Link to South Australia's **Strategic Plan Objectives**

Provision of appropriate waste recovery and recycling infrastructure will contribute to the achievement of the following targets:

Objective 1: Growing Prosperity

Strategic infrastructure: Increase investment in strategic areas of infrastructure, such as transport, ports and energy to support and achieve the targets in South Australia's Strategic Plan. (T1.16)

Objective 3: Attaining Sustainability

Zero waste: Reduce waste to landfill by 25% within 10 years. (T3.11)

Objective 5: Building Communities

Regional Infrastructure: Build and maintain infrastructure to develop and support sustainable communities in regions. (T5.11)

Background

State and local government and the private sector are all participants in the waste management industry in South Australia. Waste depots, including resource recovery centres, transfer stations and landfills, are owned and/or operated by a mixture of local government and private sector waste management companies.

Local government assumes responsibility for the planning and management of municipal solid waste, including operation of systems for solid waste, recyclables, green organics and transfer stations. This incorporates a key role in planning for infrastructure needs for waste, including consideration of needs for commercial and industrial waste where facilities are used for both waste streams. However, the collection and management of industrial and commercial waste is mostly managed by the private sector in the metropolitan area.

The establishment of Zero Waste SA (ZWSA) is part of a new legislative framework to drive an integrated strategy for waste avoidance and reduction, waste minimisation, recycling and waste disposal. Work on a new state waste strategy has begun, aimed at progressing towards zero waste. The state waste strategy is due for completion.

Waste management in South Australia is reliant on the need to dispose of domestic and commercial waste in engineered landfills. As a result, resource recovery and recycling programs often struggle to make a significant impact or be viable.

Waste disposal removes the potential to derive a higher resource value from the materials through re-use, recycling and resource recovery.

Recycling

A study commissioned by ZWSA in 2004, indicates that South Australia is achieving very high recycling rates. In 2003, more than 2.1 million tonnes of material ranging from asphalt to textiles was recycled in South Australia. This result shows that recycling volumes outstrip the volume of material sent to landfill, which was over 1,300,000 tonnes in 2001/02. This gives a total diversion rate of 62%.

The study also found there was a broad range of opportunities to reduce waste levels through expanding recycling activity and other waste minimisation efforts. The study also identified priorities for improving waste diversion in the short and medium-term.

Technologies for the recovery of energy from waste provide additional potential opportunities for the management of industrial, commercial and municipal waste. However, there remains a strong need to investigate and evaluate the viability of these new technologies against other beneficial uses for waste materials to ensure sustainable outcomes.

In landfills, the decomposition of waste leads to greenhouse gas emissions and leaching of heavy metals, chemicals and other substances.

Modern landfills in South Australia are required to be lined and to treat leachates and burn (or flare) or capture for energy the landfill gases emitted from the sites.

In the Adelaide metropolitan area, existing waste management and resource recovery infrastructure includes landfills, facilities for material recycling, composting, and building waste recycling and Container Deposit Legislation (CDL) depots. All metropolitan councils also provide kerbside waste and recycling services to domestic residents.

Two-thirds of the waste disposed to landfill originates from the business sector. Despite strong efforts directed to resource recovery and recycling, significant tonnages still go to landfill (50%), resulting in cost to business and loss of valuable resources.

The waste management issues facing rural South Australia are significantly different to those encountered in metropolitan Adelaide. To achieve sustainable waste management practices in rural areas, practical options need to be identified (such as improving transport logistics and costs and aggregating materials to form viable economies of scale) and implemented at a local level.

Most non-metropolitan councils are considering a regional approach to the management of infrastructure, such as the rationalisation and upgrading of landfills. It is often too expensive for small landfills to address the environmental issues of odour, leaching, landfill gas, and surface and groundwater management.

The waste depot levy (landfill levy) is collected under the Fees and Levies regulations of the *Environment Protection Act 1993*. The levy is collected by the Environment Protection Authority (EPA) and is designed to reduce the environmental impacts associated with disposal of waste to landfill, and generate funds for waste recycling programs and activities.

Challenges and Opportunities

Metropolitan Area

The provision of appropriate waste management collection and processing infrastructure is an essential prerequisite to the diversion of more waste from landfill.

The limited capacity and lack of recycling and resource recovery infrastructure is an issue for both local government and the business sector.

