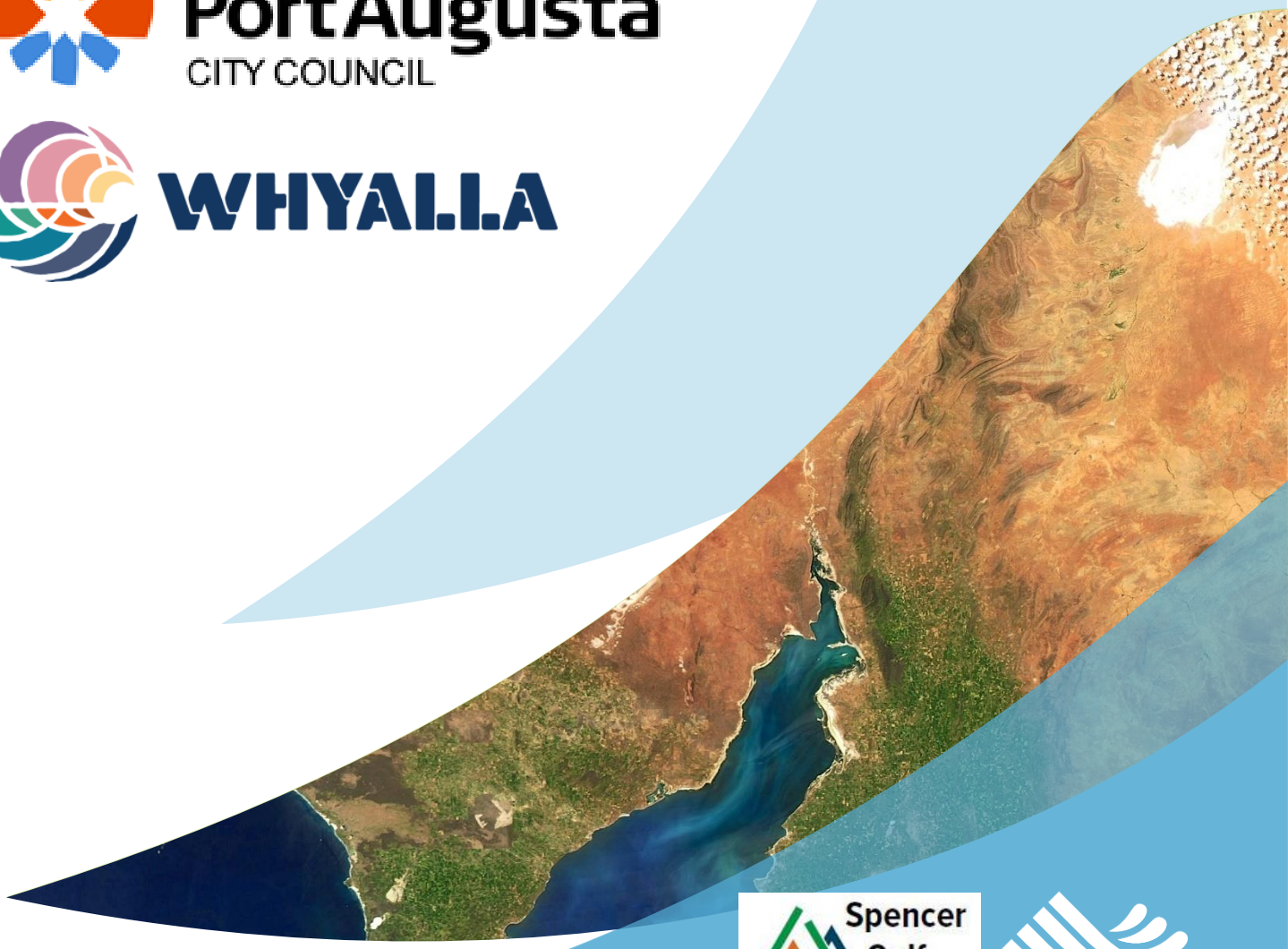
Upper Spencer Gulf

Waste and Resource Recovery Strategy 2020-2025

Port Pirie Regional Council

Port Augusta City Council

Whyalla



Spencer Gulf Cities

rawtec

Document verification

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Forward

Our region, and our communities of Port Augusta, Whyalla and Port Pirie are facing a once in a generation economic transformation. Substantial investment in renewable energy generation, mining and minerals processing, arid agriculture, Defence and tourism is providing our region with opportunities that we hope will build on our competitive strengths to become cleaner, more innovative, liveable and economically diverse.

On the back of this new investment, the Upper Spencer Gulf has an opportunity to play a substantial role in developing a Circular Economy for South Australia. This potential comes from:

- Transformation of the Port Pirie smelter with the potential to process e-waste, tyres and other materials.
- A focus by the Whyalla steelworks on increasing production, sustainability and 'green steel' capabilities.
- Closure of the old Port Augusta coal power station and rehabilitation of the site, being replaced by significant new investment in renewable energy technologies in the region.
- Development of Australia's first arid horticulture operation and ongoing interest in algae-based technologies.
- Development of an organics composting and processing facility.
- A focus on more sustainable processes by nearby mining operations.

The Upper Spencer Gulf's current industrial transformation provides a sound base to attract service providers and new entrants to the region to leverage this existing critical mass and investment. The existing transport infrastructure across the region, including road, rail, sea and airport facilities to cater for the commercial and industrial operations in the region, also reinforces the Upper Spencer Gulf as an ideal location for additional resource recovery, re-processing and manufacturing operations and growth in a 'Circular Economy'. This potential has been more sharply brought into focus following restrictions by China and other countries on export markets for recyclables and the growing economic and ethical momentum for processing our own waste and recycling streams locally.

In a sector faced with uncertainties, rising costs for landfill disposal, and increasing interest from the community and government, this Strategy provides the three Upper Spencer Gulf councils with clear direction and priorities to:

- Improve the region's waste and recycling outcomes.
- Better meet the needs of stakeholders.
- Ensure each council's efforts are headed in the same direction and services provided to residents are undertaken efficiently and in a cost effective manner.
- Investigate and attract new investment and infrastructure to the Upper Spencer Gulf to diversify the region's economy.

