive to disposing of these wastes at landfill, it was felt that further incentives in this area were unnecessary.

However, it should be noted that the way targets are expressed, and forecasts of increasing waste generation, mean that results may be expected to decline over time.

As C&I waste also had an impressively high recovery performance at the start of the Waste Strategy (around 69% in the 2003-04 data), initiatives in this area therefore focused initially on behaviour change, such as industry resource efficiency, industry engagement and awareness raising, and opportunities to reduce waste and introduce more sustainable practices.

Towards the end of the Strategy's first three years, as the emphasis on municipal waste has declined, budget allocations to the C&I sector have gradually increased, with a major campaign in this sector planned for the second half of the Strategy's term.

However, as with the C&D waste stream, results may be expected to decline over time, for the same reason.

Two areas where the Waste Strategy had identified both systemic and behavioural changes were litter and hazardous wastes. Over the first three years, a steady spend of resources has been allocated to these areas, commensurate with the magnitude of the environmental problem that was identified.

In summary – Having identified market failures, the Waste Strategy and the business plans allocated available resources to address those failures using a strategic approach that took into account both deliverability and environmental need. Close attention will need to be paid to both C&I and C&D waste streams in the second half of the Waste Strategy roll-out.

5.2 Appropriate to Stakeholders

(a) The Residential Community

The first objective of the Waste Strategy is to foster sustainable behaviour relating to waste management and resource recovery across the community. In order to achieve lasting results, there needs to be an acceptance of the need to change and preparedness to implement change. This buy-in creates real potential for a shift in the way the community thinks and behaves.

Key ingredients to create openness to new ways of managing wastes and preparedness to change are

- support (by way of enabling and empowering initiatives); and

- leadership (by way of a visible presence either through ZWSA's own profile or by utilising the power of partner agencies).

In the municipal waste sector, ZWSA approach in framing and rolling out initiatives to the residential community have received strong endorsement, with key results including:

- ✓ the successful enlistment of Councils in the promotion of the Waste Strategy and its objectives across the residential community;
- ✓ raising community awareness of waste issues and engaging the community to participate and support the objectives of the Waste Strategy;
- ✓ establishing the ZWSA brand and a web-based information bank that reinforces the supporting education and awareness campaigns; and
- ✓ visibly setting South Australia in pursuit of a national leadership position on waste reform with which the community can identify and feel proud.

These factors are seen as instrumental in driving reform and securing behaviour change in the residential community, and are reflected in both the structure and focus of the intervention initiatives, and in consultation with a wide range of stakeholders representing the residential community.

The most valued feature of the Waste Strategy and the implementation of its initiatives is reported to be the extent to which it has encouraged self-motivation and innovation on the part of the community, rather than relying on regulation. The staff of ZWSA was congratulated by numerous stakeholders for their responsiveness and commitment to supporting innovation, including facilitation of new ideas and approaches from industry and other government agencies.

Local Government stakeholders identified a number of initiatives that have been very successful in supporting their efforts to meet the objectives of the Waste Strategy and motivate change, including:

- ✓ kerbside incentive grants;
- ✓ the illegal dumping program;
- ✓ the roll-out of hazardous waste collections; and
- ✓ regional programs supporting collective approaches outside the metropolitan area.

These initiatives were seen as action oriented, focused on building capability on the ground, and addressing areas where the community was frustrated by perceived impediments.

(b) The Non-Residential Community

In non-residential areas, the situation is less clear-cut and not as encouraging. However, it should be noted that as yet, only limited efforts have been made under the Waste Strategy to engage non-residential stakeholders.

In the municipal sector, Local Government plays a critical linking role, working between ZWSA and the community as a conduit and magnifier, delivering many initiatives to the residential community.

In the business sector, the body most likely to fill a similar role is the waste management industry. Regrettably, many stakeholders in the traditional collection and disposal part of the industry remain focused on the greater individual gain from straight collection and disposal, rather than introducing services that might increase resource recovery from the premises of business clients. As a result, these stakeholders are often unwilling allies who are difficult to convert.

Industry players involved in resource recovery, as opposed to disposal, rarely have direct access to the waste generating businesses through their own collection services. These stakeholders often rely on the link between the collectors and their customers to secure supply of recovered resources.

The Waste Strategy identified this as a market failing and allocated significant resources to this sector. In the current year, significant funding allocations for the industry resource efficiency initiative continue, and a new commercial collections and contracts intervention commences.

The resource efficiency funding will build on work commenced earlier in the implementation of the Waste Strategy, while the new funding in the commercial collections area will target the weak link between ZWSA, the collection contractors and the waste generating clients. Given the strong degree of industry interest expressed through the initial set of grant applications received for the commercial collections initiative, it is to be hoped that productive relationships can be built that turn the tables on C&I collection contractors.

In summary – The Waste Strategy identified the market failures in both the municipal and C&I sectors. In the roll out of initiatives, ZWSA shaped appropriate initiatives that appealed to the stakeholders best positioned to implement actions on behalf of ZWSA with residential waste generators. A similar approach now needs to be taken with the C&I and C&D sectors.

6 The Appropriateness of the Targets

The Waste Strategy has defined targets for increasing resource recovery in municipal, commercial and industrial and construction and demolition waste streams. In addition, an over-arching target for a reduction in the amount of waste disposed to landfill has been included in South Australia's Strategic Plan.

In each case, the target comprises both a numerical achievement objective and a desired date of attainment objective. The targets are summarised at Table 18.

Table 18 Recovery and Diversion Targets in the Waste Strategy

Waste stream	By 2006	By 2008	By 2010	By 2014
Municipal solid waste	At least 25% of all material presented at the kerbside is recycled	50% of all material presented at the kerbside is recycled	75% of all material presented at the kerbside is recycled (if food waste is included)	Reduce waste to landfill by 25% (as required by *South Australia's Strategic Plan*)
Commercial and Industrial (C&I)	5% increase in recovery and use C&I materials	15% increase in of recovery and use of C&I materials	30% increase in recovery and use of C&I materials	Reduce waste to landfill by 25% (as required by *South Australia's Strategic Plan*)
Construction and demolition (C&D)	20% increase in recovery and use of C&D materials	35% increase in recovery and use of C&D materials	50% increase in recovery and use of C&D materials	Reduce waste to landfill by 25% (as required by *South Australia's Strategic Plan*)

In the Mid Term Review, an assessment was made of the ***appropriateness*** of these targets relative to:

- the strategic applicability of the targets – are targets in this form appropriate for getting the initial Waste Strategy moving?;
- the attainability of the targets – do the targets present a challenge to which the community will aspire because they are considered achievable?; and
- the geographical applicability of the targets – is it appropriate to apply uniform targets across all regions of the State?