Some of the major issues include:

- Metropolitan-generated waste should be processed through a transfer station, material recovery facility, resource recovery facility or equivalent process and not disposed of directly to landfill. At least two landfills receiving metropolitan-generated waste are permitted to receive waste directly to the landfill disposal site, whereas the new landfills to the north of Adelaide are not.
- The closure of one major landfill (at Wingfield) and the approval of three replacement landfills, and expansion of the Nuriootpa landfill, have created around 50 years of capacity of metropolitan landfill space.
- Low-cost landfill makes recycling/composting treatment options economically uncompetitive.

Strategic Priorities

- Plan, coordinate and make available appropriately zoned, located and serviced land to accommodate waste recovery and recycling infrastructure.
- Encourage recycling.

Rural Areas

While the regionalisation of rural landfills presents an opportunity to lower operating costs, improve waste management practices and encourage resource recovery, there are a number of issues associated with this strategy, such as:

- the distance and hence transport costs to markets, which are largely metropolitan or interstate based
- the costs associated with storage and warehousing, handling and transport
- the capital investment required for reprocessing plant, which dictates a need for consistent volumes of material to achieve economies of scale

There is a range of costs to councils associated with providing waste and recycling services. However, significant Australian studies have concluded that when the environmental impacts of landfill disposal versus recycling are compared, there is an overall benefit from recycling.

Strategic Priorities

- Develop partnerships with the transport industry and identify new transport opportunities to encourage and increase the level of resource recovery and recycling in regional areas.
- Promote regional-based infrastructure and approaches for local and regionally generated waste/recycling materials.
- Promote the maintenance of an appropriate range of high-quality private sector waste recycling, treatment and disposal facilities.

Hazardous Wastes

Hazardous wastes are substances that pose a risk to human and environmental health and require special disposal techniques and infrastructure to make them harmless or less dangerous. They include inorganic chemicals, paints, resins, inks and dyes, organic solvents, pesticides, asbestos and clinical and pharmaceutical wastes. Hazardous wastes are generated mainly by the commercial, industrial and trade sectors.

It is important to ensure that community safety is protected by applying appropriate handling and disposal of hazardous waste.

Strategic Priority

- Promote the maintenance of an appropriate range of high-quality private sector recycling, treatment and disposal facilities for hazardous waste.

Radioactive Wastes

Radioactive materials are used extensively in South Australia – in medicine for the diagnosis of diseases and the treatment of some forms of cancer, in industry in research, and in education. Many of these activities generate radioactive wastes requiring safe and secure storage or disposal.

The control of radioactive waste in South Australia falls under the *Radiation Protection and Control Act 1982* and is administered by the Radiation Protection Division of the EPA. In 2003, the EPA conducted an audit of radioactive material in South Australia, including wastes (22m^3 of low and intermediate level waste, including smoke detectors, were identified).

The audit report recommended that the government investigate the feasibility of establishing a facility for the safe handling, packaging and interim storage of South Australia's waste pending the establishment of appropriate facilities for long-term management.

Projects

Project	Priority #	2005/6–2009/10	2010/11–2014/15	SASP Targets
Domestic, Industrial and Commercial Waste				
Develop collaborative arrangements with regional councils and industry to establish regional waste management strategies *** Lead – State Government**	U/way	❄	❄	3.11
Establish integrated waste management facilities, including enclosed organic processing, in the northern and southern metropolitan area **Lead – private sector, local government**	1	❄		3.11
Establish additional waste material recovery and recycling facilities to complement existing operations **Lead – private sector**	1	❄		3.11
Establish open windrow-composting facilities (in addition to the Buckland Park facility) to service the metropolitan area and nearby rural communities **Lead – private sector**	1	❄		3.11
Investigate opportunities for alternative waste treatment and processing technologies to replace landfills **Lead – private sector**	2	❄	❄	3.11
Hazardous and Radioactive Waste				
Act on the key recommendations of the EPA's 2003 audit of radioactive material to ensure appropriate management of this material **Lead – State Government**	U/way	❄	❄	3.11
Upgrade hazardous waste incinerators to appropriate EPA gas emission standards **Lead – private sector**	2	❄		3.11

* Lead – lead responsibility for promoting, developing and evaluating the project.

Priority – preliminary rankings. Priority numbers do not represent a final commitment by the State Government or other lead entities. See the Delivering the Plan section for further details.