His Worship the Mayor
Councillors
City of Marion

Notice of Infrastructure and Environment Committee

Council Chamber, Council Administration Centre
245 Sturt Road, Sturt

Tuesday, 12 November 2024 at 6.30 pm

The CEO hereby gives Notice pursuant to the provisions under Section 83 of the *Local Government Act 1999* that an Infrastructure and Environment Committee will be held.

A copy of the Agenda for this meeting is attached in accordance with Section 83 of the Act.

Meetings of the Council are open to the public and interested members of this community are welcome to attend. Access to the Council Chamber is via the main entrance to the Administration Centre on Sturt Road, Sturt.

Tony Harrison

Chief Executive Officer

1 Open Meeting

2 Kaurna Acknowledgement

We acknowledge the Kaurna people, the traditional custodians of this land and pay our respects to their elders past and present.

3 Elected Member Declaration of Interest (if any)

4 Confirmation of Minutes

4.1 Confirmation of Minutes of the Environment Committee Meeting held on 8 October 2024	
Report Reference	IEC241112R4.1
Originating Officer	Business Support Officer – Governance and Council Support – Cassidy Mitchell
Corporate Manager	Manager Office of the Chief Executive – Kate McKenzie
General Manager	Chief Executive Officer – Tony Harrison

RECOMMENDATION

That the minutes of the Infrastructure and Environment Committee Meeting held on 8 October 2024 be taken as read and confirmed.

ATTACHMENTS

1. IE C 241008 - Minutes [**4.1.1** - 7 pages]

Minutes of the Infrastructure and Environment Committee held on Tuesday, 8 October 2024 at 6.30 pm Council Chamber, Council Administration Centre 245 Sturt Road, Sturt

Present

His Worship the Mayor Kris Hanna

Councillor Ian Crossland	Councillor Jayne Hoffmann (Chair)
Councillor Renuka Lama (7:06 pm)	Councillor Sarah Luscombe
Councillor Luke Naismith	Councillor Nathan Prior
Councillor Amar Singh (6:44 pm – 8:35 pm)	Councillor Matt Taylor
Councillor Raelene Telfer	Councillor Jason Veliskou (6:39 pm)

In Attendance

Chief Executive Officer - Tony Harrison
General Manager City Services - Angela Allison
General Manager Corporate Services – Tony Lines
Manager Engineering, Environment and Assets - Mathew Allen
Unit Manager Engineering - Carl Lundborg
Coordinator Transport - Nathan Saxty
Unit Manager Environmental Sustainability - Rebecca Neumann
Senior Strategic and Policy Planner - David Barone
Unit Manager Planning & Development – Alex Wright
Executive Officer to the General Manager - Tracey Stringer

1 Open Meeting

The Chair opened the meeting at 6.30pm.

2 Kaurna Acknowledgement

We acknowledge the Kaurna people, the traditional custodians of this land and pay our respects to their elders past and present.

3 Elected Member Declaration of Interest

Moved Councillor Taylor **Seconded Councillor Telfer**

The following interests were disclosed:

- NIL

Carried

4 Confirmation of Minutes

4.1 Confirmation of Minutes of the Environment Committee Meeting held on 10 September 2024

Report Reference IEC241008R4.1

Moved Councillor Luscombe **Seconded Councillor Naismith**

That the minutes of the Environment Committee Meeting held on 10 September 2024 be taken as read and confirmed.

Carried

5 Business Arising

5.1 Business Arising Statement - Action Items

Report Reference IEC241008R5.1

Moved Councillor Luscombe **Seconded Councillor Naismith**

That the Infrastructure and Environment Committee:

1. Notes the business arising statement, meeting schedule and upcoming items.

Carried

6 Confidential Items - Nil

7 Reports for Discussion

7:02 pm Councillor Singh left the meeting
7:10 pm Councillor Singh re-entered the meeting

7:15 pm Councillor Singh left the meeting
7:20 pm Councillor Singh re-entered the meeting

7.1 Parking Management Guidelines - Implementation Review

Report Reference IEC241008R7.1

The Chair provided an overview of the agenda item for the Committee. The Parking Management Guidelines were initiated July 2022 and endorsed by Council 24th October 2023. The agenda item is the 12-month implementation review.

- Staff summarised key process improvements since the implementation of the Guidelines, including:
  - Case management in CRM Salesforce and an increase in first-call resolution
  - Introduction of a roster for traffic enquires
  - 60 new parking restrictions or alterations were applied with few complaints
  - Service Level Agreements were adjusted, aiming on reducing overdue cases
  - Improved transparency in decision-making and record-keeping for dispute resolution and reviews.
- Upward trends in parking-related requests can be attributed to:
  - Post-COVID traffic and parking behaviour changes
  - Increased population and urban infill
  - Growth in the number of vehicles per household
  - Increase in vehicle size.

- There has only been one Section 270 review in 12 months

- Roads less than the 7.2m minimum width requirement, must take into consideration that the road must allow a 3m gap between parked vehicles in accordance with the Australian Road Rules to allow access for emergency vehicles
- Requests for individualised parking guidelines outside of the scope of the Guidelines would only be undertaken in exceptional circumstances
- Duplications of parking issues raised by MPs affecting service level agreements - election cycles will impact the number of enquiries. Requests are initially triaged to identify any safety issues, and a standard response is provided. The case is then considered in accordance with priority similar to all other cases. Responses to traffic and parking enquiries have been streamlined; where required, MPs are acknowledged in the letter of response on the outcomes.
- Extensive discussion on when to "Inform" or "Consult". The current practice is where only one option is possible, inform is the appropriate approach. However clearer rationale could be provided in the advice to effected residents. Where more than one option exists, consult is the appropriate approach. It is important to update members via ward briefings on parking controls that have a reasonable impact on the community. Consider further community education regarding parking guidelines – fine-tuning messaging.

Moved Councillor Telfer **Seconded Mayor Hanna**

That the Infrastructure and Environment Committee:

1. Notes the report and presentation.
2. Notes that Councillors have provided feedback on changes regarding the Parking Management Guidelines.

Carried unanimously

7.2 Coastal Update

Report Reference IEC241008R7.2

The Chair provided an overview of the agenda item for the Committee. The purpose of the report is to provide an update on current programs related to coastal climate change responses.

New program – Climate Ready Coasts Program – led by the LGA and the State Government Coast Protection Board – improving the approach to coastal management and accelerating coastal hazard adaption planning in South Australia. Draft guidelines have been developed; the grant is now open to receive applications.

ACCN – Adelaide Coastal Councils Network – previously the Metropolitan Seaside Councils Network. The City of Marion is a financial member of the ACCN. The ACCN Strategic Plan 2024-26 has a focus on climate change.

It was noted the City of Marion coastline has some vulnerability; the seasons have been quite mild. 2024 season to conclude at the end of the year; a full report on the 4-yr monitoring program with recommendations for the next period will be presented in February 2025.

Field River Dunes Management Plan is an additional project. This is a significant environmentally sensitive site and a recognised Kaurna site. Protection of the Dune was discussed.

Moved Councillor Luscombe **Seconded Councillor Crossland**

That the Infrastructure and Environment Committee:

1. Notes the update on the Climate Ready Coasts (CRC) Program and the Adelaide Coastal Councils Network (ACCN) including the *Adelaide Coastal Councils Network Strategic Plan 2022-2024* (Attachment 1).
2. Notes the update on the City of Marion Coastal Monitoring Program and proposal to continue a scaled-back coastal monitoring program for another four years (2025-2028) noting:
    a. Available grant and council funding from the 2021-2024 program will be used to fund year 1 (2025).
    b. A report will be brought to General Council in mid-2025 with a proposal for funding the remainder of the program with the likely split being:
        i. $25,000 Coast Protection Board grant to be spent over three years
        ii. $8,000 per year additional from City of Marion from 2026/2027, 2027/2028 and 2028/2029 (total $24,000).
3. Notes the update on the Field River Dunes Management Plan.
4. Recommends to General Council that the existing $20,000 budget is used to leverage Climate Ready Coasts grant funding of $20,000 for the development of a Coastal Adaptation Plan for the whole City of Marion coastline ($40,000 in total).

Carried unanimously

7:50 pm Councillor Crossland left the meeting
7:54 pm Councillor Crossland re-entered the meeting
8:03 pm Councillor Luscombe left the meeting
8:05 pm Councillor Luscombe re-entered the meeting
8:13 pm Councillor Naismith left the meeting
8:15 pm Councillor Naismith re-entered the meeting
8:35 pm Councillor Singh left the meeting
8:35 pm Councillor Prior left the meeting
8:38 pm Councillor Prior re-entered the meeting

7.3 Marion Centre and Environs Precinct Planning

Report Reference IEC241008R7.3

The Chair introduced the agenda item, to inform members of a proposal to undertake a planning process for the Marion Centre and surrounding environs that will inform future development opportunities.

Staff provided background to the item, including:

- The project has arisen from initial work by Council in preparation for the discussion paper as part of consultation for the Draft Greater Adelaide Regional Plan (GARP). Council was approached by the owners of Marion Centre, with a view to coordinating a position in moving forward strategically, to examine and explore opportunities.

The Committee discussed the opportunity.

- Encourages staff to look at 'big picture' planning
- Expressed concerns regarding the cost and value to the City of Marion and its residents, acknowledging more information on the precinct will be useful for future planning.

Moved Mayor Hanna **Seconded Councillor Telfer**

That the Infrastructure and Environment Committee:

1. Notes the existing discussions held with Scentre Group and opportunity afforded through collaboration for this location.
2. Recommends that Council does not support an Urban Precinct and Partnership Program grant application in relation to Westfield Marion.
3. At a future Forum in 2025, Council and staff discuss the Marion Precinct and environs to define any directions, benefits and focus for Council and its ratepayers.

Carried unanimously

7.4 State Government Environmental Advocacy

Report Reference IEC241008R7.4

The Chair introduced the item, seeking feedback from the Committee on key environmental advocacy opportunities with the State Government. The list of opportunities was created to address a request from Mayor Hanna in preparation for lobbying Government/Opposition in the lead up to the state elections.

Discussion:

The Committee discussed the proposed list, providing feedback:

1. Waste – phasing out weekly landfill collections - provide data on the level of contamination
2. Waste – soft plastics
3. Waste - batteries & e-waste – influence packaging – how they're disposed of
4. Nature – we need better biodiversity protection laws in urban areas
5. Nature – Hills Face Zone: Rezoning of Hills Face Zone to be removed due to the challenges in developing the land.
6. Nature – Sturt River
7. Warradale Army Barracks – protection for remnant River Red Gum and open space values
8. Trees – conflicts with powerlines and other utilities
9. Water – rapid expansion of 'water sensitive urban design'

10. Climate Change – Hazard Mapping – to include wood heaters and gas homes-respiratory illness
11. Climate Change – Integrated Coastal Planning
12. Climate Change – Regional Climate Partnerships
13. Climate Change – Electrify Everything – fully electric homes, vehicles, sustainable living, health impact from wood smoke and gas.
14. Active and Sustainable Transport – also need other types of transport, more trains and trams; encouraging people to use more sustainable cars; strategic EV charging stations in remote and regional areas and on key transport corridors.