6.1 Strategic Applicability of the Targets

It is widely recognised that numerical- and time-based targets set objectives that can be both visualised and measured. The expectation is that targets considered to be within the reasonable reach of the community, albeit perhaps with regulatory push and/or injections of additional resource, may enjoy broad community acceptance, even if they require a "stretch effort" by the participants.

Enthusiasm generation by such targets can be enhanced by Government support including:

- ✓ implementation of regulatory coercion;
- ✓ dissemination of supporting information;
- ✓ timely provision of essential resources; and
- ✓ feedback on progress.

Given that South Australia's Waste Strategy 2005-2010 is the first such Statewide strategy, the targets shown in Table 1 are considered a strategically appropriate way to capture the imagination of the community, and tactically appropriate in setting goals that are reasonably attainable for a large proportion of the community.

As long as the targets and goals remain reasonably attainable, and while progress continues to be demonstrated, these targets should remain in place.

However, if the targets become too easy or too difficult to achieve, they should be revised accordingly, and be replaced with new, motivational goals.

Stakeholders' feedback indicated that the next Waste Strategy should also contain strategic targets, particularly those addressing specific/difficult waste streams, assisting with the development of markets, and promoting ownership of the whole waste stream on the part of individuals and communities. For example:

- ✓ targets on the purchase of recycled products;
- ✓ targets focusing on the quality of participation (i.e. contamination levels), to ensure valuable recovered materials can used more effectively;
- ✓ specific and difficult waste streams could be targeted through community behaviour – i.e. for waste streams where kerbside disposal is inappropriate, build on the success of the oil and CDL schemes to encourage drop-off of difficult wastes at key depots.

One important strategic and psychological issue to be considered is whether targets should be applied uniformly across the State. This issue will be considered further in the following section, but its importance in regard to galvanising communities should not be underestimated.

In Summary – Once food waste collections are introduced, metropolitan Adelaide will meet its targets for municipal waste, but areas outside Adelaide will not. While Adelaide will therefore require a new set of targets, regional councils will need assistance to achieve the original targets. The targets for C&I and C&D waste in coming years will become less achievable as returns diminish. It is becoming increasingly important to consider targets for reducing the amount of waste generated.

6.2 Attainability of the Targets

The technical review drew the following conclusions regarding progress towards the targets.

Municipal Solid Waste

- ✓ The 2006 target of 25% kerbside recovery rate for the whole of South Australia was comfortably achieved.
- ✓ The 2008 target of 50% kerbside recovery rate for the whole of South Australia looks unlikely to be achieved outside metropolitan Adelaide.
- ✓ The goal of all councils to provide high performance kerbside or equivalent systems servicing householders throughout South Australia by 2010 is unlikely to be met, with the exception of metropolitan Adelaide, where it will be met after food waste collection is introduced.

Commercial and Industrial Waste

- ✓ The 2006 target of a 5% increase in the 2004 recovery rate was easily exceeded.
- ✓ The 2007-08 targeted recovery rate by is unlikely to be achieved.

Construction and Demolition Waste

- ✓ The 2006 target of a 20% increase in the 2004 recovery rate was well exceeded.
- ✓ The 2007-08 targeted recovery rate by is unlikely to be achieved.

The forecast position for resource recovery in the C&I and C&D sectors is presented in Table 19 and compared with the targets from Table 18. These calculations assume that the targets refer to the expected growth in the recovery rate over the time intervals used in the target statement.

Table 19 Forecasts of Recovery in C&I and C&D Sectors – Percentage Changes

	C&I Recovery Improvement		C&D Recovery Improvement	
	Actual/Forecast	**Target**	**Actual/Forecast**	**Target**
2003-04	69%	Base Recovery	66%	Base Recovery
2005-06	+8%	+5%	+17%	+20%
2007-08	+8%	+15%	+30%	+35%
2009-10	+12%	+30%	+33%	+50%

Table 20, over the page, converts the percentage data in Table 19 into annual tonnes, to give a sense of the challenges involved in these two waste streams.

Table 20 Forecasts of Recovery in C&I and C&D Sectors – Tonnage Changes

	C&I Recovery Improvement			C&D Recovery Improvement		
	Actual/ Forecast	Target	Shortfall	Actual/ Forecast	Target	Shortfall
2003-04	550,000	Base		740,000	Base	
2005-06	800,000	553,000	OK	1,000,000	853,000	OK
2007-08	1,000,000	1,067,000	**67,000**	1,280,000	1,332,000	**52,000**
2009-10	1,280,000	1,484,000	**204,000**	1,450,000	1,644,000	**191,000**

These forecasts are based on the assumption that current trends in both waste generation and waste recovery continue, and are calculated without taking into effect any of the initiatives that may be implemented during the remaining years of the current Waste Strategy.

In Summary – Targets have been set at a level that, although requiring effort and commitment from the residential community, remain achievable, at least for metropolitan Adelaide. While C&I and C&D sector targets for 2005-06were easily met, forthcoming initiatives will need to deliver strong returns on resource recovery if the targets are to be met.

6.3 Geographical Suitability of the Targets

With the exception of the 2014 target for reducing waste to landfill across the whole of South Australia, the statement of the targets does not refer to the targets' geographical applicability, although one assumes the targets are probably intended to apply across the whole of South Australia.

As waste generation and disposal data for the C&I and C&D sectors outside the metropolitan Adelaide area is rarely collected and documented,, the targets for these sectors must be based primarily on metropolitan Adelaide data.

In the municipal sector, however, more detailed data on waste and resource recovery allows a more complete picture. The Stage One Report grouped the 68 South Australian Local Government areas into three regional clusters.. A comparison of these regions, illustrated in Table 21 (over the page), reveals significant differences between the Adelaide metropolitan region and the other two regions.

Table 21 LGA Groupings for Review on Targets

Region	Abbreviation	Number of LGAs	Municipal Waste Generated in 2007-08 (tonnes)	Tonnes per LGA
Metropolitan LGAs	MET	19	490,923	25,838
Central LGA Region	CLGAR	15	89,409	5,961
Rural and Regional LGAs	REG	34	166,629	4,901

Further comparison of the geographical area and the population of these LGA clusters with municipal waste generation rates reveals even greater differences between the three clusters.