Mayor Leon Stephens	*Mayor Brett Benbow*	*Mayor Clare McLaughlin*
Port Pirie Regional Council	**Port Augusta City Council**	**Whyalla City Council**

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Acronyms

MSW	Municipal Solid Waste
C&D	Construction & Demolition
C&I	Commercial & Industrial
FOGO	Organics (Food and Garden Organics) Recycling
GO	Garden Organics
PEF	Processed Engineered Fuel
USG	Upper Spencer Gulf

Introduction

About the Spencer Gulf Cities

The Spencer Gulf Cities organisation (formally Upper Spencer Gulf Common Purpose Group) was incorporated in 1998 as a forum for the regional cities of Port Pirie, Port Augusta and Whyalla 1998 to share information, jointly implement initiatives, provide a united voice and work with Government, industry and other stakeholders in the interest of improving the long term sustainability of the region.

Our focus is to provide a strong, united voice and advocacy for the Upper Spencer Gulf; facilitate stronger collaboration and operating efficiencies across the three Councils; and support the economic transition of the Upper Spencer Gulf to cleaner, more innovative, liveable and economically diverse regional cities by:

- Realising our potential for storage-based renewable energy generation and new technology testing; value-adding and innovation in agriculture and arid-smart technologies; advanced manufacturing in minerals processing; event, cultural and marine tourism; and defence.
- Improving higher education, skills and research capabilities in our region to support these emerging sectors.
- Strategic infrastructure to improve our role as a transport intermodal hub, including expanding existing, under-utilised port facilities in Port Pirie and Whyalla and an alternative national highway crossing of the gulf at Port Augusta.
- Strengthening the role of Pt Pirie, Whyalla and Pt Augusta as regional service centres and improving community confidence and city liveability through facility upgrades; main street redevelopment and activation; and improved buffer zones between heavy industry and city centres.

About the Waste and Resource Recovery Strategy

What is the Strategy?

The Upper Spencer Gulf Waste and Resource Recovery Strategy (Strategy) is a document that sets what the region is aiming to achieve and the framework for managing waste and resources over the next 5 years. The Strategy also provides background information on the drivers, and guiding principles that support the development of the Strategy's objectives and opportunities.

Why prepare the Strategy?

In a sector faced with uncertainties, rising costs for landfill disposal, and increasing interest from the community and government, the Strategy provides the USG councils with clear direction and priorities to:

- Improve the region's waste and recycling outcomes.
- Better meet the needs of stakeholders.
- Ensure each council's efforts (time, energy and resources) are headed in the same direction and services provided to residents are undertaken efficiently and in a cost effective manner.
- Investigate and attract new investment and infrastructure to the region to diversify the region's economy and provide opportunities for jobs and growth.

What was involved in the preparation of the strategy?

The development of the Strategy involved data gathering, analysis and a number of consultations and activities. These included:

- Analysis and review of current performance, systems, infrastructure and identification of any gaps.
- Consultation and input from key council stakeholders.
- Consultation with the industry and neighbouring councils to identify gaps in council services and opportunities to investigate as part of the Strategy.

USG Waste & Resource Recovery Services and Infrastructure

Whyalla City Council

Kerbside services

The Whyalla City Council provides the following kerbside bin collection services to approximately 10,700 of its residents and businesses:

- weekly collected general waste bin
- fortnightly collected comingled recycling bin
- fortnightly collected food & garden organics (FOGO) recycling bin.

Resource recovery centres/transfer stations

The Council currently operates the Whyalla Mount Laura Waste and Resource Recovery Centre and adjacent landfill that provides its residents and businesses with the opportunity to dispose of waste and recycling material and items.

The facility and landfill are earmarked to be closed sometime in 2020, with most likely only a handful of activities remaining at the site, including C&D processing and asbestos disposal. Waste for landfill disposal will be transported to another landfill in the region. The resource recovery centre is set to be replaced by a new resource recovery centre currently under construction by Council's contractor.

Other services

Council also provides the following other services for the region:

- street litter bin collection
- hard waste collection
- illegal dumping collection
- street sweeping.

Port Augusta City Council

Kerbside services

The Port Augusta City Council provides the following kerbside bin services to approximately 7,552 of its residents and businesses:

- weekly collected general waste bin
- fortnightly collected comingled recycling bin.
- fortnightly collected garden organics (GO) recycling bin.

The Council is currently investigating the viability of including food waste in their kerbside GO bin collection service and sending this recyclable material to Peats' recently built composing facility in Whyalla, where it will be processed into compost or soil improvement products.

Resource recovery centres/transfer stations

Cleanaway owns and operates a transfer station in Port Augusta at which council residents and businesses are able to drop off a number of waste and recycling materials and items. This facility also receives and bulk transports council's kerbside bin streams.

Other services

Council also provides the following other services for the region:
The Strategy provides clear direction and priorities to:

- illegal dumping collection
- street sweeping.

Port Pirie Regional Council

Kerbside services

The Port Pirie Regional Council recently introduced a three-bin kerbside collection to an estimated 8,900 residential, business and Council properties. This service includes the collection of the following streams:

- weekly collected general waste bin
- fortnightly collected comingled recycling bin
- fortnightly collected garden organics (GO) recycling bin.

Resource recovery centres/transfer stations

The Council owns and operates the large and modern Port Pirie Resource Recovery Centre. This facility receives, transfers and processes a wide range of waste and recyclable materials, as well as items dropped off by residents, businesses and Council's kerbside services and other council operations.

Garden organics collected from the kerbside organics bin and other garden waste received at the Port Pirie Resource Recovery Centre is currently mulched and used for rehabilitation of the existing landfill.

The Council also operates a smaller transfer station in Crystal Brook to service this area's residents.

Other services

Council also provides the following other services for the region:

- illegal dumping collection
- street sweeping.

Summary of USG Cities waste and recycling

Figure 1 below provides a summary of the population, total kerbside bin material tonnes, landfill diversion performance and number of resource recovery centres/transfer stations for all Upper Spencer Gulf Councils.