Moved Mayor Hanna **Seconded Councillor Veliskou**

That the Infrastructure and Environment Committee:

1. Notes that Councillors have provided feedback on the environmentally focussed State Government Advocacy priorities.
2. Recommends the deletion of clause 5 from the environmentally focused State Government Advocacy priorities.
3. Recommends to Council the remainder of the environmentally focused State Government advocacy priorities be communicated to the State Government.

Carried unanimously

8 Reports for Noting - Nil

9 Workshop / Presentation Items - Nil

10 Other Business

11 Meeting Closure

The meeting was declared closed at 9.01 pm.

CONFIRMED THIS 12 DAY OF NOVEMBER 2024

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CHAIRPERSON

5 Business Arising

5.1 Business Arising Statement - Action Items	
Report Reference	IEC241112R5.1
Originating Officer	Executive Officer to the General Manager City Services – Tracey Stringer
Corporate Manager	N/A
General Manager	General Manager City Services – Angela Allison

REPORT OBJECTIVE

The purpose of this report is to review the business arising from previous meetings of the Environment Committee meetings, the meeting schedule and upcoming items.

RECOMMENDATION

That the Infrastructure and Environment Committee:

1. **Notes the business arising statement, meeting schedule and upcoming items.**

ATTACHMENTS

1. IE C 241112 - Business Arising as at 8 October 2024 [**5.1.1** - 1 page]
2. IE C 241112 - Schedule of Upcoming Items 2024 [**5.1.2** - 4 pages]

CITY OF MARION
BUSINESS ARISING INFRASTRUCTURE AND ENVIRONMENT COMMITTEE MEETINGS **AS AT 8 OCTOBER 2024**

Meeting Date	Document	Item	Action Required	Assignee/s	Action Taken / Response	Status
11 June 2024	IEC240611R7.1	Environmental Sustainability Plan	The committee would like to see figures on how much we spend on each environmental sustainability area included in the Draft Environmental Sustainability Plan that comes back to IEC later in 2024.	R Neumann	Report scheduled for 12 November 2024 IEC meeting.	In progress
11 June 2024	IEC240611R7.2	Carbon Inventory and Reporting	The committee suggested revising the Carbon Neutral Plan and bring it back to Council in the next 12 months for review.	R Neumann	Included in the GC schedule of upcoming items for June 2025.	In progress

* Completed items to be removed are shaded

Infrastructure and Environment Committee – 2024 Schedule of upcoming items

Infrastructure and Environment Committee	Date: Tuesday, 13 February	Time: 6.30pm – 9.30pm	Venue: Chamber	
Topic	**Type of Report**	**Description**	**External Attendees**	**Staff Responsible**
Digitised Tree Asset Management Plan				I Seccafien
Community Renewables and VPP and EVs		Includes an update on EV transition plan and charging stations		M Allen
Workshop agenda for 2024				

Infrastructure and Environment Committee	Date: Tuesday, 9 April	Time: 6.30pm – 9.30pm	Venue: Chamber	
Topic	**Type of Report**	**Description**	**External Attendees**	**Staff Responsible**
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		C Madsen
Walking and Cycling Action Plan				M Allen
Footpaths		Refer GC231212		C Lundborg
Streetscape program		10-year program		M Allen

Infrastructure and Environment Committee	Date: Tuesday, 11 June	Time: 6.30pm – 9.30pm	Venue: Chamber	
Topic	**Type of Report**	**Description**	**External Attendees**	**Staff Responsible**
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		C Madsen
Environmental Engagement and Comms		Info update and help inform program over the rest of calendar year. Feedback on focus areas for Common thread Question about sustainability rebates program		R Neumann
Environment Plan		Engagement on scope and directions for the CoM Environmental Sustainability Plan (and CoM Strategic Plan if time permits)		R Neumann
Carbon Inventory and Reporting				R Neumann

Infrastructure and Environment Committee – 2024 Schedule of upcoming items

Infrastructure and Environment Committee		**Date: Tuesday, 9 July** **Time: 6.30pm – 9.30pm**	**Venue: Chamber**	
Topic	**Type of Report**	**Description**	**External Attendees**	**Staff Responsible**
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		C Madsen
Flinders University Sustainability Strategy			William Van Ausdal	M Allen
Marion Water Business Update				G Ricketts
262 Sturt Road Precinct Landscaping		Review of scope		B Jaggard M Hubbard

Infrastructure and Environment Committee		**Date: Tuesday, 6 August** **Time: 6.30pm – 9.30pm**	**Venue: Chamber**	
Topic	**Type of Report**	**Description**	**External Attendees**	**Staff Responsible**
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		C Madsen
EV Charging Station trial (SAPN)		Update on SA Power Networks Electric Vehicle (EV) Charging Station trial and the joint EV charging stations request for proposal tender.		C Lundborg
Sustainable Solar Savings Scheme		Brief Update	ShineHub	M Allen
FOGO (Food Organics, Green Organics)	Conf.			A Byrne

Infrastructure and Environment Committee – 2024 Schedule of upcoming items

Infrastructure and Environment Committee		**Date: Tuesday, 10 September Time: 6.30pm – 9.30pm**		**Venue: Chamber**
Topic	**Type of Report**	**Description**	**External Attendees**	**Staff Responsible**
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		T Stringer
Tram Grade Separation Project			DIT	M Allan/A Cortes
Green Adelaide Update			Chris Daniels	R Neumann
Streetscape Program – Prioritisation Matrix Review				C Lundborg
Infrastructure and Environment Committee		**Date: Tuesday, 8 October Time: 6.30pm – 9.30pm**		**Venue: Chamber**
Topic	**Type of Report**	**Description**	**External Attendees**	**Staff Responsible**
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		T Stringer
Coastal Update		Report summarising an update on Council's coastal monitoring program, coastal adaptation priorities for Marion and the related new directions for Adelaide Coastal Council's Network and LGA's Climate Ready Coasts program.		R Neumann
Parking Management Guidelines Implementation Review		Present an overview and update of the implementation of the Parking Management Guidelines.		C Lundborg
Precinct Planning Westfield Marion		Briefing on funding opportunity for the preparation of a Precinct Plan for the Marion Centre and environs, in response to GARP and Scentre Group interest in collaboration.		D Barone
State Government Environmental Advocacy				M Allen

Infrastructure and Environment Committee – 2024 Schedule of upcoming items

Infrastructure and Environment Committee		**Date: Tuesday, 12 November Time: 6.30pm – 9.30pm**		**Venue: Chamber**
Topic	**Type of Report**	**Description**	**External Attendees**	**Staff Responsible**
Business Arising		Business arising from previous meetings, the meeting schedule, and upcoming items		T Stringer
Draft Environmental Sustainability Plan and review of the Carbon Neutral Plan		Update on the progress of the Environmental Sustainability Plan, including a review of the Carbon Neutral Plan		R Neumann
Tonsley Innovation District project update, Governance Framework and Car Parking Strategy		Renewal SA presentation - Tonsley Innovation District project update referencing the Governance Framework and Car Parking Strategy.		B Grimm & M Allen
Council's Role in housing		Exploring a potential scope for the provision of Housing for Council, including exploring what other jurisdictions do or have done.		D Barone
Draft submission - Environment Protection (Waste to Resources) Policy 2010 Review		Present the draft submission to the EPP review.		A Byrne

6 Confidential Items - Nil

7 Reports for Discussion

7.1 Environmental Sustainability Plan - draft scope and timeframe	
Report Reference	IEC241112R7.1
Originating Officer	Unit Manager Environmental Sustainability – Rebecca Neumann
Corporate Manager	Manager Engineering, Assets and Environment - Mathew Allen
General Manager	General Manager City Services - Angela Allison

REPORT HISTORY

Report Reference	Report Title
IEC240611R7.1	City of Marion Environmental Sustainability Plan
IEC240611R7.2	Carbon Inventory and Reporting

REPORT OBJECTIVE

To provide the Infrastructure and Environment Committee (IEC) with an update on the progress of the Environmental Sustainability Plan including figures on council expenditure on the environment as requested at IEC240611R7.1 and the plan for the review of the Carbon Neutral Plan as requested at IEC240611R7.2.

EXECUTIVE SUMMARY

An Environmental Sustainability Plan (ES Plan) is being developed for the City of Marion which will expand Council's strategic environmental directions and describe environmental priorities and their resource requirements across all council services and operations for the period 2025 to 2030.

The proposed scope and areas of focus for the ES Plan was presented to the IEC in June 2024. The draft plan is progressing well and will be aligned with the new directions of the *City of Marion Strategic Plan 2024 – 2034*. An action from the June IEC meeting was to bring a summary of council's expenditure on the environment back to the IEC. This report summarises environmental expenditure and presents an updated timeframe for the delivery of the ES Plan.

The ES Plan development will also include a review of the Carbon Neutral Plan which will be included in a 'Climate resilience and emissions reduction' theme within the ES Plan. The timeline for development of the ES Plan has been revised and is outlined below. A Draft ES Plan will be presented to Council Members in mid-2025.

RECOMMENDATION

That the Infrastructure and Environment Committee:

1. **Notes that an update on the drafting of the Environmental Sustainability Plan and environmental expenditure has been provided.**
2. **Notes that the Carbon Neutral Plan review will be integrated into the development of the Environmental Sustainability Plan.**

DISCUSSION

Background

At the Infrastructure and Environment Committee meeting on 11 June 2024, a presentation was provided on a proposal to develop an Environmental Sustainability Plan (ES Plan) for the City of Marion (IEC240611R7.1). Following this presentation, initial feedback was sought from Council Members on the proposed themes and focus areas for the ES Plan.

Building on the Strategic Plan, the ES Plan will expand Council's strategic environmental directions and describe environmental priorities and their resource requirements across all council services and operations for the period 2025 to 2030. It will outline work already underway, along with new actions and how they could be funded. The plan will be structured around the following key environmental themes and include a target or indicator for each:

- Biodiversity, trees and greening
- Climate resilience and emissions reduction
- Water management
- Waste reduction and circular economy
- Sustainable living and engagement.

The ES Plan will align with the priorities of the new Strategic Plan 2024-2034, the City of Marion Environment Policy and existing functional areas of the organisation. A key objective of the ES Plan is to align the annual business planning cycle to identify funding for new environmental initiatives and unfunded priorities.

In scope:

- Integration of the review of the Carbon Neutral Plan targets and implementation plan will be undertaken as part of the process. The updated content will be rolled into a 'Climate resilience and emissions reduction' theme within the ES Plan, replacing the stand-alone Carbon Neutral Plan (see below).
- The plan will outline strategic alignment with other internal and external priorities.
- A peer review will be undertaken to engage external subject matter experts to review the theme(s) relevant to their area of expertise. (e.g. Green Adelaide, Resilient South partner councils, private sector, Flinders University). This will be funded within existing consultant budgets.
- The ES Plan will reflect community priorities and raise community awareness about council's environmental services.
- The ES Plan will identify opportunities to partner and collaborate for efficiency and amplifying effort both internally at City of Marion and with our external partners.
- The ES Plan will recognise that environmental sustainability is of cultural importance to Kaurna and other Aboriginal and Torres Strait Islanders and identify opportunities for partnering.
- The plan will align with councils' strategic management framework and ensure existing business planning cycles are considered for setting long-term funding requirements and establishing new budgets.
- The plan will reference strategic asset management principles and will introduce concepts and pathways towards better definition of natural asset management (i.e. planning for management of natural assets using similar approaches to traditional "grey" assets).
- An implementation plan will be within the ES Plan and cover council's role in delivery, funding requirements and timeframes for implementation.
- A monitoring, evaluation and reporting framework will be included within the ES Plan, including target(s)/indicator(s)/measure of success for each theme.