This reflects the fact that non-metropolitan LGAs have larger areas and more dispersed populations than metropolitan LGAs. For these LGAs, multiple factors that mitigate against waste management performance comparable to that of the metropolitan LGAs includes:

- small Council rate pools from which to fund waste management activities;
- substantial distances between residential properties to be serviced;
- sub-critical amounts of wastes and materials to be managed; and
- long transport distances to infrastructure and markets.

These factors impede efficient collection of waste materials at the household level; thwart opportunities for economies of scale in processing and managing wastes; and create challenges to accessing markets for products generated from waste processing, provoking questions about the sustainable limits of providing integrated and comprehensive waste services in some remote regions.

Notwithstanding these issues, there is a widely-held desire in non-metropolitan Councils to strive towards attaining the targets and to lift service levels to meet community expectations.

Consultation has revealed a wide acceptance of the targets and a broad desire to attain the targets across Local Government, a irrespective of location. The lack of differentiation in the Waste Strategy between metropolitan from non-metropolitan LGAs means that all Councils have been set uniform targets and all have been supported to some degree by the ZWSA initiatives.

At present, while metropolitan Adelaide seems likely to achieve its targets across all three waste streams within the timeframes specified; regional Councils appear unlikely to match this achievement.

This suggests that the introduction of uniform targets across the State was a bold but unobtainable plan.

At present, there does not appear to be any backlash against the targets from regional Councils. However, some Local Government stakeholders have identified the possibility of community members feeling disenfranchised due to unmet expectations, especially in regional areas.

The uniform target methodology may therefore need to be reconsidered as the Waste Strategy is developed further.

In Summary – the targets for municipal waste are highly likely to be attained in metropolitan Adelaide, but not outside this region. The ambitious and strong drive towards the targets in non-metropolitan LGAs is commendable and highly worthy of support. However, diminishing returns can be expected to appear before too long, and further increase in efforts beyond a reasonable sustainably point may not be warranted. If regional enthusiasm starts to wane as targets remain unmet, it may be necessary to address the appropriateness of uniform State targets.

7 Stakeholder Engagement

Stakeholder consultation was a significant aspect of the Mid Term Review, to:

- provide an understanding of the extent to which the Waste Strategy was understood and being internalised across the stakeholder groups; and
- elicit stakeholder feedback to help to fine-tune the remainder of the current Waste Strategy, and to gather ideas and concepts for the next Waste Strategy 2010-2015.

This section presents summaries of the key findings from the stakeholder consultation workshops. Firstly, findings have been grouped into three sections relating to the objectives of the Waste Strategy initiatives: Awareness, Participation and Behaviour Change.

Further findings relating stakeholder feedback and consultation have been summarised into eight issue areas that arose as common themes: education; funding; leadership; coordination and partnerships; geography and demographics; inconsistencies between stakeholder groups; landfill sites; and data.

7.1 Stakeholders and the Waste Strategy Objectives

(a) Awareness

Understanding of the general concept of ZWSA and its targets

Stakeholders viewed ZWSA as an action orientated facilitator of change in waste practices, and perceived the organisation to be in a good position to strategically address whole of system issues, which often lie outside the scope of businesses engaged in the day-to-day operations of the system.

The CDL system was identified as an important strategy or tool for assisting Councils to change the community's understanding of the importance of recycling. However, some stakeholders commented that a broader understanding of the Waste Strategy, its objectives and targets had not been achieved, particularly in State Government agencies, businesses and the wider community when away from home.

It was felt that the target benchmarks in the strategy and within the industry must respond to differences in metropolitan and regional councils/areas. Remoteness and limited resources are key issues that influence the ability to meet waste benchmarks. Importantly, Councils identify with the need to have something to aim for, and generally do not dispute the targets identified. However, some Councils feel these targets should not be uniformly applied across the State.

In Summary –

- ✓ *Participants in the consultation workshops were aware of the strategy, its objectives and goals, and the role ZWSA plays as an advisory body encouraging behavioural change in organisations.*

- ✓ *Local council representatives commented that within the community and within Council, there was a good general understanding of the importance of recycling and waste minimisation.*
- ✓ *The Waste Strategy targets are considered to be attainable and realistic by the stakeholders.*

(b) Participation

Involvement in the delivery of initiatives

Council stakeholders commented that over the past two years, regions have moved significantly towards embracing recycling and diversion practices both at Local Government and community level.

The key driver identified for this commitment to recycling and diversion practices was engagement with organisations such as ZWSA and KESAB. This commitment to change has also been driven by:

- 30 years of Container Deposit Legislation, which has established a positive mindset and awareness of the need to minimise waste;
- a demonstrated preparedness to pay, through sustainability levies and similar initiatives; and
- elected members now being prepared to make decisions, knowing they will have community support.

Some of the achievements that stakeholders associated with the Waste Strategy include:

- higher levels of kerbside organics recovery;
- implementation of internal waste management policies, including recycling within the construction and development sectors;
- "Compost for Soils", a jointly funded project focusing on the research and development of information for growers about the benefits of using compost in commercial horticulture and agriculture;
- positive outcomes due to the implementation of the Zero Waste events guide;
- schools education programs; and
- the implementation of Council projects with the assistance of ZWSA, including store bailer, share mobile bailers, tyre disposal, resource recycling facilities, upgrades to transfer stations and video surveillance programs to monitor illegally dumped rubbish.

However, stakeholders identified inconsistencies in the level of participation of different organisations, which they attributed to factors such as the size of the organisation, funding and incentives for change.

In Summary –

- ✓ *Many stakeholders identified ZWSA as a catalyst for change.*
- ✓ *Stakeholders identified direct involvement with achievements in the delivery of the initiatives outlined in the Waste Strategy.*

(c) Behaviour Change

How to create and measure intrinsic changes in behaviour of target groups

Stakeholders valued the coordinating role that ZWSA plays on a local, regional and national scale, bringing together strategies and developing and implementing projects and programs.

ZWSA is seen to coordinate and foster activities with stakeholders in the industry, and provides an important networking function for associations, groups and organisations.

One of the positive attributes of ZWSA identified by participants is its use of incentives rather than regulation.