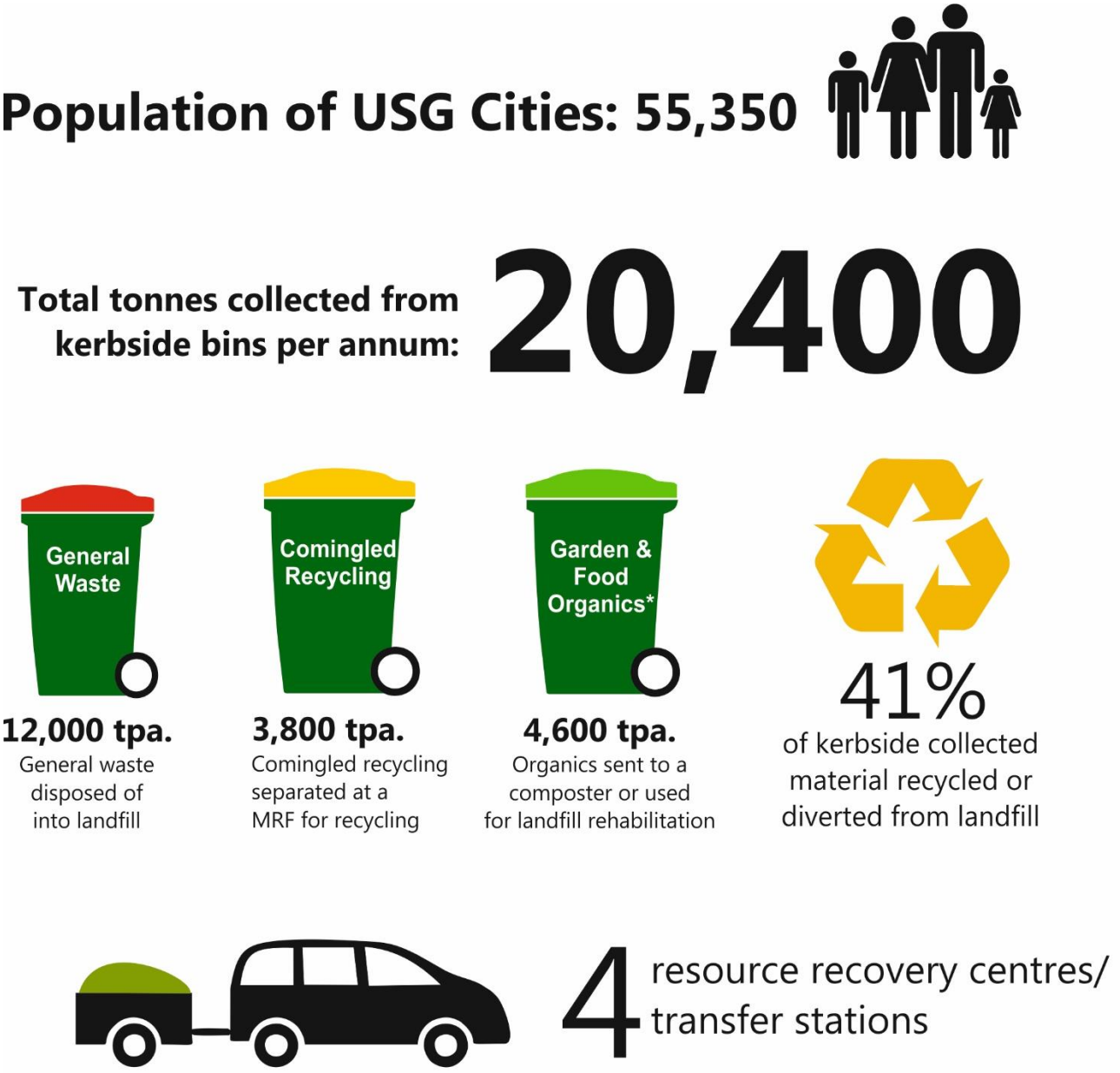
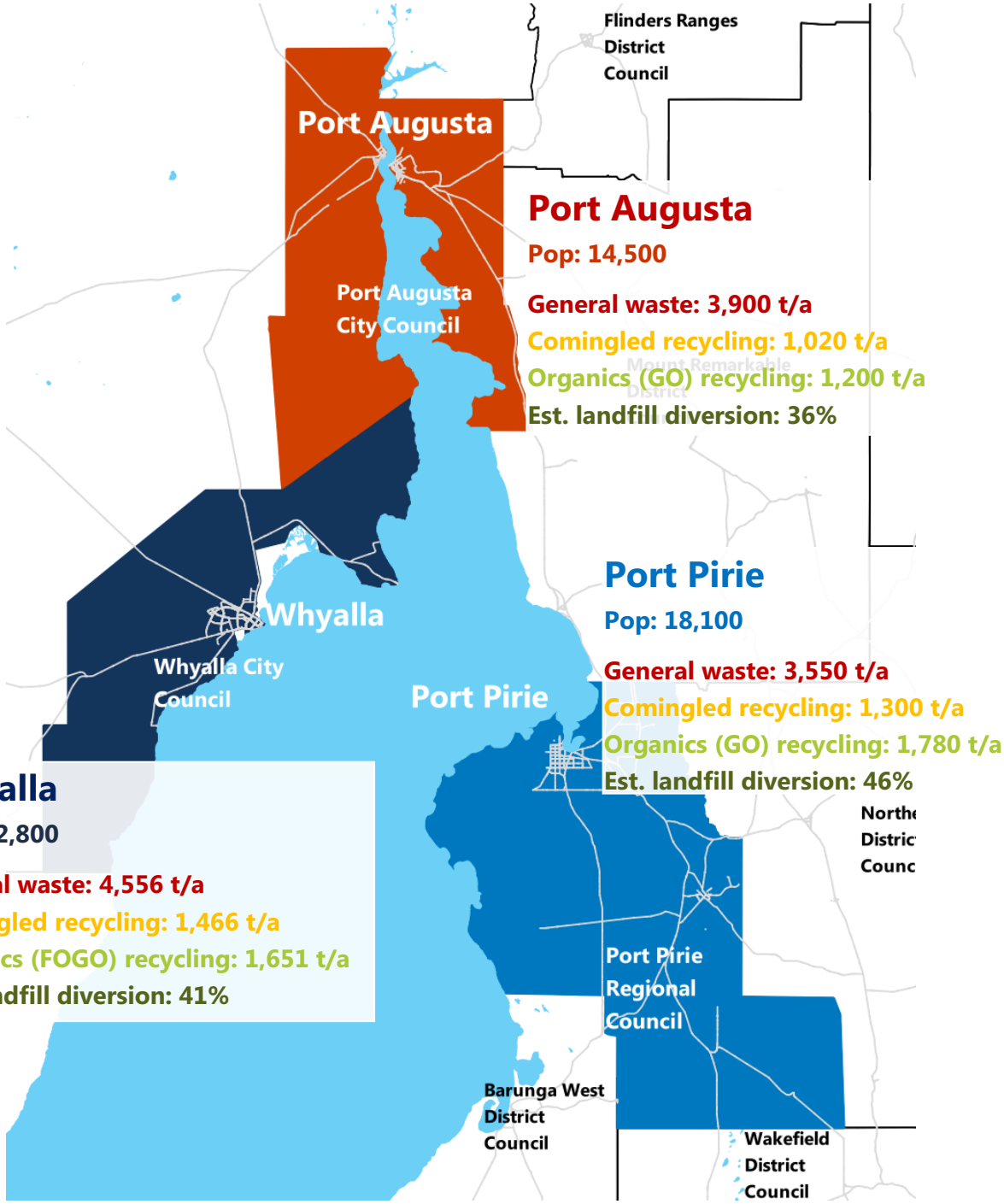