- Community consultation will be undertaken through Making Marion (survey feedback).

Review of the Carbon Neutral Plan

At the 11 June 2024 Infrastructure and Environment Committee Meeting, an update was provided on the carbon inventory for Council's corporate emissions (IEC240611R7.2). In the presentation and discussion with the Committee, several aspects of the Carbon Neutral Plan were identified as needing further consideration and a 12-month review was requested by the Committee.

It is proposed that the new Environmental Sustainability Plan will incorporate the existing Carbon Neutral Plan to form one single overarching plan that addresses council's sustainability priorities.

The review of the Carbon Neutral Plan into the Environmental Sustainability Plan will include:

- **Council's emissions boundary:** This includes which sources of greenhouse gas emissions are reported and form part of the total emissions profile of our organisation. There is currently no legal standard for how local government defines these boundaries however the new SA Local Government Association's *Best practice guide to Emissions Management for Local Government in SA* will be used to provide an industry standard. Importantly, consideration of embodied carbon (referred to as "scope 3 emissions") will be better defined and considered within the plan. The final plan may present more than one emissions boundary to support transparency in reporting.
- **Carbon neutral target:** A detailed action plan will be developed including all expenses and options to ensure the Strategic Plan target can be met *City of Marion will be carbon neutral by 2030 for its operations*. The Australian Government *Climate Active Carbon Neutral Standard* will be used to define this target.
- **Reporting:** How Council reports on the progress of greenhouse gas emissions reduction will be addressed, including data standards, sharing the data for regional and state targets and reporting frequency. This will align with reporting standards being described by the LGA in the Net Zero Accelerate Program, noting that these standards are aligning with the new international and national climate-related financial disclosure standards.
- **Community emissions reduction:** The current Carbon Neutral Plan focusses primarily on reduction of greenhouse gas emissions for council operations. The Environmental Sustainability Plan will include further consideration of programs to support the community in emissions reduction in line with the broader State Government target to "reduce South Australia's greenhouse gas emissions at least 50% below 2005 levels by 2030, and to achieve net zero emissions by 2050" (noting that new legislation is likely to set the 2030 goal at 60% and include 100% net renewable electricity generation by 2030).

Environmental Expenditure

As requested by the IEC at the June meeting, a summary of council expenditure on the environment has been provided in this report. Table1 and Table 2 summarise council expenditure for 2023-2024 with a breakdown of environmental expenditure. The data has been sourced from the Local Government Grants Commission reporting. Further information on the data is available from Grants Commission website: www.dit.sa.gov.au/local-government/grants-commission

TABLE 1. Total actual operating and capital expenditure for 2023-2024. This table has been generated based on the grants commission purpose codes that align with environmental outcomes.

Code	Description	Operating	Capital	TOTAL SUM
12	Other Waste Management	96,526		**96,526**
14	Stormwater Management	2,726,969	6,116,401	**8,843,369**
15	Protection of Environ	2,918,167	584,078	**3,502,245**
66	Parks and Gardens	11,099,308	7,629,326	**18,728,634**
75	EnviroProtection Cntrl	54,123	112,000	**166,123**
77	Solid Waste Collection & Disposal	6,344,111		**6,344,111**
78	Green Waste Collection & Disposal	1,405,448		**1,405,448**
79	Recycling Waste Collection & Disposal	1,719,138		**1,719,138**
93	Water Supply - Domestic	287,435		**287,435**
94	Coastal Protection	6,000		**6,000**
95	Street Cleaning	355,231		**355,231**
97	Streetscaping	2,725,771	1,478,544	**4,204,316**
	TOTAL	**29,738,227**	**15,920,349**	**45,658,576**

Note: the definition of 'Other Waste Management' includes public waste collection.

TABLE 2. Total council expenditure for 2023-2024 with environment as a proportion of overall expenditure based on the same data as Table 1.

	Overall	Environment	% Environment
Operating	115,342,516	29,738,227	26%
Capital	38,239,091	15,920,349	42%
TOTAL Environment	**153,581,607**	**45,658,576**	**30%**

The Local Government Grants Commission also publish the Councils in Focus website to provide a financial snapshot of South Australia's Local Government Sector (www.dit.sa.gov.au/local-government/councils-in-focus). Side by side comparisons of council expenditure is available from this website. Analysis of expenditure on the environment by the City of Marion compared to other metropolitan councils is summarised in Figure 1 and Figure 2. These figures indicate that the City of Marion spends slightly less per rateable property on the environment and waste services than other metropolitan councils. It also reveals that there has been a general increase in expenditure over the past four years. Note that the definition of "environment" various from what has been included in Table 1 and Table 2 with waste services being reported separately.

Figure 1. Expenditure on the environment by the City of Marion proportioned as a figure per rateable property. Note that that this definition does not include waste – see Figure 2 (source www.dit.sa.gov.au/local-government/councils-in-focus accessed 25 Oct 2024)

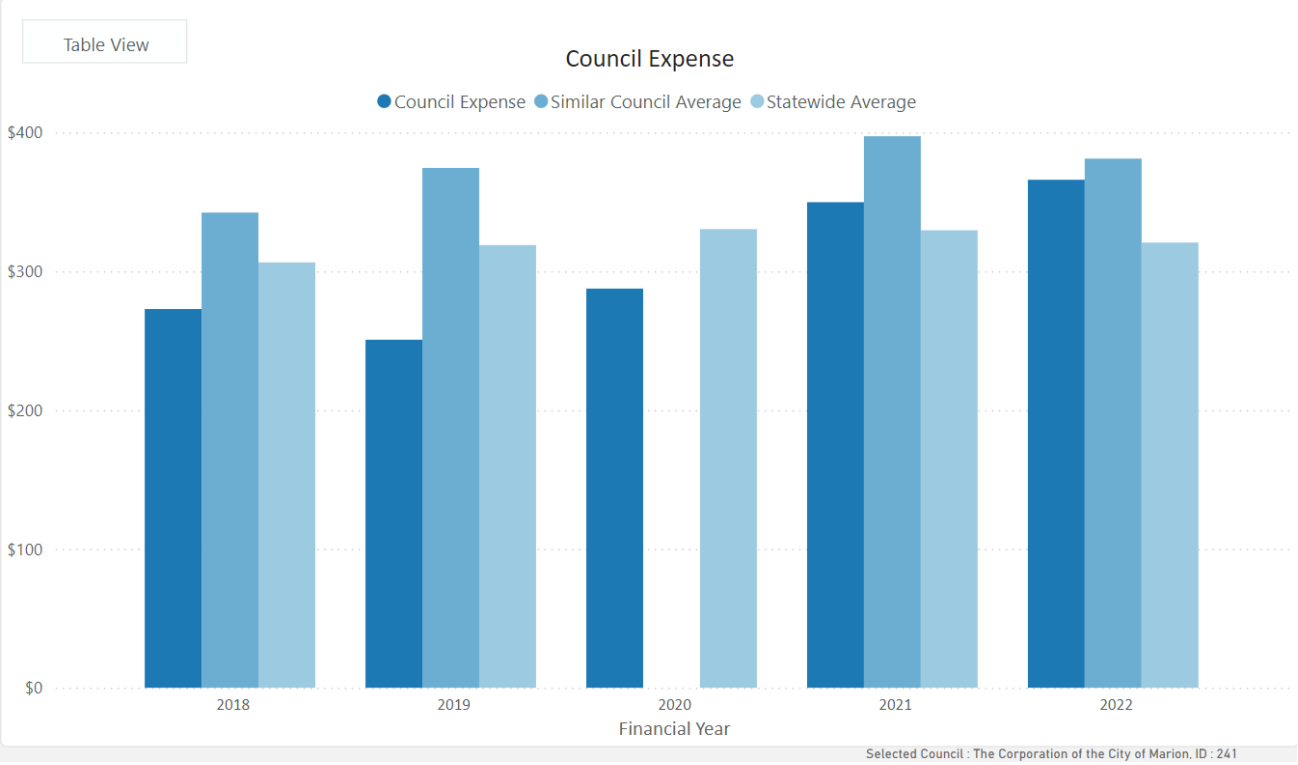
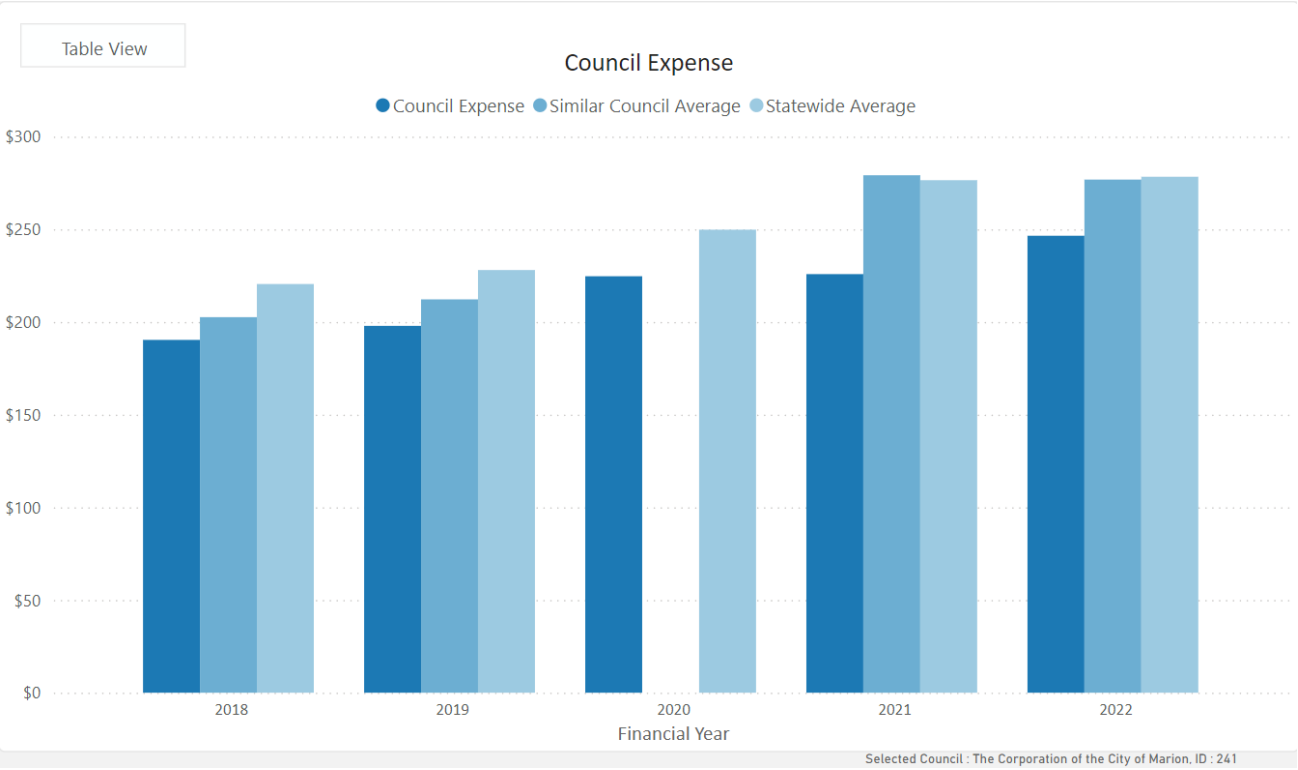


Figure 2. Expenditure on waste services by the City of Marion proportioned as a figure per rateable property. (source www.dit.sa.gov.au/local-government/councils-in-focus accessed 25 Oct 2024)



Timeline for development of the Environmental Sustainability Plan

The revised timeline for development of the ES Plan and an overview of the key stages is provided below. The Draft ES Plan is currently in development and will be provided to Council members for review in May 2025 at a Council Forum or relevant committee of Council.