In Summary –

- ✓ *The highly accessible and action oriented nature of ZWSA were nominated by participants as attributes that help to enable behavioural change.*

7.2 Key Issues and Themes for Stakeholders

(a) Education, communication and marketing

Local Government stakeholders felt confident that the community was generally aware of the importance of recycling and waste minimisation. However, it was agreed that more could be done to communicate the actual targets and objectives of the Waste Strategy.

Participants noted that waste was lagging behind other environmental issues such as water and energy in branding itself as a 'sexy' environmental issue.

(b) Funding

The provision of funding is considered to be an enabler of change, particularly for Local Government and organisations like KESAB. Funding from ZWSA is highly valued and enables recipients to deliver various initiatives and programs. Ongoing funding is needed to enable Councils to continue their work and address other waste issues in their regions.

Some Council participants raised concerns regarding the connection between resources and behaviour change, and the disparate resources available across the State to fund initiatives on reducing waste generation.

Smaller Councils with limited rates revenue reported difficulty in funding waste initiatives, particularly in regional areas where infrastructure is lacking.

ZWSA's willingness to fund industry initiatives on a partnership basis, giving industry leverage and government imprimatur to innovate, is seen as one of the organisation's positive attributes. The grants program that requires collaboration at regional and sub-regional level is also seen as breaking down barriers between Councils.

Although some stakeholders are pleased with the level of funding they receive from ZWSA, others believe ZWSA needs to issue more funding to engage more stakeholders and assist in delivering projects, meeting strategy objectives, and enacting behavioural change.

One issue which may require further consideration is the potential reliance on ZWSA by Local Government, and the implications if this funding stream were to be suspended in the future.

A common concern across industry and Local Government related to the accumulation of funds from waste levies that are not being allocated to waste management reform.

(c) Leadership

Stakeholders recognised the opportunity for ZWSA and South Australia to be leaders in waste management. Non-metropolitan Councils commented that some residents were passionate and committed to sustainable practices and did not want to be left out of recycling initiatives being implemented in metropolitan areas.

Industry participants felt that they could gain a leading market position through ZWSA initiatives.

Some participants lamented the lack of leadership in waste initiatives and practices from State Government agencies.

(d) Co-ordination / Partnerships

The consultation process revealed that regional Councils are collaborating to develop coordinated strategies to overcome financial and geographical barriers to meeting the ZWSA goals and objectives. ZWSA has given Councils the ability to implement coordinated strategies that cross LGA boundaries.

The partnering arrangements between ZWSA and KESAB have worked exceptionally well, due to clarity in both direction and funding, which has allowed KESAB to implement its programs on behalf of ZWSA.

Opportunities exist for industry partnerships, and stronger links and policy coordination with other State Government agencies.

(e) Geography and Demographics

Geographic boundaries and demographic characteristics affect the balance between transport costs and the volume of material. The difficulty in achieving economies of scale was identified as a significant problem for many non-metropolitan local Councils.

Despite South Australian being a "capital city state", with some 85% of the State's population in the Adelaide region, quantities of recyclable materials are often relatively small and markets are remote for the State as a whole.

(f) Inconsistencies between stakeholder groups

Inconsistent engagement with the Waste Strategy among different stakeholder groups was identified as an issue that needs to be addressed in order to fulfil the broader objectives of the Waste Strategy.

Small businesses were identified as a major problem area in resource recovery, particularly for mixed recyclables, as waste collection contractors easily dissuade them from introducing recycling services. Participants felt that small businesses want to recycle but need local government support.

A lack of engagement with the Waste Strategy by property developers was also identified, with smaller developers facing the challenges of a competitive market, and larger developers buying into Green Star and Corporate Sustainability Responsibility initiatives to provide greater leverage opportunities.

(g) Landfill Sites

Non-metropolitan landfills were a common issue for many stakeholders, particularly the lack of available funding for closure, remediation and ongoing monitoring. Notwithstanding these concerns, the closure of many non-metropolitan landfills is leading to increased levels of resource recovery.

For the metropolitan area, the overabundance of landfill capacity, with associated significant capital investment, has resulted in artificially low landfill disposal costs, intense competition for waste, and little incentive for waste collection contractors to foster source separation at business premises.

(h) Data

A major difficulty when measuring behavioural change has been the absence of data on behavioural tendencies prior to the introduction of the Waste Strategy. A base line is needed in order to measure and monitor behavioural change in waste practices accurately.

A longitudinal survey would be useful in determining behavioural change for the next Waste Strategy, as long as participants are willing to be surveyed over a period of time.

8 The Roles and Contributions of Partners

The Waste Strategy recognises the critical importance of partnering and cooperation in the fifth key objective area. This objective provides the framework for structuring and delivering many of the initiatives.

Most stakeholders see the Waste Strategy as focused on innovation and not regulation, which they see as engendering partnership and collaboration, and setting ZWSA apart from the regulator. However, the waste generating community is large and complex when it comes to securing behaviour change at an individual level.

To gain access to new groups of enterprise that would not otherwise be engaged with the initiatives of the Waste Strategy, the use of key partnerships with peak bodies and acknowledged leaders in targeted sectors is recommended. Once these partners are mobilised, they can provide the necessary leverage.

As a part of the stakeholder analysis for the Mid Term Review, an assessment an made of the ***roles and contributions*** of partners in four major sectors, and the successes to date in engaging those partner groups. The analysis focused on the following

- Local Government – how did the successful engagement with Local Government work, and can this be replicated in other sectors?
- The waste industry – how can this sector be engaged pro-actively, when reducing waste to landfill appears to be at cross purposes with its objectives?
- The built form sector – who are the lead partners in this sector, and can they be productively engaged?
- The State Government – how can State Government be mobilised?

8.1 Local Government

Local Government, and the Local Government Association of South Australia, have played a key role in engaging the community and gaining their support for waste minimisation and recycling initiatives in the residential sector. That role should be examined as a model for engaging partners in other sectors, and for opportunities to extend the relationships and collaboration to deliver new benefits in waste management and sustainability reforms within the Local Government sector.