Figure 1: Summary of Waste and recycling tonnes, performance and resource recovery centres/transfer stations by all USG councils

*Food and garden organics (FOGO) bin service provided by Whyalla City Council (current service) and Port Augusta City Council (currently investigating transitioning to a FOGO bin service). Port Pirie Regional Council provides a garden only organics bin service.

Summary of each USG council kerbside bins and performance

The figure below provides a summary of the kerbside bin services across each of the Upper Spencer Gulf councils, including, population and estimated volumes and landfill diversion performance.



t/a = Estimated tonnes per annum
GO = Garden organics only recycling
FOGO = Food and garden organics recycling

Summary of council and industry waste, recycling and resource recovery infrastructure in the USG

Table 1 below provides a summary of the current council and commercial/industrial waste, recycling and resource recovery infrastructure in the Upper Spencer Gulf region.

Table 1: Council and commercial/industrial waste, recycling and resource recovery infrastructure in the Upper Spencer Gulf region

Whyalla region	**Council:** • Landfill (earmarked for closure next 2-5 years). • Mount Laura Waste & Recycling Depot.	**Industry:** • Container deposit scheme bottle and can depot. • Organics processing/composting facility (Peats). • Waste transfer station - currently under construction (Veolia). • Whyalla Steelworks – capable of scrap metal recycling (GFC).
Port Augusta region	**Council:** • Closed landfill site.	**Industry:** • Waste transfer station (owned and operated by Cleanaway). • Container deposit scheme bottle and can depots.
Port Pirie region	**Council:** • Port Pirie resource recovery centre and waste transfer station. • Crystal Brook Transfer Station.	**Industry:** • Lead smelter capable of E-waste processing (Nyrstar). • Port Pirie Scrap Metal and Bottle Depot.

Key Drivers Behind the Strategy

The development of the Upper Spencer Gulf Waste and Resource Recovery Strategy (the Strategy) has taken into consideration the drivers discussed in this section.

Regional and community drivers

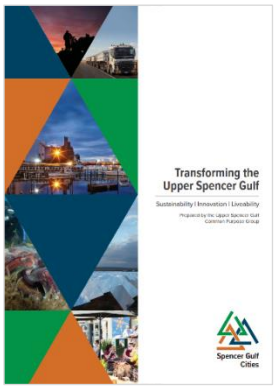
Regional considerations

The Upper Spencer Gulf (USG) is the westernmost of two large inlets on the southern coast of Australia, in the state of South Australia, facing the Great Australian Bight. The USG is home to three large population centres that form the nucleus of the Upper Spencer Gulf – Whyalla, Port Augusta and Port Pirie. These cities have a strong heritage, culture and capability in industrial manufacturing. They also provide a range of retail, sports, arts, health, education and specialist services for surrounding Mid North, Eyre Peninsula and Far North communities. The broader area is blessed with some of the most significant mineral and renewable energy resources, natural biodiversity and landscapes in the world.

Community expectations

Recent media programs and documentaries, such as the ABC's War on Waste, as well as growing awareness of waste issues, i.e. marine plastic and closing dumpsites, have renewed interest from the community in the waste and recycling services provided by councils.

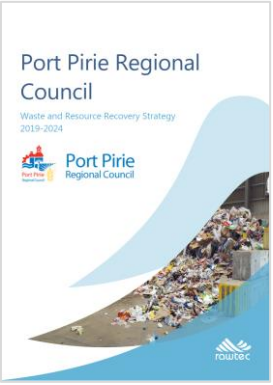
Transforming the Upper Spencer Gulf report



This report provides a framework to capitalise and build on the strengths of the Upper Spencer Gulf and lead the region's transformation towards a competitive, vibrant and self-reliant economy and community. The report identifies that the region has significant opportunity to build on its current strengths and pursue growth in:

- Arid agriculture and innovation, intermodal transport and logistics
- Renewable energy, mining services and processing and defence
- Event, cultural and marine-based tourism
- Public sector and regional service delivery
- Higher education and research

Council plans and strategies

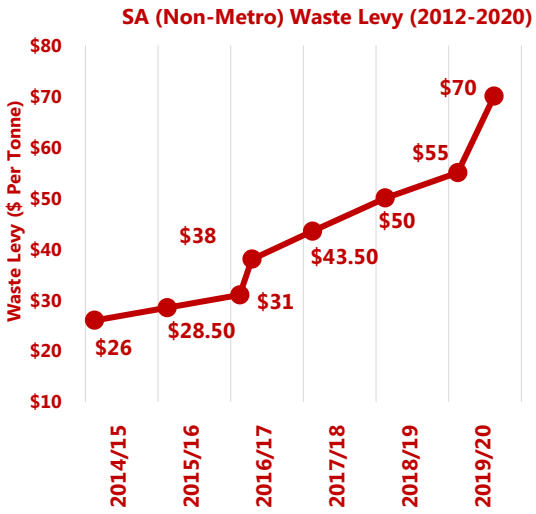


The Strategy considers a number of council plans and strategies, including:

- Port Pirie Regional Council Waste and Resource Recovery Strategy (2019-2024) (left)
- Whyalla City Council Strategic Plan (2017-2022)
- Port Pirie Regional Council Strategic Plan (2016-2025)
- Community Vision and Strategic Plan (2013-2017)
- Port Augusta Community Vision and Strategic Plan (2013-2017)

State and legislative drivers

Solid Waste Levy and Waste Regulation



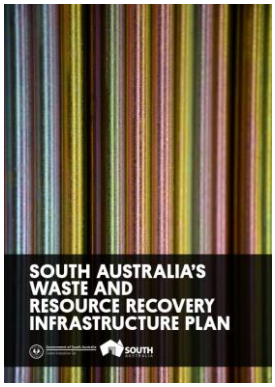
The Solid Waste Levy is paid on waste disposed of in landfills in South Australia. The metro and non-metro (regional) Levy has increased periodically since 2014, with a recent significant increase set by the State Government of $20 per tonne ($40 for metro councils) from $50 per tonne to dispose of waste into landfill ($100 per tonne for metro councils) in the 2018/19 FY, to $70 per tonne ($140 per tonne for metro councils).

2015-2020 SA Waste Strategy

SA has a 2015-2020 Waste Strategy which provides overarching targets for managing waste and resources in SA, including:

- >35% reduction of landfill disposal from 2002/03 baseline by 2020.
- >5% reduction in waste generation per capita by 2020 (from 2015).
- While not directly applicable, the 2020 landfill diversion targets for the Metro area of 70% for MSW, 80% for C&I , and 90% for C&D by 2020 provide a useful guide.

SA Waste and Resource Recovery Infrastructure Plan

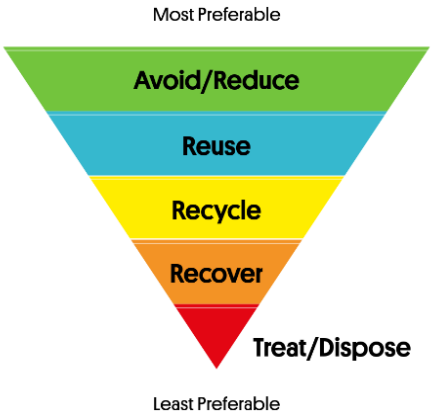


SA's Waste and Resource Recovery Infrastructure Plan identifies opportunities for infrastructure development in the region:

- Investment in equipment and facilities for compaction and bulk hauling to reduce transport costs to end markets.
- Reprocessing of E-waste and other metal-based streams at the local smelter.

Environmental drivers

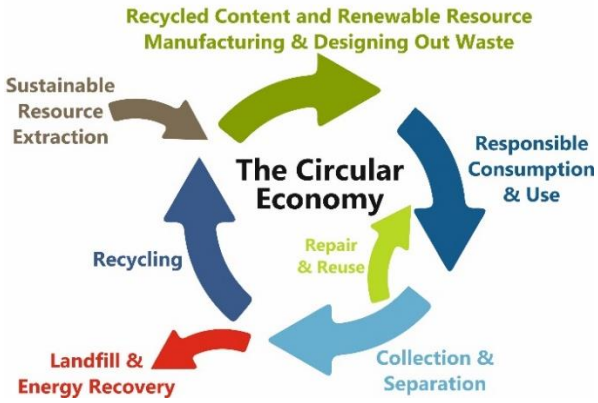
Waste hierarchy



The Waste Management Hierarchy (hierarchy) is the nationally and internationally accepted guide that sets out the preferred order of waste, recycling and resource recovery management practices.
The hierarchy principles include:

- **Avoid/reduce** means considering waste in design before a product is created. It is inefficient to pay the financial/environmental costs for waste twice, first in creation and then in disposal. Waste indicates that a system or process can be designed better.
- **Reuse** means designing products for flexibility and durability, so that they aren't disposed of until there is no other use for the product.
- **Recycle** means collecting, sorting and processing materials so that they can to be used again in the creation of new products. Recycling for some waste streams is more cost-effective than landfill.
- **Recover** is where materials that cannot be recycled are converted into energy to produce electricity. This helps maximise waste material as a resource.
- **Treat/Dispose** asserts that waste disposal (e.g. landfill) should only be used when no other more preferred resource recovery options are viable. Some waste materials may be hazardous (e.g. medical waste) and need to be treated to minimise harm.

Circular economy



A Circular Economy is a self-sustaining system driven by renewable energy and keeping material resources in use for as long as possible. This is a beneficial alternative to our current wasteful 'linear' economy that's based on the take, make, use and disposal of resources. It extracts the maximum value from these resources while in use, then recovers and regenerates products and materials.

A study undertaken by Green Industries SA on the circular economy (GISA 2017, *Benefits of a Circular Economy in South Australia*), found that a more circular economy could deliver major job creation (25,700 jobs) and a reduction in greenhouse gases equivalent to 7.7m tonnes of CO^2.

Strategy Vision

"The Upper Spencer Gulf councils will work collaboratively to become innovators in resource recovery and circular economy and achieve positive outcomes for communities in the region."

Strategy Objectives and Performance Indicator

The following objectives will be used to drive the design and implementation of the waste and resource recovery strategies.

- **Objective 1: Achieve improvements in landfill diversion across the region.**
- **Objective 2: Support local sorting, processing, reuse, remanufacturing and recycling of waste materials.**
- **Objective 3: Objective 3: Improve efficiency and cost-effectiveness in service delivery for USG councils.**

To measure success in reaching the above objectives, each council will aim to achieve landfill diversion of 52% from kerbside bin services by 2025. This diversion rate is consistent with the current diversion rate for MSW (council services) as detailed in the *South Australia's Recycling Activity Survey 2017-18 Report*.