Table 3. Timeline for development of Environmental Sustainability Plan. Further opportunities for input from council members are in bold.

Stage	Date
Review of recent community engagements and benchmarking leading councils and partners	July - August 2024
Develop Draft ES Plan with subject matter experts and relevant work areas	September 2024 – Jan 2025
Internal review and peer review of Draft ES Plan	Feb – April 2025
Draft ES Plan to Committee / Forum	**May 2025**
Graphic Design of Draft ES Plan	June 2025
Draft ES Plan General Council	**July 2025**
Community consultation	Aug – Sept 2025
Final ES Plan to General Council	**October 2025**

Implementation of the Environmental Sustainability Plan

Implementation of the ES Plan will require a combination of existing resources and new funding. All actions will be defined with clear roles, responsibilities and funding required. Funding will be identified as follows:

- **BAU:** “Business as usual”. Existing resources sufficiently cover implementation of the action and they are essentially a continuation of existing funded work.
- **Unfunded Priority:** The actions require a change in resourcing to be implemented. These actions will require approval from an SLT sponsor and will be referred to an Unfunded Priorities List for consideration by EBC / ELT. They may be further referred to Council for consideration through the Annual Business Plan each year.
- **Grant / Partnership Opportunity:** These actions require additional funding and may attract grant funding for implementation. They will be identified as Unfunded Priorities and will require approval as per City of Marion Grant Policy.
- **New Initiative:** These are completely new initiatives for City of Marion and require consideration from Council for funding. They will follow the New Initiatives process as part of the Annual Business Plan development.

Council’s annual business planning cycle will be used to ensure that unfunded priorities and unfunded initiatives are considered as part of the broader budget planning for each financial year. The 2026-2027 business planning cycle will be the first round for consideration of new funding for the proposed plan. Grant funding opportunities will be identified in Council’s grants register and considered as opportunities arise.

ATTACHMENTS

Nil

7.2 Tonsley District Update - Governance and Car Parking	
Report Reference	IEC241112R7.2
Originating Officer	City Activation Senior Advisor – Brett Grimm
Corporate Manager	Manager City Activation - Charmaine Hughes
General Manager	General Manager City Development - Ben Keen

REPORT OBJECTIVE

To provide Council with a Tonsley Innovation District project update with specific reference to the Governance Framework and Car Parking Strategy.

EXECUTIVE SUMMARY

The Tonsley vision has been based around a triple-helix partnership between government, university and industry while adhering to the guidelines of the Innovation District Model.

This model incorporates the integration of physical assets, economic factors and networking opportunities in order to create an active and sustainable innovation ecosystem.

Renewal SA are the state Government agency tasked with the development and sale of land in accordance with the master plan. The 20-year masterplan commenced in 2012, incorporating a variety of land uses on the 61-hectare site including high-value industry, commercial education and training, retail and residential.

The precinct is reaching maturity with limited vacant allotments remaining. To ensure the vision for the precinct is sustained Renewal SA and State Government agencies have resolved an Innovation Places Governance Framework.

Renewal SA wish to present to Council the proposed Tonsley Governance Framework and provide an update on site wide car parking supply / demand and future strategy to support functionality of the precinct.

RECOMMENDATION

That the Infrastructure and Environment Committee:

1. **Notes the State Government Innovation Places Framework.**
2. **Seeks Council endorsement to writes to Department Premier and Cabinet (DPC) seeking confirmation on the membership of the Tonsley Governance Committee and Councils interest to have a nominated delegate.**
3. **Notes Renewal SA are currently resolving the Car Parking Strategy with a number of negotiations in progress. Renewal SA to bring back to Council resolved strategy for consideration during Quarter One, 2025.**

DISCUSSION

Tonsley Innovation District, now entering its second decade, has significantly advanced since its 2012 inception, transforming from a revitalisation effort for Adelaide's manufacturing sector into a global innovation hub. Originally established after the Mitsubishi plant closure in 2008, Tonsley now addresses complex global challenges and serves as a model for repurposing industrial sites.

Tonsley has identified four key sectors—health and medical technologies, cleantech, automation, and mining services—that drive its innovation strategy.

Today, the district employs around 2,000 people across 150 organizations, more than double the workforce after the Mitsubishi closure. Additionally, 8,500 students at Flinders University and TAFE SA, while approximately 660 residents form a growing community.

Since inception Renewal SA have been the State Government agency tasked to lead the development encompassing the implementation of capital infrastructure (stormwater, utilities, streetscapes, and public amenity) to enable the sale of land, whilst also curating the precinct through suitability assessment criteria, economic development, and business attraction investment. Refer attachment 1 for site context development update.

Governance Framework

Looking ahead, a new governance model is set to be developed to enhance collaboration across South Australia's innovation districts. This framework aims to maximise Tonsley's impact and investment opportunities, especially considering the multi-billion-dollar AUKUS nuclear submarine deal. The model will strengthen connections with other key sites, facilitating a more integrated approach to innovation across the state.

Recently the State Government released a road map for South Australia's Innovation Places Leadership Framework 2024-2034.

Led by the Department for Premier and Cabinet (DPC) the framework provides a centralised strategic vision and policy position to support the coordination of South Australia's network of innovation places.

The current cross government executive leadership committee that has been applied to Lot Fourteen will be elevated for a broader cross government approach to align activities to drive greater economic value and complexity alongside productivity across the State's innovation places.

The framework provides a whole of government approach utilising the skills and strategic priorities of key Government agencies Department of State Development (DSD), Renewal (RSA), Department of Treasury and Finance (DTF) and Defence SA.

Strategic partners such as South Australian Universities, Australian Government, Local Government, Private Sector Industry and Peak bodies are critical to the delivery of the innovation eco system. The Framework proposes the establishment of appropriate advisory and engagement/ consultation mechanisms to support collaboration.

The Frameworks four priority areas area:

- Stronger leadership and governance;
- Greater connections and collaborations;
- Greater innovation and capability; and
- Targeted investment and business attraction.

Actions of the Framework include the implementation of governance arrangements and transition plans for the innovation places, which have government ownership and/or significant investment.

Currently Council have not been invited to participate as a member of the Tonsley Governance Committee. Council administration see benefit in representation on the committee to ensure clear communication channels, local economic development opportunities and collaborations are supported, place activation opportunity such as the Sunday Funday Markets are enhanced, and asset management of public realm is appropriately administered.

Car Parking Strategy

The Tonsley Precinct has progressed since opening in 2012 with many land parcels either currently occupied, under construction or have future parties interested in the allotments. A site map is provided in attachment 1 illustrating the approximate current state of the project, with only a small number of land parcels remaining for future development.

The Tonsley Master Plan was developed with the intent on providing sustainable integrated transportation to support the vision for the Tonsley Innovation District. Key principles of the integrated transport plan are:

- Plan for improved access and amenity within and to/from the precinct;
- Guide the planning, design and management of car parking within the precinct; and
- Promote greater use of public transport and other sustainable modes of transport, such as walking and cycling, in order to reduce the demand for car parking.

Renewal SA are currently preparing a Parking Strategy to support the implementation and management of the site. A number of moving pieces are being assessed to accommodate the parking provisions for tenancies in the Main Assembly Building (MAB), TAFE, Flinders University, Hotel and Autism SA. All other commercial developments within the precinct accommodate sufficient parking provision on private land as per development approvals.

The Parking Strategy will provide an assessment of the demand and supply of car parks across the site in accordance with development approval and leasing requirements.

Renewal SA are currently in negotiations with a commercial car park proponent to support future parking requirements. A commercial car park developed on private land will imply paid parking for tenants of the MAB under lease agreements.

On street parking provisions will be reviewed against Council's Parking Management Guidelines (2023) as to the effects of the multi deck paid parking, with possible time-controlled parking considered for local streets within Tonsley, to limit the impact on businesses and residents in the locality. Community consultation on any on street parking controls will be undertaken in accordance with the Parking Management Guidelines.

Tonsley Village (residential) has been assessed as a separate development application. At the time of approval sufficient parking was accommodated throughout the village and accommodated more than the required number of on-street car parks.

Further analysis and negotiations are required prior to finalising a draft parking strategy which will guide the future state of parking supply and implementation phases. Renewal SA expect to have a plan in the first quarter of 2025.

Council's Car Parking Responsibilities

Council is responsible for managing on-street car parking and implementing parking restrictions within Tonsley, in line with the Council's Parking Management Guidelines.

This includes overseeing the process of establishing any parking restrictions, which must undergo community consultation as required by the Guidelines. Development applicants are responsible for providing parking compliance in accordance with the requirements associated with the Development Approval (DA) process.

The overall strategy and provision of parking within the Tonsley area is the responsibility of Renewal SA, which must adhere to the car parking and traffic management requirements outlined in their DA for the land development. Additionally, Renewal SA is required to follow the Traffic Management Plans, as specified in the Development Conditions of approval, including the Flinders-Tonsley Precinct Integrated Transport and Parking Strategy and Parking Studies.