Looking beyond residential kerbside collection services, Local Government can potentially leverage Waste Strategy initiatives into areas such as:

- enhancing school and community education campaigns to include information about how the community can contribute to a better system beyond kerbside services;
- structuring education campaigns to build on existing climate change awareness, and link waste into the overall sustainability picture;
- ensuring that waste principles and strategies are included in Council contracts with suppliers;

- monitoring and reviewing the products that Councils use, with the aim of reducing carbon footprint and improving sustainability;
- extending kerbside collection services to small and micro businesses within the LGA to capture more C&I waste – this may require some adjustments to service levels to better suit business needs;
- developing initiatives for collaborating with industry partners to implement re-aggregation services for targeted products in forthcoming shared stewardship responsibility schemes;
- adapting or changing the targets to suit regional Councils, taking into account remoteness and available resources;
- building the end markets for recycled products within local communities to reduce transportation, costs and energy; and
- considering the application of the CDL model for other waste products to drive change. However, this would require greater understanding of the sustainability targets for different products.

In Summary –

- ✓ *Local Government organisations have leveraged their commitment to the Strategy and its targets by facilitating its implementation in local communities.*
- ✓ *The targets set out in the Strategy were effective in driving change and have been an important factor in encouraging behavioural change across the residential community.*
- ✓ *This is an excellent model and strategic partnerships should be used to further develop the initiatives of the Strategy into the future.*
- ✓ *Issues related to the closure of remote landfills, transport in regional areas, and partial hypothecation of the waste depot levy, remain areas of concern for Local Government.*

8.2 The waste industry

Local Government has been the principal focus of the initiatives in the first half of the Waste Strategy term. For the waste industry, this has involved development and provision of infrastructure and services that enable the residential community and Local Government to work towards attainment of the targets.

The waste industry has benefited from the new infrastructure and services that have been supported financially through these initiatives. However, the industry has not been called on to liaise with the residential customers to foster behaviour change that might appear contrary to interests.

The marketplace has changed since the inception of the Waste Strategy, thanks to emerging technologies and the rationalisation of the service delivery market. A responsive Waste Strategy needs to address these issues as well as any others that may arise in a changing commercial landscape.

ZWSA continues to face significant challenges in engaging productively with the waste industry.

It is particularly important to enlist the support of the waste management industry in rolling out the C&I and C&D waste reduction message across the business community. The industry is a logical partner for this project, given that is in regular contact with these waste generators. Developing partnerships with waste contractors as agents for facilitating changed waste practices in small and medium enterprises in the C&I and C&D sectors will help deliver the objectives of the Waste Strategy.

Given that reducing waste to landfill may seem counterintuitive and counter-productive to the financial interests of the waste industry, key elements in building successful partnerships will include:

- initiating relationships through stimulatory grants that build sustainable capacity;
- engaging an extended value chain of interests to include processing organisations;
- developing methods of engagement beyond financial support, as ongoing subsidies are not sustainable;
- demonstrating to the waste industry that reducing waste to landfill can be financially attractive; and
- developing an understanding of the risks associated with the impacts of the economic slowdown on commodity prices, the cost of carbon and the cost of implementing change.

Learning from the experience of Local Government partnerships, it should be possible to incrementally improve the collaborations with the waste industry, focusing efforts on the partners that deliver best value, and establishing a continuous improvement approach to the partnerships, to ensure ongoing learning and improved results.

For example, industry specific sector agreements with government and/or across industries (eg. wine industry) have been identified as a possible tool to help meet the targets. The waste collectors will need to be the facilitators of these sorts of initiatives.

In Summary –

- ✓ *The primary aim with the waste management sector is to foster behaviour change towards their customers' needs and interests in resource recovery and waste minimisation.*
- ✓ *In the first instance, this will require attitudinal and behaviour change on the part of many in the waste industry.*
- ✓ *The dynamics of the industry, and the markets in which the industry trades, will require constant attention and flexibility in the Waste Strategy.*

8.3 The built form industry

Improving results in the C&I and the C&D sectors will involve dealing with business activities in buildings. Traditionally, these issues have been tackled by approaching individual businesses in the C&I sector and demolition contractors in the C&D sector. However, this approach limits the scale of improvements that can be achieved, and inhibits the ability of individuals in businesses to better manage resource recovery.

While peak industry bodies, representing businesses with common sectoral or business interests, might seem logical partners with whom to work, engaging the interest of such bodies is challenging, as they perceive that waste management reform brings few benefits to either themselves or their members.

An alternative approach might be to engage the "built form industry".

This sector could be considered as one entity, with an extended value chain stretching from the construction of buildings, through their productive operating life, and finally their refurbishment or demolition.

Key stakeholders in this sector are the building owners, who exercise significant influence over how buildings are constructed and used. Decisions taken by building owners and their designers have lasting impacts on the:

- materials used in construction;
- waste management practices during construction;
- design of buildings to allow occupiers to sort and separate waste streams;
- cleaning and waste collection services to have separate streams ; and
- demolition practices at the end of building life.

In order to effectively engage these parties, it will be necessary to understand how waste management reforms can help them generate value from their built forms.

Barriers of resistance that can be expected might include financial constraints due to job specific budgets; client policies; and the difficulty of changing the behaviour of sub-contractors, even with education programs and contract inclusions.

The cost of implementing strategies in the current economic climate was repeatedly identified as a risk that threatens the success of the Waste Strategy in the C&I sector. This applies particularly to the costs of changing older, remote, tenanted buildings to make them more sustainable and amenable to waste management and resource recovery.

It should be noted, however, that leveraging off the ISO 140001 Accreditation has been reported to successfully facilitate change in companies that are aggressively pursuing sustainability credentials. As the major participants in the sector are pursuing green building credentials during construction and with occupiers, the most effective initial approach may be through policies that target tier 1 and 2 construction companies, regarded as the leaders in this sector.

It is unlikely that one single entity will be able to readily leverage a range of participants in the sector. Rather, a multi-pronged approach is recommended that addresses:

- consent conditions – Local Government and planning agencies;
- green building accreditation standards – Green Building Council, planning agencies;
- acknowledged industry leaders – leading owner/builder/developers; and
- a tenant education program that could be implemented as a strategy for addressing waste initiatives in established buildings.

Stakeholders felt that the State Government could use its significant role in Adelaide, as both an owner of property and a major landlord, to show its support of the Waste Strategy.