Strategies to Meet Objectives

The Table 2 below provides a summary of the opportunities (investigations, policies, activities, services and infrastructure) that will be investigated and implemented (if viable), to meet the Strategy's objectives.

Table 2: Details of the strategies (investigations, policies, activities, services and infrastructure) that will be investigated and implemented (if viable), to meet the Strategy's objectives

Objectives	Strategies linked to objective
Objective 1: Achieve improvements in landfill diversion across the region	**1.1** Undertake a joint kerbside audit of residential/business waste, recycling and organics bins. **1.2** Investigate changes to service frequency for kerbside bin collection and other measures that could be implemented by all USG councils to increase landfill diversion and improve service delivery to community. **1.3** Improve considerations for waste and recycling management at new developments in development applications across all councils. **1.4** Investigate the undertaking of a joint waste and recycling education campaign based on the 'Which Bin?' campaign and tailored to the services available in the region. **1.5** Jointly procure funding for projects that aim to increase landfill diversion in the region.
Objective 2: Support local sorting, processing, reuse, remanufacturing and recycling of waste materials	**2.1** Investigate potential for hosting a bi-annual forum in the region bringing together all industries to discuss waste and recycling challenges and opportunities. **2.2** Investigate viability of the development of a materials recovery facility (MRF) in the region to serve the USG councils and wider region (e.g. Eyre Peninsula). **2.3** Investigate opportunities where council can include recycled and recycled-content products and materials in their procurement practices that benefit local industry. **2.4** Investigate the opportunities for energy intensive local industries to utilise waste products as energy sources (e.g. processed engineered fuels (PEF) or tyre derived fuel). **2.5** Investigate opportunities for council activities that promote the use of established and identify new recycling/resource recovery facilities and capabilities in the region (e.g. mine sites in the region or neighbouring regions). **2.6** Support and build on the strengths and specialisations of each of the USG councils.
Objective 3: Improve efficiency and cost-effectiveness in service delivery for USG councils	**3.1** Investigate opportunities to collaboratively procure waste, recycling and resource recovery services. **3.2** Investigate opportunities for council staff with waste, recycling and resource recovery related roles to share experiences, knowledge, resources and roles. **3.3** Investigate opportunities to better inform and educate local councillors on the challenges and opportunities facing the waste and recycling sector.

Objective 1: Achieve improvements in landfill diversion across the region

Outcomes linked to Objective 1

Achieving best-practice improvements in landfill diversion across the region will result in:

- Reduced total waste and recycling tonnes that need to be disposed of and associated cost savings.
- Lower GHG emissions.
- Conservation of scarce resources.

Strategies to achieve Objective 1

We will implement the following strategies to reach our objective of improvements in landfill diversion across the region.

1.1 Undertake a joint kerbside audit of residential/business waste, recycling and organics bins

Undertaking a physical audit of waste and recycling bins to determine material composition of bins and levels of contamination will help councils better understand waste and recycling behaviour of residents, and enable evidence based decision making when implementing improvements to the kerbside collection service. Undertaking the audits jointly also greatly improves the cost effectiveness of undertaking the audits.

As part of achieving Objective 1, the USG councils will jointly undertake a kerbside audit.

1.2 Investigate changes to service frequency for kerbside bin collection and other measures that could be implemented by all USG councils to increase landfill diversion and improve service delivery to community

There are many measures that should be investigated to improve the landfill diversion of the USG councils' waste streams. These include:

- Alternatives to current collection to promote waste reduction and increase food waste recycling.
- Standardising bin systems across the region.
- Improve the choice and flexibility of council collection services offered to residents and businesses.
- Options for how compostable bags can be provided to residents to promote recycling of food waste.

As part of achieving Objective 1, the USG councils will jointly investigate the above opportunities to improve landfill diversion. As each of the councils in the USG have similar demographics and waste and recycling systems, jointly investigating these measures improves the cost effectiveness of these investigations and allows all USG councils to benefit from any recommended improvements or changes to systems.

1.3 Improve consideration for waste and recycling management at new developments in development applications across all councils

Poor or inadequate solid waste management can quickly reduce the appeal of a development and lead to ongoing problems and costs for future owners, tenants and residents. To ensure waste and recycling issues are not overlooked in development design, many councils are requiring that new developments provide Council with information on their proposed waste and recycling systems in the form of a waste management plan (WMP), when they submit to Council for development consent. Requiring development applications to consider better practice waste and recycling management systems, can greatly improve the liveability of a development, and reduce costs for managing waste and recycling over the development's life.

The process of developing waste management plans also:

- Ensures developers meet requirements early in the design process and offers clarity to all parties.
- Promotes waste minimisation, reuse and recycling.
- Defines responsibilities for waste transfer from user disposal to centralised storage and collection, and ensures appropriate access for collection vehicles.
- Contributes to the public realm as a safe, secure and attractive environment for pedestrian movement and social interaction.
- Future proofs buildings with increased opportunities for recycling and diversion of waste from landfill.

As part of meeting Objective 1 of the Strategy, the USG councils will investigate the development of a standardised approach and set of requirements for all new developments when submitting WMPs for council consent. This will ensure that waste and recycling is considered in the design of new developments, as well as providing consistency for developers in knowing what is required in developing WMPs and enables sharing of resources between the council for WMP review and assessment.

1.4 Investigate the undertaking of a joint waste and recycling education campaign based on the 'Which Bin?' campaign and tailored to the services available in the region

When it comes to waste and recycling issues and opportunities, the USG councils are one of the main sources of education and communication for residents and businesses. It is important that the USG councils are proactive in this space and capitalise on opportunities for councils to be leaders for change. The state government recently began a new education campaign (Which Bin?) urging households to consider what they put in their recycling bins and their green organics bins. This program has a range of materials and resources available to councils, residents and businesses, however, there may be slight differences in the services provided by the USG councils and disposal requirements.

As part of meeting Objective 1 of the Strategy, the USG councils will investigate jointly undertaking a tailored waste and recycling education campaign for USG residents and businesses.