Speakers
Matthew Hogan - Development Director, Innovation Districts and City – Renewal SA
Steve Porch - Senior Development Manager, Innovation Districts and City- Renewal SA

ATTACHMENTS

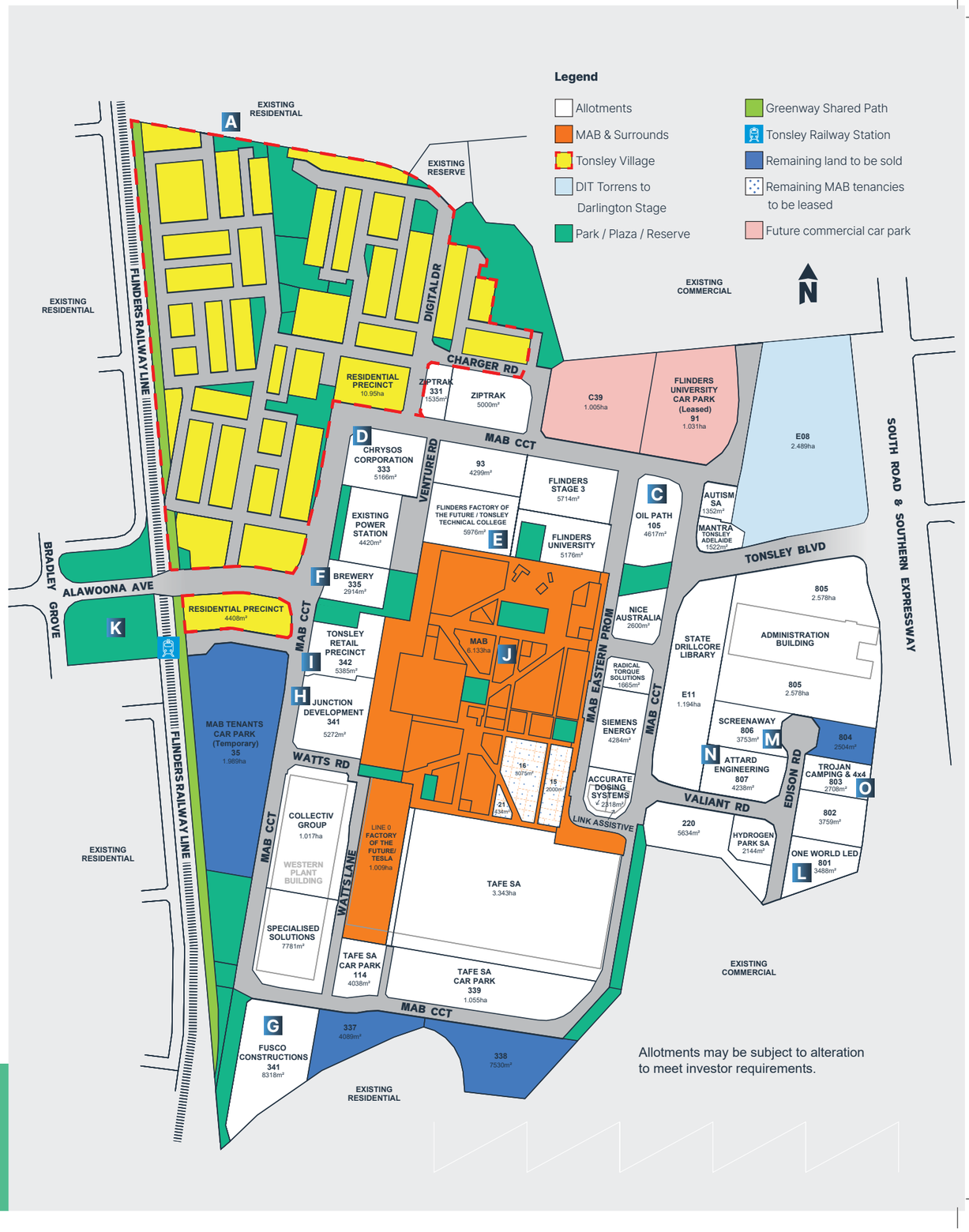
1. Attachment 1 Tonsley Development Update Map [**7.2.1** - 1 page]

Tonsley Innovation District | Site Allotment Plan

Development Update

A	Tonsley Village: Residential development, currently approx. 662 residents. Expected whole of life 1,870 residents.
B	Lot C39 & 91: Future commercial car park, childcare centre and commercial development. Construction commence early 2025.
C	Lot 105: Commercial development for Oil Path to commence mid to late 2024.
D	Lot 333: 2-stage commercial development. Office / lab / workshop for Chrysos Corporation. Stage 1 complete. Stage 2 to be completed by late 2024.
E	Flinders University Stage 2: Flinders Factory of the Future and Tonsley Technical College. Under construction, forecast for completion by March 2025.
F	Lot 335 Brewery: Development of pub / microbrewery for Little Bang Brewery to commence in early 2025.
G	Lot 340: Commercial development for Fusco Constructions to commence mid to late 2024.
H	Lot 341: Junction development. Construction underway.
I	Lot 342: Tonsley retail precinct will be a multi-use area offering retail shops, indoor facilities, a gym, and commercial spaces. Construction underway.
J	MAB: Currently 74% developed and tenanted.
K	Alawoona Wetland and Reserve construction completed August 2024.
L	Lot 801: Commercial development for One World LED to commence late 2024.
M	Lot 806: Commercial development for Screenaway. Construction underway.
N	Lot 807: Commercial development for Attard Engineering to commence late 2024.
O	Lot 803: Commerical development for Trojan Camping. Construction underway.

Last updated: September 2024



Allotments may be subject to alteration to meet investor requirements.

Tonsley Innovation District

A DISTRICT BY RenewalSA Government of South Australia

7.3 Council's Role in Housing	
Report Reference	IEC241112R7.3
Originating Officer	Senior Strategic and Policy Planner – David Barone
Corporate Manager	Acting Manager Regulatory and Development Services – Maddie Frew
General Manager	General Manager City Development - Ben Keen

REPORT OBJECTIVE

To inform members of options in exploring a role in providing housing and criteria about preferred locations or site types for further exploration.

EXECUTIVE SUMMARY

The current housing crisis is creating a range of challenges for our community, in the form of access to affordable housing, either for purchase or for rental purposes. Increasingly, housing costs within the City of Marion are outside those deemed to be “affordable”, and this risks “pushing out” key workers and those on low to moderate incomes from living within the Council area. An added challenge is that the market is not delivering the range of housing types and sizes desired by all sections of the community.

This report has been prepared at the request of members to further understand opportunities for Council in providing housing. As this is a complex issue and potentially requires significant budget commitment, it is not intended to explore specific locations for a project in this report. Instead, the report seeks direction from members as to whether staff should further explore a role in providing housing (whatever the model or location), as well as outline some of the key principles that outline why Council would do this and what we would want to get out of it for our community.

Attachment 7.3.2 details a range of different models that are available, each with their own advantages and challenges. Depending on the extent of commitment Council seeks to make to this role into the future, each delivery model can be used and potential partnerships with government agencies, not-for-profits or private entities could be explored. These will be largely dependent on the nature of the specific site and project scale. Importantly, future projects could also be used to demonstrate other objectives, such as sustainability, increased urban greening or alternative housing types. There is also scope for housing projects to generate revenue for Council in the long term and aid in diversifying income for council into the future, whilst also supporting reinvestment of our assets.

If a role in housing is sought by the Council, the Committee could direct staff to investigate a number of options for presentation to the 2025 Elected Member Planning Day.

RECOMMENDATION

That the Infrastructure and Environment Committee:

1. **Notes the Paper which explores the potential roles for Council in housing provision; and**

2. **Agrees to further explore a role in housing provision with:**
   a. **The following draft principles utilised as a basis for guiding future decisions relating to any housing development projects:**
      i. **Deliver increased diversity of housing types, sizes and tenure.**
      ii. **Demonstrate high quality design that responds to its context.**
      iii. **Achieve sustainable development that also makes a net contribution to urban greening.**
      iv. **Integrate projects within their community and setting.**
      v. **Deliver improved social outcomes, wherever possible using partnerships.**
      vi. **Realise a return to Council or support the reinvestment in Council assets.**
   b. **Direction to staff to further document the options for preferred models and potential property locations for further project definition at the 2025 planning day; Or**
3. **Does not seek that Council further explore a role in the provision of housing;**

DISCUSSION

At the 29 October 2024 Elected Member Forum, the CEO and General Manager, City Development from the City of Salisbury presented about their Council's Strategic Development Program and its approach to delivering strategic housing projects across its neighbourhoods. The presentation highlighted the potential benefits to Council in delivering housing developments, most notably in improving design outcomes and different housing types that better meet the needs of their community, gaining improved social outcomes and supporting reinvestment in their assets. A copy of the presentation is contained in **Attachment 7.3.1**.

The City of Marion's circumstances are different in that we do not have the same extents of underutilised land to be able to deliver the scale of projects as the City of Salisbury. However, the principles established by the City of Salisbury can be adapted to suit our circumstances and needs. A number of key lessons identified by staff from the presentation are worthy of reflection:

- there was a strategic approach and clarity in what they were wanting to achieve in exploring this role guided by a set of strategic principles;
- they looked long-term in developing their program, and making their individual projects work (getting the right timing for viability and delivery);
- they started small and tested the market and outcomes before delivering more ambitious projects;
- they invested in recruiting the right set of skills in house so that they could be responsive to changing government priorities and funding opportunities;
- they leverage partnerships as a key method of delivering projects and shared the costs and risks;
- they ensured good legal advice throughout project processes to ensure risks are suitably mitigated for Council and the community;
- they have clear and transparent governance arrangements in place and included community engagement throughout each stage of their project processes.

A Discussion Paper has been prepared to provide insights into the challenges to housing and the range of options and opportunities Council can explore in a role in housing provision (**Attachment 7.3.2**). This is a complex issue and the range of issues that need to be suitably detailed and documented cannot be achieved within a single paper. The intent is instead to provide a high-level

overview of context and inform members about a decision as to whether to further explore a role in housing delivery or not. Further detailed around delivery options and potential site locations can be further explored as part of the 2025 Elected Member Planning Day.

It is requested that the focus for the Committee at this time is to gain consensus on desired outcomes should there be supported to pursue a role in housing development. In this regard, similar to the approach adopted by the City of Salisbury, a set of principles is suggested to guide future decision making for any potential project scoping, as outlined in recommendation 2a.

ATTACHMENTS

1. Salisbury Living Presentation - 29 October 2024 [**7.3.1** - 18 pages]
2. Draft Housing Committee Paper - Discussion Paper [**7.3.2** - 22 pages]

City of Salisbury

Salisbury Living

John Harry, Chief Executive Officer

Michelle English, General Manager City Development

Housing supply context

- Mawson Lakes completed – Delfin
- Salisbury North redevelopment completed – SA Housing

How do we maintain housing supply and choice for our community?

Housing stress in Salisbury

- 43% (22,680) households have a weekly income of less than $1,250 and cannot afford a 3-bedroom house

- 31.8% (4,826) households renting are experiencing rental stress compared to 31.5% in Greater Adelaide

- Our Affordable and Community Housing Policy – Development of Surplus Council Owned Land.
  - Commits to 15-20% affordable housing
  - Affordable housing price point 10-15% lower than State Government's gazetted price point

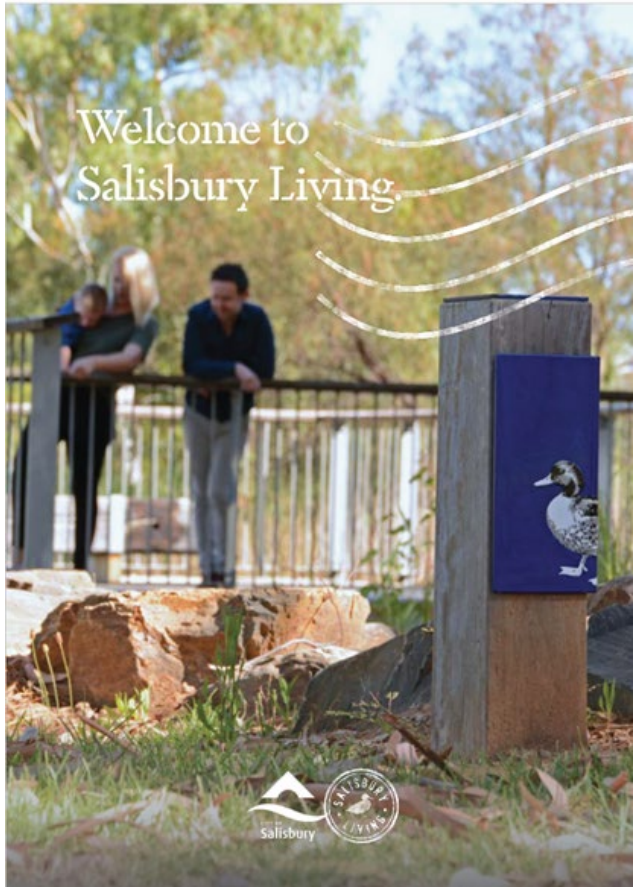
Our response

1. Established Strategic Property Development Team
    - Specialist expertise property development + external consultants
2. Identified over 90 potential sites across the city to deliver pipeline of projects
3. Site Specific Research
    - Demographics, supply/demand, site feasibility, price, housing diversity, interface with existing community and marketing.
4. Delivery and Sale
    - Concept plan/design, project management and delivery
    - Land sales - direct to owners and builder partners.