In Summary –

- ✓ *Engagement of the built form sector has not been a key priority thus far in the implementation of the Waste Strategy.*
- ✓ *More traditional approaches have been followed, tackling individual businesses to encourage behaviour change.*
- ✓ *To develop partnerships for C&I and C&D wastes, it is important to understand the value proposition for partners and to structure initiatives and partnering approaches accordingly.*
- ✓ *To address serious impediments that exist on the shop/office floor, many of the solutions must commence with the owner/developer/manager of the buildings.*

8.4 The State Government

The Government of South Australia is a significant player in waste management and sustainability.

- As the owner and manager of multiple facilities, it exercises significant influence over the waste management and resource recovery activities that occur within those facilities.
- As a buyer of products and services, the State Government has considerable input into the quality, durability and sustainability of the products it procures.
- As the entity responsible for setting the goals and objectives for the South Australian community, the State Government has a leadership role in demonstrating sustainability in all of its activities.

Regrettably, the translation of the policy and ideals has not always been apparent in the practices adopted by various State Government agencies, and to date there has been little evidence of waste management reform in this major sector of the South Australian community.

Tackling waste management within State Government will be an essential task for both credibility and attainment of targets.

In addition to taking more direct internal action on waste management reforms, stakeholders identified other ways in which the State Government could contribute to meeting the objectives of the Strategy in the business sector, including:

- further increases to the levy on waste to landfill;
- supporting the commercial and industrial division of WMAA; and
- developing partnerships with local businesses to encourage participation in the Waste Strategy.

In Summary –

- ✓ *The State Government has both credibility and leadership image issues with waste management reform.*
- ✓ *The State Strategic Plan calls for a reduction in waste to landfill across the whole community.*
- ✓ *With Government business and activities representing a very significant proportion of the State economy, it is inappropriate for the State Government to ignore its obligations.*

9 The Position of South Australia in Waste Reform

Waste reform is underway in all jurisdictions across Australia, in the majority of developed economies and in some developing economies. South Australia is not alone in its aggressive and ambitious pursuit of reducing waste to landfill.

At the time when the first Waste Strategy was being prepared, South Australia's resource recovery performance did not compare well with a number of the jurisdictions in Australia.

Landfill capacity oversupplied and undervalued, resulting in little or no financial incentive to reduce the amount of waste despatched to landfill.

South Australia's Waste Strategy 2005-2010 is a bold first attempt to bring vision and leadership to waste reform in South Australia and to lay down a challenge to other jurisdictions.

9.1 How is South Australia Positioned?

To provide some perspective on South Australia's position relative to other jurisdictions tackling the issues of waste reduction and resource recovery, a snapshot of some of the more ambitious jurisdictions t is presented at Tables 22 through 25. The data is presented both on total waste within the jurisdiction, and on a stream-by-stream basis.

Table 22 Jurisdictions With Ambitious Targets (All Waste Streams)

Jurisdiction	When Introduced	Target	Progress
ACT	1996	No Waste - 2010	76% - 2008
Victoria	2005	75% - 2014	62% - 2007
California, USA	2001	No Waste - 2020	56% - 2008
NSW	2003	69% - 2014	46% - 2005
Western Australia	2004	Towards Zero - 2020	23% - 2005

South Australia 71% - 2008

South Australia is competitively placed near the top of the list, marginally behind the ACT and well ahead of Victoria, California, NSW and Western Australia.

Table 23 Jurisdictions With Ambitious Targets (Municipal Waste Streams)

Jurisdiction	When Introduced	Target	Progress
ACT	1996	No Waste - 2010	69% - 2008
Italy (many communities)	2002	100% - 2020	50% - 82% 2007
Victoria	2005	65% - 2014	41% - 2007
NSW	2003	66% - 2014	33% - 2005
New Zealand (48 Councils)	1996	100% - 2015	Variable – 25% - 90%
Western Australia	2004	Towards Zero - 2020	23% - 2005
EU for all States	2007	50% - 2020	n.a.

South Australia 38% - 2008

South Australia's performance on municipal waste is mid-ranking. The State is well behind the ACT and marginally trailing Victoria; roughly on par with municipalities in Italy and New Zealand; and ahead of NSW and Western Australia.

Thanks to comprehensive kerbside services for municipal waste in metropolitan Adelaide, the city's estimated diversion rate for 2008 is expected to reach 49%. This compares favourably with the other jurisdictions, exceeding metropolitan Sydney's 2005 rate of37%, while still lagging well behind the ACT.

Table 24 Jurisdictions With Ambitious Targets (C&I Waste Streams)

Jurisdiction	When Introduced	Target	Progress
ACT	1996	No Waste - 2010	71% - 2008
Victoria	2005	80% - 2014	68% - 2007
NSW	2003	63% - 2014	38% - 2005
Western Australia	2004	Towards Zero - 2020	32% - 2005
EU for all States	2007	70% - 2020	n.a.

South Australia 74% - 2008

South Australia leads the field in commercial and industrial waste, leading the ACT by a small margin, and leading Victoria, NSW and Western Australia by a significant margin.

Table 25 Jurisdictions With Ambitious Targets (C&D Waste Streams)

Jurisdiction	When Introduced	Target	Progress
ACT	1996	No Waste - 2010	85% - 2008
Victoria	2005	80% - 2014	71% - 2007
NSW	2003	76% - 2014	62% - 2005
Western Australia	2004	Towards Zero - 2020	19% - 2005
EU for all States	2007	70% - 2020	n.a.

South Australia 85% - 2008

South Australia once again leads the field in construction and demolition waste, equal with the ACT and well ahead of Victoria, NSW and Western Australia.

South Australia's current (2007-08) recovery rates for both C&I and C&D waste streams exceed the EU's 2020 targets for member states. On forecast performance, South Australia will exceed the EU targets for municipal waste by 2010 – f10 years ahead of the EU own target date.

In Summary –

- ✓ *South Australia is at the forefront nationally in implementing waste initiatives and is seen as a model that could be emulated by other jurisdictions in Australia.*
- ✓ *Initiatives implemented to date continue to ensure the State is in a leading position, marginally behind the ACT (five percentage points) at this point in time.*
- ✓ *With the roll-out of food waste collection in metropolitan Adelaide, and the aggressive pursuit of C&I resource recovery initiatives, it is conceivable that by the end of the five-year term of this first Waste Strategy, South Australia may have drawn level with the ACT in terms of total system resource recovery levels.*

10 Strengths and Threats Emerging Thus Far

Several areas of real strength that have contributed significantly to South Australia current leadership position in waste policy reform have been identified. These strengths represent important links and experiences to take forward in preparation of the next Waste Strategy 2010-2015.