1.5 Jointly procure funding for projects that aim to increase landfill diversion in the region

The federal and state governments provide business grants and fund programs from time to time. Specifically related to the strategy, Green Industries SA provides funding to unlock the potential of the Circular Economy, develop infrastructure to process and create new products from wastes, seed funding for new technologies, and the commercialisation of research in South Australia. Funding from Green Industries SA is targeted to help businesses, industry and government to understand, develop and implement cost saving waste management, resource efficiency and lean production measures. These measures aim to improve business productivity and environmental performance through reducing waste materials, trade waste, energy and water use. Additionally, the Department of Primary Industries and Regions SA (PIRSA) manages several ongoing and periodic grant programs to assist regional South Australian businesses and communities.

The investigations and opportunities deduced from the investigations undertaken as part of the strategy may be more viable if costs are offset (or partly offset) by receiving grants. As part of the meeting Objective 1 of the Strategy, the USG councils with aim to the jointly apply for receive funding for at least one project that aims to increase landfill diversion in the region.

Objective 2: Support local sorting, processing, reuse, remanufacturing and recycling of waste materials

Outcomes linked to Objective 2

Objective 2 focuses on supporting local sorting, processing, reuse, remanufacturing and recycling of waste and recycled material by:

- Capitalising and building on the strengths and specialisations of each of the USG council areas (refer Appendix 1 for details on what some these are).
- Providing additional waste and recycling services for surrounding councils and regions that otherwise wouldn't have access to them.
- Supporting existing and encouraging new waste, recycling and resource recovery related infrastructure and activities in the region.
- Driving the circular economy in the region.

Strategies to achieve Objective 2

We will implement the following strategies to support local sorting, processing, reuse, remanufacturing and recycling of waste materials.

2.1 Investigate potential for hosting a bi-annual forum in the region bringing together all industries to discuss waste and recycling challenges and opportunities

The USG region has a number of council and private/industry businesses, operations and facilities that generate significant volumes of waste and process/recycle waste materials. It is important for the USG councils to be facilitators and leaders in developing existing and new local resource recovery or recycling markets. One method the USG councils could use to facilitate this is to host a bi-annual forum or conference with local industry and businesses with a focus on waste recycling, resource, recovery and circular economy opportunities in the region. This forum would also be a way to help identify opportunities for councils to partner with private entities in the region, enabling additional recycling and resource recovery capabilities.

As part of achieving Objective 2 of the strategy the USG councils will investigate the viability and effectiveness of hosting a forum or conference in the region bringing together all industries to discuss resource recovery and circular opportunities.

2.2 Investigate viability of the development of a materials recovery facility (MRF) in the region to serve the USG councils and wider region (e.g. Eyre Peninsula)

One of the main challenges for councils in the USG and neighbouring regions is providing comingled recycling services to residents and businesses and transporting this material to the nearest materials recovery facilities.

As part of achieving Objective 2 of the strategy, the USG councils will investigate building a regional materials recovery facility (MRF) or similar options (e.g. mini MRF to remove glass and high value recyclable material e.g. cardboard from the USG councils' comingled recycling streams). If viable, this initiative would reduce distances and costs for transporting collected recyclables to a MRF. It would also create local jobs, investment and economic activity. As a first step, we will work with interested neighbouring councils to undertake a feasibility study for this initiative to evaluate the costs and benefits of this initiative.

2.3 Investigate opportunities where council can include recycled and recycled-content products and materials in their procurement practices that benefit local industry

The USG councils are in a unique position in that they can purchase large amounts of materials and products that are able to be replaced by recycled or recycled-content materials or products, for example processed C&D, glass and plastic waste in roads (e.g. road base or bitumen) or locally made compost used in parks and gardens. Purchasing back remanufactured products that are made from recycled or recycled-content sources is beneficial to the circular economy, can reduce reliance on raw materials, and reduce carbon emissions from the manufacture of some materials and products.

As part of achieving Objective 2 of the strategy, the UPG Councils will encourage, support and collaborate with each other to increase use of recycled-content products in council purchases. This will include:

- Sharing information on opportunities for councils to use recycled/recycled-content products for their operations and standards for purchasing and using recycled or recycled-content materials or products.
- Facilitating council-to-council exchange of recycled materials (e.g. recycled C&D for use in road base).
- Investigate other opportunities to purchase and use regionally made recycled/recycled-content materials or products.
- Establishing minimum recycled-content requirements for USG council purchases.

2.4 Investigate the opportunities for energy intensive local industries to utilise waste products as energy sources (e.g. processed engineered fuels (PEF) or tyre derived fuel)

The USG has a number of key energy intensive industries, including a lead smelter and iron ore smelter. Many of these industries utilise fossil fuels as a large portion of their energy supplier (e.g. coal, coke, gas). Processed Engineered Fuel (PEF) or waste derived fuels (e.g. tyre derived fuel) are alternative fuel sources for use in kilns and smelters. These alternative fuels harness the energy contained in combustible material such as non-recyclable plastics, cardboard, paper and waste timber, that would usually go to landfill. Successful examples in Australia include the Adelaide Brighton Cement kiln, which uses PEF manufactured by the Suez-ResourceCo Alternative Fuels facility to replace over 100,000 tonnes of gas usage per year alone[1], reducing their natural gas usage by around 30 million cubic metres annually.

As part of achieving Objective 2 of the strategy, the USG councils will facilitate investigation into what opportunities for PEF or waste derived fuels (e.g. tyres) could be manufactured in the region and/or used by the energy intensive industries in the region (i.e. lead smelter, iron ore smelter).

[1] Source: https://www.sustainabilitymatters.net.au/content/waste/article/turning-waste-streams-into-energy-255666286

2.5 Investigate opportunities for council activities that promote the use of established and identify new recycling/resource recovery facilities and capabilities in the region (e.g. mine sites in the region or neighbouring regions).

The USG already has a number of key recycling and resource recovery facilities in the region including:

- Organics processing/composting facility in Whyalla.
- Steelworks in Whyalla capable of scrap metal recycling.
- Lead smelter in Port Pirie capable of E-waste processing.

To ensure these operations remain viable in the region in the long term, it is important that USG councils capitalise on opportunities to process their waste at these facilities and identify options to promote the diversion of other locally generated waste streams to these facilities (e.g. scrap metal to steelworks, E-waste into the lead smelter, food waste and other organics e.g. timber, agriculture wastes from chicken farms, feed lots, abattoirs, pig farms) to the composting facility.