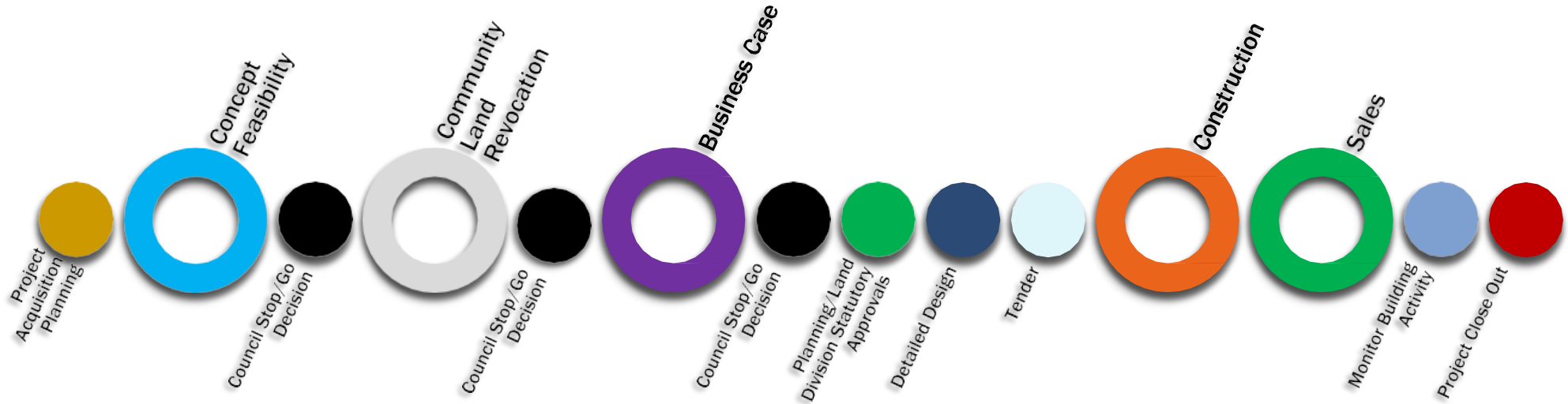
Principles

All Strategic Development Projects seek to:

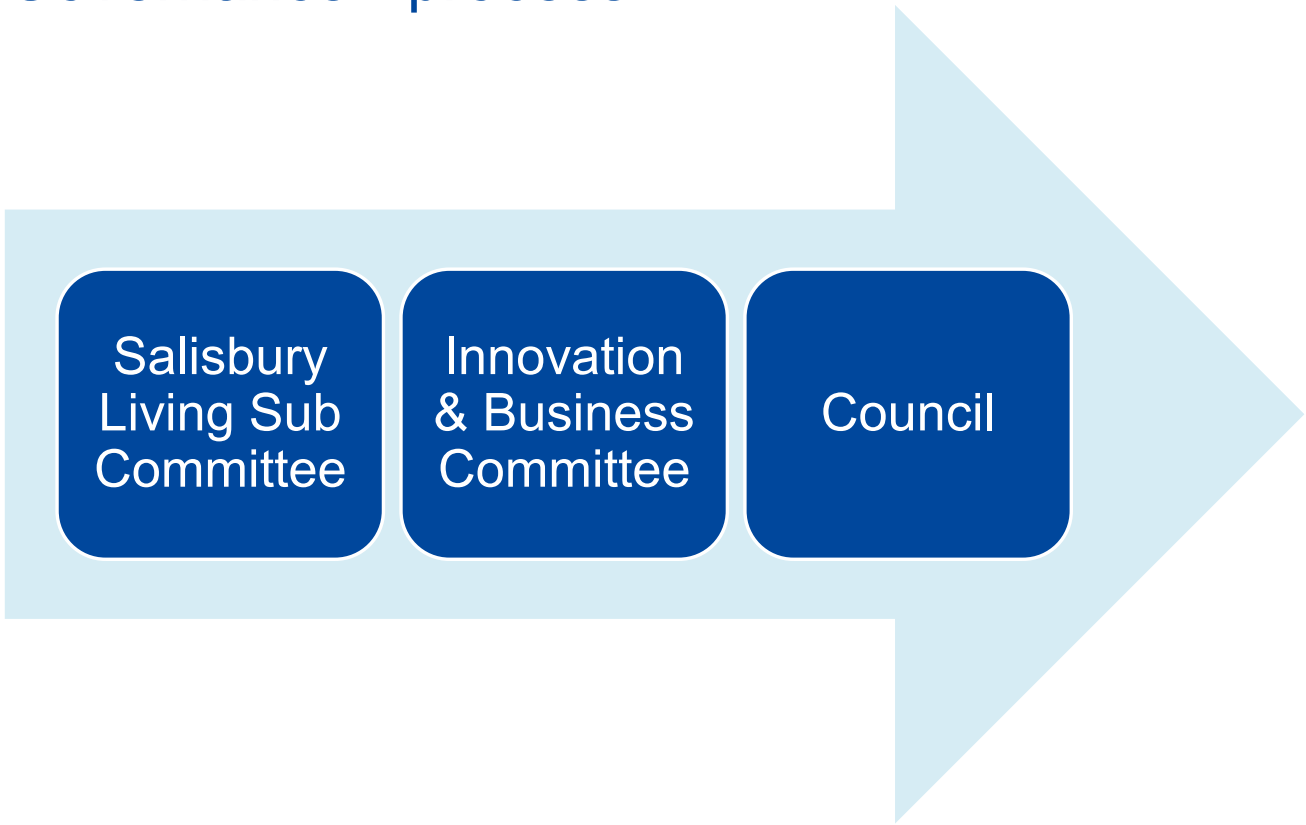
- Deliver of a range of living options
- Demonstrate best practice design
- Integrate projects with the existing community
- Partner to deliver social outcomes.
- Realising a return to Council from underutilised land assets to fund community projects and assets.



Governance - process



Governance - process



Salisbury Living

Delivery

To date

414 lots delivered

160 affordable (39%)

2025 pipeline

100 for sale

Shared equity model

BrahmaGreen

Housing affordability grant

Housing Affordability Grant of $3.02M

Provided through $10,000 - $12,000 grants to purchasers

Habitat for Humanity

Habitat for Humanity Homes delivered through the Sweat Equity Model

Builder partnership

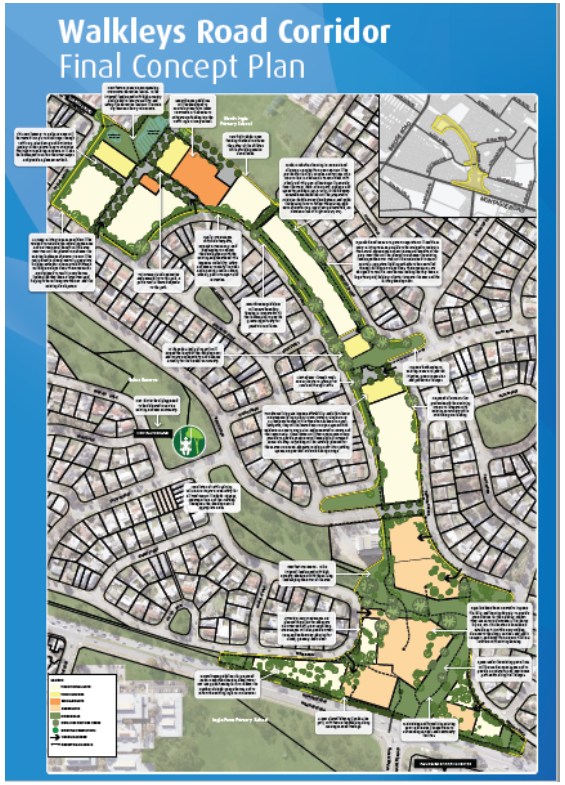
Sale of Community Titled development site for delivery of affordable housing, at The Reserve, Salisbury North.

Development partnership

Jewel Living at Boardwalk

Lake Windemere

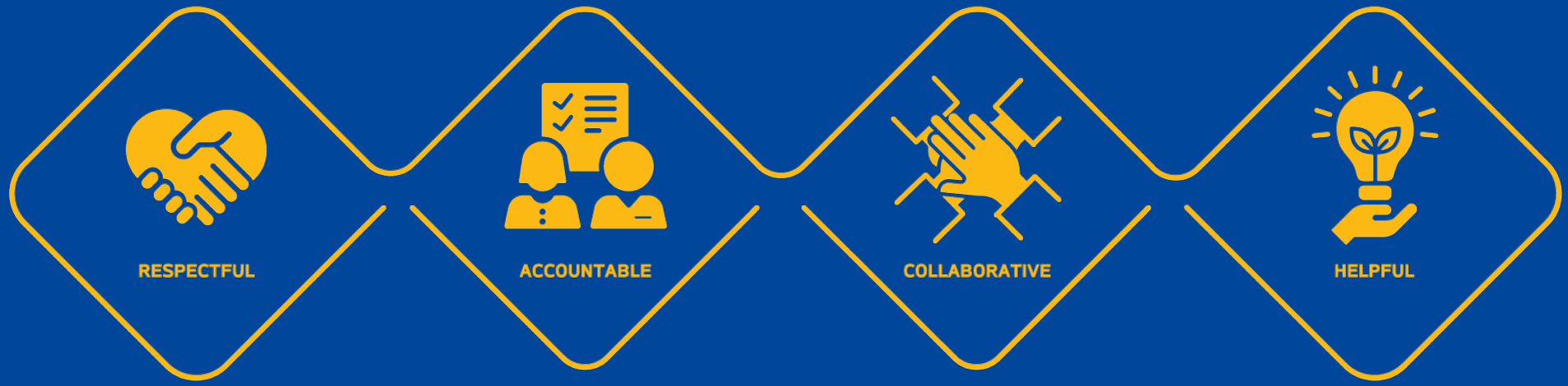
Future housing opportunities



Salisbury City Centre

Our Values

City of Salisbury



Exploring a role for council in the provision of housing.

A Paper for the Infrastructure and Environment Committee.

Contents

Executive Summary

The current housing crisis is creating a range of challenges for our community, in the form of access to affordable housing for purchase or rental. Increasingly, housing costs within the City of Marion are outside those deemed to be "affordable", and this risks "pushing out" key workers and those on low to moderate incomes from living within the Council area. An added challenge is that the market is not delivering the range of housing types and sizes desired by all section of the community.

This Paper has been prepared with the purpose of exploring a potential role for Council in the provision of housing, including desired outcomes, potential models for delivery and criteria around preferred locations or land types.

Council's principal goal in exploring this potential role is to aid in addressing the housing crisis by focussing on housing for those who are most in need or not being serviced by the private market. Beyond this, there is a role for Council to create demonstration projects that deliver high quality design outcomes and address affordability and urban greening.