A number of potential threats or risks that may impede the achievement of the objectives and targets of the current Waste Strategy 2005-2010 have also been identified.

These issues may need to be addressed to permit the finalisation of the current waste strategy and the development and implementation of the next waste strategy.

The strengths are summarised at Table 26, while the threats are summarised at Table 27.

Table 26 Summary of Strengths Thus Far

Area	Strength
Partnering	Partnering with Local Government has been highly successful, with Councils motivated to improve the resource management practices and performance of their residents.
	Building and facility owners and managers have been identified as key agents for change in the built environment to address C&I waste streams. A level of interest has been established that could become a platform for future initiatives.
	The partnership with KESAB has provided ZWSA with a set of resources that can enhance community engagement and leverage off the values of the community.
Targets	The municipal waste targets in metropolitan Adelaide will be achieved through ongoing collaborative partnering with Local Government and continuing financial and resource support from ZWSA.
	The decision to pursue source separation of organic wastes in the municipal sector, coupled with dedicated organic waste processing technologies, in lieu of mixed waste processing, clearly recognises the failure (to date) of mixed waste processing technologies to fully deliver on resource recovery promises.
	Continuing the transitioning of the community away from the single garbage bin will foster increased sustainable behaviour across the community.
	Source separation and multiple bins will be a key factor contributing to achieving municipal sector targets in metropolitan Adelaide.
	Good progress is being made in intercepting waste streams before disposal.

Area	Strength
Markets	The key areas of market failure in both municipal and C&I waste streams have been clearly identified and targeted with initiatives and resources. There are signs emerging that the (residential) community is becoming impatient with the slow progress of waste reform in specific areas that capture their interest – for example e-waste. The South Australian community enthusiastically supports the CDL scheme of advance deposits to incentivise post consumer recovery action.
Positioning	SA is positioned at the forefront nationally in implementing waste reform.

Table 27 Summary of Threats or Risks Thus Far

Area	Threat or Risk
Partnering	The government sector has been reluctant to collaborate and work towards improvements in waste management and resource recovery, in spite of South Australia's Strategic Plan which clearly embraces sustainability issues. The waste management service providers have a tendency to revert to past practices; gains in the C&I sector from the recycling at work initiative may easily be eroded and lost. Targeting individual businesses to improve sustainability and resource recovery is resource intensive and does not necessarily address the underlying causes that impede sustainable behaviour in the workplace.
Targets	If the targets for C&I and C&D waste relate to the expected improvement in resource recovery rate, then the 2009-10 targets will not be achieved. If the community is to remain motivated towards continuous improvement, a new basis for incentive targets will be needed for the municipal sector in the metropolitan area. Targets for non-metropolitan areas that are in line with metropolitan expectations are unlikely to be met. There is some evidence of slowing in the rate of growth in waste generation, but troubling signs that resource recovery rates may

Area	Threat or Risk
	also be slowing in some areas. Progress on reducing litter remains challenging, in spite of considerable investment. The waste hierarchy is at risk of becoming rigidly enshrined in waste policy development, in a future world where black-white decision-making is less appropriate and where the underlying values implicit in the waste hierarchy can be expected to change over time[1].
Markets	The recent decline in commodity prices highlights the need for flexibility, ongoing support for resource recovery, building of local markets that are less impacted by external market conditions, and the fostering of high quality product streams that have better market potential over low quality product streams.
The Waste Strategy	There are signs that South Australia's Waste Strategy 2005-2010 is presented in a form that constrains innovation and flexibility, as the Strategy is implemented through business plans from year to year.
Carbon and Climate Change	Government and business attention to climate change and carbon markets could detract from ongoing attention to resource management and consumption management.

[1] The waste hierarchy comprises a fixed set of sequential waste management and resource recovery options regarding the fate of wastes, ordered in a sequence where relative position in the sequence reflects the values-based relative environmental benefit attributed to each option. As a simple, but readily grasped and understood model, the waste hierarchy may become too rigid to accommodate changing values, changing markets and changing outcomes over time, and therefore inhibit flexible decision-making. The waste hierarchy may also contribute to difficulties when addressing up stream avoidance, through a perception of totality (all or nothing), which is un-workable.

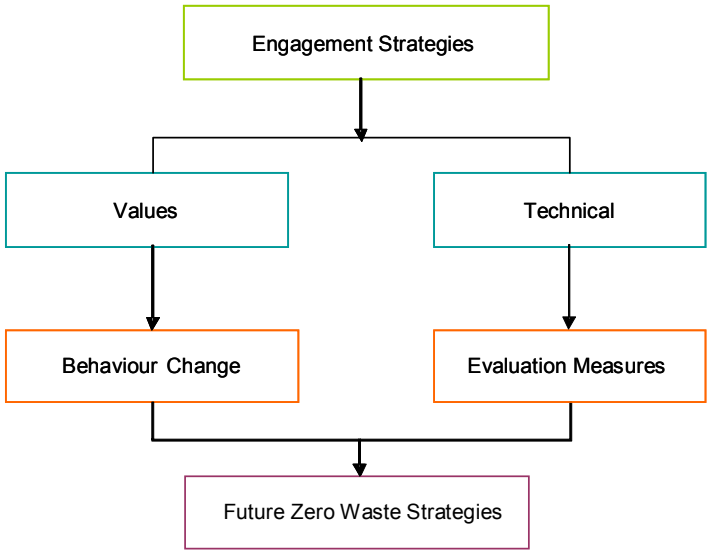
11 Engagement for Behaviour Change

The future for waste and resource management in South Australia is within reach today. Many of the systems and much of the infrastructure that will be required are in place, and there is strong evidence that the community is prepared to participate in a system that use fees paid in advance for recognised environmental gains.

Creating a future where the whole community (residents, government and business alike) shares, values and strives towards common aspirational goals, will require further persistent engagement as a key to sustainable behaviour change within the community and the creation of the un-mixed future.

A useful model for looking at engagement that targets behaviour change is presented at Figure 8.

Figure 8 Engagement for Behaviour Change



In this engagement model, stakeholders are engaged on a parallel basis that clearly separates the means (or technical tools) from the ends (the values to which we aspire).

These parallel paths are labelled:

- ***a values perspective*** – which aims to build a desire to attain the aspirations and a commitment to achieving them;

coupled with

- ***a technical perspective*** – which aims to engage stakeholders through intervention measures such as legislation or commercial incentive.