As part of achieving Objective 2 of the strategy, USG councils will investigate opportunities to promote the use of existing recycling infrastructure in the region and identify opportunities to develop new infrastructure and capabilities. This may include undertaking surveying and modelling to identifying the available organic and other recyclable material generated in the region by residents, businesses and industry, including current disposal/recycling locations for this material in the region.

2.6 Support and build on the strengths and specialisations of each of the USG councils

The USG already has a range of established waste, recycling and resource recovery related capabilities and infrastructure, and natural areas with opportunities for sector growth. As the waste, recycling and resource recovery sector grows in the region, it is important that these strengths and specialisation for each of the USG council regions are supported and built on where achievable, rather than duplicating infrastructure, equipment or capabilities. Appendix 1 provides a summary of what some of these strengths and specialisations are for each USG council.

As part of achieving Objective 2 of the strategy, USG councils will focus on investigations and activities that capitalise on and build on the strengths and specialisations of each of the USG council areas. Activities may include:

- Procurement of goods and services and investment in the related waste, recycling and resource recovery strengths and specialisations of the USG council area.
- Sharing of and minimising duplication of equipment and infrastructure between the councils.
- Utilising existing facilities to their full capacity.

Objective 3: Improve efficiency and cost-effectiveness in service delivery for USG councils

Outcomes linked to Objective 3

Objective 3 focuses on improving efficiency and cost-effectiveness in the receiving and delivery of waste and recycling services. Achieving this objective can result in:

- Lower costs for procurement of waste and recycling services.
- Increased knowledge sharing and use of resources, including personnel resources.
- Increased community knowledge and understanding of waste and recycling challenges and opportunities.

Strategies to achieve Objective 3

We will implement the following strategies to reach our objective of best-practice waste reduction.

3.1 Investigate opportunities to collaboratively procure waste, recycling and resource recovery services

Councils play a vital role in procuring the waste, recycling and resource recovery services and infrastructure that their communities depend on. It is essential that councils are achieving value for money for these services and also meet the needs and expectations of their communities and any environmental and sustainability goals and requirements. One way that councils can achieve better waste and recycling service procurement outcomes for their community is to jointly procure these services with neighbouring and strategic councils. Doing so can assist councils to efficiently prepare tender documentation, attract a larger range of potential tenderers by increasing economies of scale for the procurement, support infrastructure and service development in their region, and capitalise on the latest innovations and synergies for services between the councils.

The USG have a number of opportunities for joint procurement, including:

- Kerbside collection and transport of waste and recyclables.
- Landfill disposal of general waste, processing of comingled recycling processing and composting or organics recycling.
- Garden waste mulching and C&D crushing.
- Scrap metal, E-waste and other waste and recyclables collection and disposal/processing.
- Procurement of bins, equipment and infrastructure.

As part of achieving Objective 2 of the strategy, USG councils will investigate opportunities to jointly procure waste and recycling services amongst themselves, as well as with other neighbouring councils.

3.2 Investigate opportunities for council staff with waste, recycling and resource recovery related roles to share experiences, knowledge, resources and roles

USG councils are facing increasingly demanding and complex community and sector expectations. With limited resources and competing demands, it is critical that councils find new ways to provide and manage efficient and cost-effective waste and recycling services. Strategic collaboration and partnerships between the councils are ways that councils can respond to these challenges.

As part of achieving Objective 2 of the strategy, USG councils will investigate opportunities to increase sharing of experiences, knowledge, resources and roles.

3.3 Investigate opportunities to better inform and educate local councillors on the challenges and opportunities facing the waste and recycling sector

The waste and recycling industry in Australia (and internationally) is going through a significant transition period due to a number of recent events, including the significant increases to the SA waste levy, renewed interest in waste management from the community and impacts from the China National Sword Policy. It is important that USG councillors, many of whom are new to their roles, are informed and educated on how councils can best respond to these current (and future) challenges and, more importantly, can capitalise on any opportunities for local processing, reuse and remanufacturing of waste and recyclable material in the region.

As part of achieving Objective 2 of the strategy, USG councils will investigate opportunities to better inform and educate local councillors on the challenges and opportunities facility the waste and recycling sector. This may include:

- Hosting a workshop (or series of workshops) with councils in the region to present and discuss the challenges and opportunities in the region. This may include taking councillors on site visits to relevant facilities, sites and operations.
- Ensuring councillors are aware of and are encouraged to participate in any training that may be provided in the future from WMAA, LGA, State Government, etc.

Appendices

Appendix 1: Strengths and specialisations of each council region

Strengths and specialisations of each council region related to waste, recycling and resource recovery.

Table 3: Strengths and specialisations related to waste, recycling and resource recovery of USG council regions.

Whyalla	Port Augusta	Port Pirie
• Recently established large composting facility in Whyalla (Peats). • Council has experience and capabilities in processing large volumes of C&D waste with large stockpiles (crushed concrete and limestone). • Significant energy and scrap/recycled metals user in region (Whyalla Steelworks). • Proximity to Eyre Peninsula Councils, including the regional centre of Port Lincoln. • Existing landfill licenced to take and dispose of/quarantine asbestos waste.	• Close proximity to large mining, defence and renewable energy operations. • Central location to other USG councils and proximity to arid councils/communities. • Council has significant area with appropriate zoning available for expansion of or development of new waste, recycling and resource recovery capabilities, facilities and infrastructure. • Strategic location for potential solar panel processing due to proximity to significant solar farm developments.	• Significant energy user capable of large scale E-waste processing in region (Port Pirie Lead Smelter). • Large and well set up resource recovery and transfer station with efficient bulk haulage capabilities, and appropriate zoning and licencing for expansion of or development of new waste, recycling and resource recovery capabilities, facilities and infrastructure. • Commercial port capable of future export opportunities. • Potential for large abattoir and feedlot to be developed in the region. • Proximity to Adelaide, Southern Flinders, Clare Valley and Mid-North regions. • Existing landfill licenced to take and dispose of/quarantine asbestos waste.

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