Notwithstanding, any future housing project must provide a financial return for the community, and in the long term have the potential to become an ongoing source of revenue.

Principles should be established that can be used to guide future decisions around housing projects, but also provide a clear message to potential project partners and the community. The following six principles are suggested that reflect the range of aims:

1. Deliver increased diversity of housing types, sizes and tenure.
2. Demonstrate high quality design that responds to its context.
3. Achieve sustainable development that also makes a net contribution to urban greening.
4. Integrate projects within their community and setting.
5. Deliver improved social outcomes, wherever possible using partnerships.
6. Realise a return to Council or support the reinvestment in Council assets.

Council has a range of different funding and delivery models to use in the provision of housing. Each has its own advantages and challenges, and the preferred approach (or approaches) will depend on objectives, the ability to partner with other entities and the level of resource commitment desired by Council. The models include:

- **Direct delivery** – Council funded, developed owned and-managed housing developments.
- **Joint Venture (Public Private Partnership)** - A partnership between Council and a developer or landowners to create a housing development.
- **Joint Venture (not-for-profits)** - Council partners with a community housing provider / not-for-profit to create housing developments.
- **Co-operative Housing** - Council holds land in trust through a co-operative scheme. And residents collectively lease their house/building and manage the scheme.
- **Affordable Housing Trust Fund** - Council establishes housing trust and distributes funds that allocate money specifically for affordable housing development.

Councils across metropolitan Adelaide have historically had a role in property development (over one third), although not always for housing. The City of Salisbury has an extensive history and ongoing role in housing provision, utilising underutilised and surplus land across its Council area for the delivery of a range of housing, 40% of which are defined as affordable. It has 90 sites I the pipeline with sufficient projects to 2036 that have the potential to accommodate over 7,000 new dwellings.

The City of Adelaide has also developed housing specifically targeted at increasing residents in the city, affordability and rental accommodation., and are currently party to two significant developments at 88 O'Connell Street, North Adelaide, and Market Place adjacent the Central Market. Other interstate examples include the City of Port Philip (Victoria) and City of Waverley (NSW), amongst others. All Council demonstrated the use of a range of different delivery models, although increasingly in partnerships with both the private and not-for-profit sectors.

It is recommended that Council remain open to considering the range of models when assessing the potential for a housing project into the future. This is because, depending on the location or development opportunity scenario, one model will work better than another.

All of the models identified have ongoing obligations for Council which will need to be suitably scoped, risk assessed and resourced. These would likely include:

- management of contracts for leasing / rental agents
- ongoing building maintenance costs and procurement (if not resourced in house)
- ongoing legislative obligations (depending on the model used and nature of tenure)

These will need to be factored into cost models for council, along with the broader social and community benefits that the projects may deliver.

As there is scope for potential occupants to be lower income, or potentially from vulnerable sections of our community access to motor vehicles cannot be assumed, and so it is desirable to focus locations for projects which have:

- convenient walking access to services (shops, local employment, medical facilities and other support infrastructure)– typically measured as 400m from activity centres or an employment precinct such as Edwardstown, or Tonsley;
- within easy access to high frequency public transport, being within 400m of a train or tram station, or a Go-Zone bus route.

Given a future housing project will seek to increase density and potentially support alternative housing typologies, a preference would be to ensure that the zoning in place supports anticipated densities and building heights that may be needed to support a development (although rezoning is an option for Council).

There are a number of options available for Council to scope future development sites. This is not necessarily limited to Community Land under its care and control, but can also include other government or privately owned sites, particularly if underutilised and / or within strategic locations.

This paper does not seek to resolve all the issues associated with Council further pursuing a role in housing. Should Council consider it appropriate to further pursue a role in housing, then it will be necessary to further investigate:

- broader implications across the organisations for housing projects (and the models that may be used);
- the appropriate governance arrangements that support transparency and provide clear direction for project decisions;
- scoping opportunities for sites and potential partnership opportunities into a long-list of options;
- develop a short list from the long list of options for the potential development of a business case.

These additional investigations an be presented back to Council as part of its 2025 Planning Day, with the intent of then further informing the preparation of a business case(s) for further decisions and formal budget bid(s) for the 2026/2027 Budget.

The purpose of this paper

This paper seeks to explore the range of options available to council in the provision of housing for its community. The request has arisen from the question as to what council can do to assist our community in addressing the housing access and affordability crisis, particularly any locations that would support the delivery of a council housing project.

Note that this paper specifically focusses on the construction of housing. There are numerous other roles Council can (and does) play in the assistance in provision of affordable housing for the community, including a range of financial measures that supplement other financial initiatives from other government jurisdictions.

The paper explores the challenges facing the Marion community with regards to housing, noting those most at risk, as well as the different roles available to council. An assessment of projects undertaken by other local governments across South Australia and Australia is undertaken with lessons and risks outlined.

The paper identifies preferred roles for council in further exploring housing provision, including preferred locational criteria and several potential locations for further discussion and evaluation.

What is Council aiming to achieve?

Council's principal goal in exploring this issue is to aid in addressing the housing crisis, albeit noting its contribution to the overall problem will be small given the scale of the issue. This means increasing supply of housing to those who are most in need and not being adequately serviced by the private market, or unable to access the private market.

It would also be important that any residential development undertaken by Council leads by example, and supports the drive for improved outcomes from the private sector. The ability for any development to be a demonstration project for new and emerging design techniques, materials or technologies should not be overlooked.

In exploring a potential role in delivering housing, there is scope for Council to achieve other objectives in support of:

- more sustainable development through improved energy efficiency and water conservation (design, material selections, construction techniques and appliances) that reduce emissions and support reducing ongoing running costs for occupants
- improved design outcomes that "lift the bar" for a development that sits contextually in its setting and street and is attractive and high quality (but cost effective);
- delivering alternative housing types that speak to the "missing middle" housing typologies desired by the state government (and documenting a business case that supports these as economically viable / attractive investment options)
- improved urban greening outcomes either through retention of established tree canopy (if applicable), or the retention of green landscaping within the development and planting of trees in support of a future canopy.

Notwithstanding the above, any future housing project must provide for financial return for Council, and in the long term an additional stable income source (should Council chose to expand its portfolio over time).

On the basis of the above objectives Principles should be established that can be used to guide future decisions around housing projects, but also provide a clear message to potential project

partners and the community about Council's approach to housing delivery. The following six principles are suggested that reflect the range of aims:

3. Deliver increased diversity of housing types, sizes and tenure.
4. Demonstrate high quality design that responds to its context.
4. Achieve sustainable development that also makes a net contribution to urban greening.
5. Integrate projects within their community and setting.
6. Deliver improved social outcomes, wherever possible using partnerships.
7. Realise a return to Council or support the reinvestment in Council assets

Strategic alignment

The above objectives are reflected within Council's Strategic Plan 2024-2034:

Relevant Priority and Action	Consistency
Liveable Priority L3: Planning for future growth and changes to the population • L3.1 Provide State Government with clear advice on our future housing needs and gaps, and explore and inform opportunities for partnerships and delivery aligned to State Government directives. • L3.3 Emerging demographics and recreational trends are mapped, with community infrastructure built to reflect these. Priority L4: Sustainable design and living • L4.1 Advocate to the community on the benefits of environmentally sustainable design in buildings.	Delivery of housing will need to be informed by a business case which frames the need and how it would support what are identified gaps I the market. This will aid in further developing future partnerships and opportunities with both state agencies and the not-for-profit sector. Affordable housing can be viewed as a form of community infrastructure that can be delivered by Council, and understanding needs that are not being met by the market is important in ensuring Council delivers the right forms of housing in the right locations to address these gaps. There is scope for any future housing project to be a demonstration project supporting sustainable design and materials, and this can then inform communities about benefits (environmental and financial) of sustainable buildings.
Our Organisation Priority O4: Sustainable financial management • O4.1: Manage our resources in a financially sustainable way and make provision in council's Long-Term Financial Plan to continually support and ensure uninterrupted council services. Priority O5: Bold, innovative and progressive • O5.2: Develop capability for data-driven, cost effective and evidence based decision-	The development of housing represents a substantial investment and financial commitment for council (not just up front but in management and maintenance. It is essential that using the right model for the right circumstance achieves the right economic outcome for council, with rental housing potentially offering a longer-term alternative revenue source. Ensuring that any housing being delivered addresses the gaps not being delivered by the market is critical and needs to be supported by an

Relevant Priority and Action	Consistency
making to improve our services and assist in the design of facilities that cater to the current and future needs of the community. • O5.4: Deliver our strategic projects in alignment with an Enterprise Project Management Framework. Balance best practice, due diligence, and efficiency to realise maximum benefits and optimum outcomes in the delivery of projects for the City of Marion. Priority O6: Partnerships • O6.1: Work with local, federal, private and not-for-profit partners to deliver strategic outcomes that progress council's strategic directions, and advocate for changes that reflect the needs of our diverse community.	evidence base and business case before committing significant community funds. Understanding the full range of options and learning from other local governments and jurisdictions in South Australia and interstate will aid in enduring Council elects the right solutions for the location and circumstance it is considering. There is scope for Council to seek grant funding from state and federal government for a future project, as well as opportunities to partner with not-for-profits, the SA Housing Trust or private entities in delivering a range of projects, particularly where a larger scale or non-Council sites are being considered.

Defining the housing problem relative to the City of Marion

Affordable Housing

Affordable Housing within South Australia is defined as a home where the household is paying no more than 30% of their annual income to rent or a mortgage. Within Adelaide, this equates to a purchase price (house and land) of $495,000 or $569,000 where energy efficiency, sustainability features are provided and the house is in close proximity to public transport.

Recent trends in rising housing prices and costs of construction has resulted in reduction in supply across South Australia, and anecdotal evidence indicates that it is increasingly difficult for the private market to deliver affordable housing within developments.

The median house price across metropolitan Adelaide at June 2024 was $725,000, an increase of 11% from June 2023, and 37% over the last 5 years (source Office of Valuer General). For the City of Marion, the September 2024 quarter median house prices per suburb (based on sales) ranged from $705,000 in Tonsley to $1.35 million in Marino. As can be seen, all suburban median sales sit well above the maximum affordable home definition price point.

In 2019-2020, 35% of low-income rental households were in rental stress (source Australian Institute of Health and Welfare), and this is likely to have worsened when one considers the rises in rental prices over the last 24 months. The median unit rental for the City of Marion in June 2024 was $450 (an increase of 14% over the last 12 months) and for a dwelling $600 (an increase of 8.4% from the previous 12 months) (Consumer and Business Services, Data SA).

This implies households requiring a weekly income of at least $2,000 to avoid being in rental stress for dwellings and $1,500 for units. Given that in 2021, the median weekly household income across the City of Marion was $1625, and income growth has not matched increases in rental costs, it is likely that a significant number of rental households are facing rental stress. Indeed, in 2021 only 2 suburbs (Marino and Sheidow Park) had median weekly household incomes above $2000.

There is a real risk of affordable housing (as defined by the state government) simply not being available within the City of Marion into the future. This would have significant implications for sustaining diversity within our community, allowing renters to stay within their community networks as our neighbourhoods continue to gentrify.