In following this model for engagement, it is important to identify the values associated with the aspirations, and to separate those values from the technical tasks that might be undertaken to achieve an aspiration – i.e. separating the ends from the means.

At the visioning workshop, participants identified a set of aspirational goals that might form a basis for a future for waste management in South Australia. Each aspiration was analysed and strategies were suggested to solicit community engagement with the aspirations, and engender broad-scale preparedness to work towards those aspirations.

In Table 28, over the page, each aspiration is aligned with the values that might be targeted, engagement tools that might be used, and potential evaluation measures.

This table sets out a map for engagement for future behaviour change that has emerged from the extensive stakeholder consultation and engagement that formed a critical part of the Mid Term Review.

Table 28 Engaging for Behaviour Change

Aspiration	Values to be Targeted	Tools for Engagement	Evaluation Measures
Our decisions are based on the lowest environmental impact	• Empowerment of people with tools and knowledge to contribute to better waste management practices • Improving our environment through our contributions towards resource recovery and reducing disposal • Our decisions as individuals can have widespread impacts on society	- Standards for signage identifying environmental impacts of products - Incentive schemes, pricing signals, and regulations - Providing consumers with decision-making information - Reporting achievements - Feedback from consumer surveys - Procurement for sustainability - Product impact statements - Supporting un-mixing at source	✓ Consumer awareness of the lowest impact options for products and service – identified through surveys ✓ Measuring waste generation, resource recovery and waste disposed ✓ Measuring the carbon impact of resource recovery and waste disposal ✓ Measuring the degree of source separation
The prices we pay reflect the full life cycle cost	• Valuing the notion of paying for sustainability • The role of leadership in motivating change in others • Embracing sustainability as a way of life and a social movement	- Maintain the levy on waste disposal - Strong pricing signals at the time of purchase on targeted goods - National alignment and uniformity of policies - Providing consumers with decision-making information - Standards for signage on products that identify environmental impacts - Pricing signals that incentivise un-mixing prior to discard	✓ Consumer surveys ✓ Monitoring the cost of resource recovery and disposal for targeted goods ✓ Measuring the degree of source separation

Table 28 Engaging for Behaviour Change (cont)

Aspiration	Values to be Targeted	Tools for Engagement	Evaluation Measures
We manage resources in closed loops	• Aligning and respecting values along the whole life cycle of products • Contributions towards the common good • Participation in, and contribution towards, a continuum • The simplicity and logic of self perpetuation • Financial gains for financial risks • The capacity for markets to work effectively	- Mandatory interception of waste before disposal - Bans on landfill disposal of targeted materials - Strong pricing signals - Financial support where system failures are evident - Feedback from monitoring - Procurement for sustainability - Providing consumers with decision-making information - Compulsory reporting by companies - Support for pre-discard un-mixing - Infrastructure for re-aggregation and processing	✓ Good technical data on product standards ✓ Active monitoring of material flows ✓ The level of consumer engagement ✓ The level of industry engagement ✓ Measuring the degree of source separation
Our whole community participates and shares the load	• Doing the right thing • Mutual respect for consumer and industry contributions to the wellbeing of society and the environment • Fairness and equity across the system • Everyone contributing in their own capacity to achieve a greater outcome	- Feedback from monitoring - Compliance enforcement where necessary - Financial incentives - Recognise expectations - Evaluation targets - Reward performance	✓ Monitoring contributory roles

Table 28 Engaging for Behaviour Change (cont)

Aspiration	Values to be Targeted	Tools for Engagement	Evaluation Measures
We lead in pursuit of coordinated policy across jurisdictions	• South Australia as an innovator • South Australia leading the nation by example	- Feedback to partners, stakeholders and others on progress at EPHC relating to national uniformity - Pushing the envelope beyond current paradigms like the waste hierarchy	✓ National uptake of uniform policy positions ✓ Level of engagement with other jurisdictions monitoring progress in South Australia

12 Positioning Zero Waste SA

The future for waste management reform in South Australia will require an orchestrated system of action, participation and incentivation. For that future, Zero Waste SA should be the conductor or orchestrator, with roles including:

- setting the scene;
- establishing the incentives;
- defining the regulatory environment;
- facilitating the system; and
- providing the leadership for the State and other jurisdictions.

This role builds on the highly-regarded role established by ZWSA's development and delivery of the Waste Strategy 2005-2010. This role takes the task of ZWSA to the next level, where values in the community become the keys to further gains, and a shift from numerical targets of diversion from landfill to a future where un-mixing of wastes to unlock their value provides increasing incentive, flexibility and opportunity for further progress for years to come.

In pursuit of this further leadership role, some suggested key positioning objectives for ZWSA to pursue are listed below.

➔ *Zero Waste SA should remain the leader in waste management reform in South Australia, and nationally.*

➔ *Zero Waste SA should endeavour to be the recognised long-term policy leader in waste management in South Australia.*

➔ *Zero Waste SA should strive to establish industry wide partnerships to drive change in waste management practices in the commercial sector.*

➔ *Zero Waste SA should develop a leadership model that will support change in other government agencies and departments.*

Suggested actions to support these positioning objectives are listed below.

- Development of a set of templates and tools to drive change in waste management practices.
- Research to help develop a financial framework to be used as an incentive for behaviour change relating to waste management. This would include how incentives might be applied, which products might be targeted and how the incentives might be used strategically.
- Development of a set of evaluation measures and tools that monitor performance against a common set of principles and aspirations.

- Development of an alternative approach to interpreting and applying the waste hierarchy, moving away from the linear rigidity of the current format.
- Development of industry plans that identify principal players and roles along value chains for closed loop waste management systems with inbuilt compliance measures and strategic interventions with incentives.
- Encouragement of industry participation and communication, particularly around the principles, reinforcing the source separation message.
- Development of related strategies that link the concepts of source separation to release value, including consumer choices and targeted avoidance opportunities that address consumption without the all-embracing implications embodied in the linear waste hierarchy model.
- Development of simple, consistent messages targeting the un-mixing of waste streams to unlock the value as a unifying call to action that every sector of the community can embrace in their homes and offices, and contribute to a major outcome at State level.
- Development of a strategy for translating South Australia's performance onto the national agenda and leading reform through results-based example.

Attachments

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