At the social housing end of the market, there are currently 3960 public and community dwellings within the City of Marion, with 45% of these managed by a community housing provider. This makes up approximately 8.5% of the overall housing stock within the City of Marion, slightly higher than that of Greater Adelaide (5.5%).

However, there are currently over 6000 households (10,400 people) as applicants for the Single Housing Register of the SA Housing Trust seeking housing within the areas that make up the City of Marion.

Clearly the problem facing our authorities is large and complex, not one that can be solved quickly, or that Council can resolve on its own with any housing delivery program (no matter the degree of funding it seeks to commit to it).

Emergency housing and housing for our vulnerable communities

Data provided by the SA Housing Trust has identified that demand for homelessness services and emergency housing needs have risen sharply over the last 12 months noting that:

- 1089 people were assisted by the specialist homelessness service in 2023-2024 with 365 of these still active clients as of June 2024, and just over half of these people currently housed but at risk of losing their homes.
- Up to 71% of those seeking assistance where aged under 39 years, with a quarter comprising children (under 15 years).

The four main reasons identified for experiencing housing crisis were:

- Housing crisis (e.g. eviction and availability) (50%).
- Domestic and family violence (15%)
- Inadequate or inappropriate dwelling conditions (11%)
- Housing affordability stress (e.g. rent too high) (8%)

Data provided by SA Housing Trust for their clients on the waiting list has identified housing needs as follows:

- Two-thirds require a one bedroom property (67%), 16% require two bedrooms, 9% required three bedrooms and 8% four or more bedrooms.
- The main tenant is a younger person aged under 25 years for 13% and aged 65 years or more for 10%.
- Most main tenants are female (54%).
- A third of main tenants have self-reported a disability (33%).
- Over one-in-six of main tenants have identified as Aboriginal (18%).

Market not addressing affordability and housing needs

The Affordable Housing Overlay within the Planning and Design Code applies to all of the residential type zones that apply across our Council area. The Overlay seeks 15% affordable

housing within developments comprising 20 or more dwellings or allotments. It also provides incentives with increased densities and building heights as well as reduced car parking requirements for affordable housing.

However, within the context where the majority of housing supply is being delivered through general infill (1 into 2 or 3 dwellings), there is no obligation on developers to provide affordable housing as part of their developments. Increasingly, housing provision by the private market through general infill development has largely delivered detached or semi-detached dwellings comprising three or more bedrooms.

In addition, contrary to the policy intent within the Code, there is also little evidence of an increase in the diversity of housing being delivered with larger housing types (3 or more bedrooms) continuing to be most of the housing being delivered, which arguably also contributes to higher housing costs.

The policy incentives that apply to affordable housing are also doing little to encourage their provision, as the yields required to achieve financial return due to rising construction costs is typically over those supported by the Neighbourhood Zones within our suburbs.

Only 17 development applications have been received by the City of Marion since 2021 for affordable housing of which 7 have received an approval (others under assessment), and which have resulted in the construction of 42 dwellings. A further 166 dwellings are proposed and under assessment). The two major land divisions (Morphettville Racecourse and Cove Point) will contribute 45 allotments for affordable housing.

There is an opportunity for any future Council housing project(s) to deliver housing that aids in diversifying housing types, either through type of housing product or size (or both), to address this identified shortage and failure of affordable housing supply.

Another problem with the affordable housing delivery process within the SA Planning system is that there is no ongoing obligation to retain or “on-sell” affordable housing, which can effectively be on-sold by the purchaser after 12 months (for example) at market pricing. This is particularly problematic where public funds are being utilised to deliver affordable housing, benefiting purchasers who are able to make profits upon resale. This is not considered to be the best use of our community’s funds.

For this reason, the main focus for the housing models within this paper seek to retain a level of control in the ongoing benefits of affordability for the housing developed.

Potential Roles for Local Government

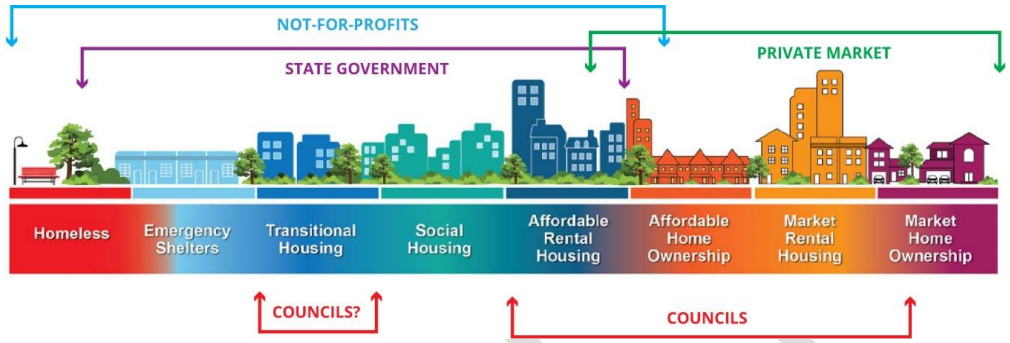
The Housing Spectrum

There are a number of different options available to council in the provision of housing, and the preferred role or roles, will be dependent on the level of financial commitment desired, level of risk exposure sought and strategic priorities.

The various forms of housing across the Housing Spectrum are identified below along with the existing roles across the spectrum played by the State government and not-for-profits and those left to the private market in terms of housing construction and delivery (noting that other support services across the spectrum (particularly homelessness) are already offered by Council).

There is an argument for Council to focus its role on the housing forms that are not delivered by the market (avoiding competing with the market) and complementing those delivered by either the state government or not-for-profits, noting that affordable ownership is provided federal government grants, along with Stamp Duty reductions from the state. This implies a role focussed within the affordable rental housing and potentially transitional housing.

Notwithstanding this, any projects undertaken by Council may need to also provide market-based housing products to provide for cross subsidising and project viability.



Summary of Different Delivery Models Available

Council has a range of different funding and livery models to use in the provision of housing. Each has its own advantages and challenges, and the preferred approach (or approaches) will depend on objectives, the ability to partner with other entities and the level of resource commitment desired by Council. The models considered are summarised below.

Direct Delivery

This model involves Council funded, developed owned and-managed housing developments that provides affordable rental housing (all or a proportion) to low-income and moderate-income households. Council could retain ownership of all or part of the development. This model can only be used when Council owns the land in question (or acquires a site).

The advantages of this model as they relate to Council and its ability to deliver housing are:

- They have the potential to provide for long-term affordability in housing as Council controls the rental pricing or affordable housing sales, noting that a longer than typical return on investment may need to be used to support this.
- Council will have direct control in the delivery and the resultant housing can be targeted to specific groups (if desired).
- Council has the potential to fund and deliver projects not viable for developers (through access to cheaper finance, scope for a longer return period and already owning the land)
- Resultant housing has the potential to become a reliable source of long-term revenue, and further broaden Council's revenue base (particularly when developed at scale).
- The option typically does not require the removal of community land classification where the land is retained in Council's ownership (not the case however, where partial sale is required to subsidise the development).

The model offers a range of challenges for Council in its delivery and management:

- There are high upfront costs associated with the design, procurement and development of the buildings and land. This will require political commitment to funding the project (and

potential cost escalations), and potentially a source of additional funding (from state or federal government grants) to be able to deliver larger scale projects. The level of commitment upfront can be offset by the partial sale of products in the development.
- Retaining ownership implies the need to manage the resultant development for the life of the development. This requires specialist expertise with knowledge of legislative obligations and processes, and thus represents an ongoing resource commitment to Council. Where a portfolio is large enough, this can be managed in house, however, smaller scale projects would likely need to be outsourced.
- There are perception implications for having an all rental housing development, similar to those of public housing.

Case Study – Ergo Apartments, City of Adelaide

In 2013 the City of Adelaide redeveloped it's at grade car park on Sturt Street, Adelaide, and neighbouring warehouses and single dwellings to create a 6500m^2. The aim of the project was to increase the number and diversity of people living in the city and the development delivered 177 one and two-bedroom apartments across several buildings of between 5 and 6 levels with underground car parking, a car share scheme and public realm / plaza spaces that made up 205 of the site.

The project cost Council $65 million with federal and state funding assistance. Costs were recovered through the sale of the majority of the apartments, noting that 52 were offered for sale as affordable housing through Homestart's Shared Equity Scheme and 20 were retained by Council as affordable rental housing and offered at 20% below market rental rates (achieved through the then National Rental Assistance Scheme). This equates to 40% of housing being delivered as affordable housing, well over the 15% desired by planning policy.

The project won the Property Council of Australia National Affordable Housing Award in 2015.

Joint Venture (Public Private Partnership)

This model involves a partnership between Council and a developer or landowners to create a housing development that includes a mix of market-rate, middle-income, and low-income

houses. The goal is to promote social integration and financial sustainability. Council's contribution can be through provision of land, or cash contribution, or both.

Advantages

- Stronger ability to achieve an improved mix of housing and occupant types across the development with the focus for Council being affordable or special needs housing and market housing for the private entity.
- Leverages private investment, expertise and market access particularly where project partner is a developer who has contacts, experience and can better manage projects to be delivered within shorter timeframes.
- Sharing of risks as there is joint financing of the project and a focus for market housing product delivery for the private entity.
- This model is suitable for larger projects where both entities can make contributions and potentially even stage projects to manage upfront capital costs and returns.
- Can assist private developers deliver an unviable project on their land, with Council providing additional finance to support affordable housing components.

Challenges

- Difficult to balance financial incentives for developers and affordability goals and that balance needs a sound business case analysis.
- Need to find the right developer partner who is willing and ideally experienced in working with a local or state government entity, and understands Council's objectives for the project.
- Potentially complex legal arrangements to set up agreements and risk mitigation measures.
- Likely limited affordable or Council housing provided compared to other projects, as private entity will be seeking a mix that supports profitability.
- Will require community land revocation if the project is to occur on community land.

Case Study – Euca, Modbury, City of Tea Tree Gully

The City of Tea Tree Gully entered into a joint venture with a developer consortium to deliver affordable and sustainable housing on a reserve at Australia Avenue Modbury.

The reserve was identified as being surplus to needs, given its size and proximity to other open space. The site was also deemed suitable for medium density housing given its proximity to Modbury Regional Centre.

Council made the land parcel available to the market following rezoning and the community land revocation process, which identified the community's desire for addressing parking shortages and limiting development to two storeys. In addition, Council sought to utilise the development to demonstrate medium density development and sustainable, high quality design outcomes, along with the redevelopment of the reserve.

The two step EOI Shortlist and Select Tender process assisted in a thorough review of concepts against the relevant criteria.

The resultant development (under construction) is for 25 two storey terraces with frontage to the reserve, with the development achieving 7 star NatHERS rating and contributing to the upgrade of the reserve.

Lessons from this case study are the importance of having clear outcomes sought within the project process upfront. For Council, this was:

- profitability for Council and the community (land was offered at market rate)
- improved development outcome above market standard being delivered
- maintain reputation with community in delivering what was promised (limited to two storeys, parking provision, reserve upgrade)

Joint Venture (Not-for-profits)

Council partners with a community housing provider / not-for-profit to create housing developments that focuses on affordable, or special/high needs housing (such as for older women or universal accessibility housing). Can potentially also include some component of market housing to subsidise development. Council's contribution can be through provision of land, or cash contribution, or both.

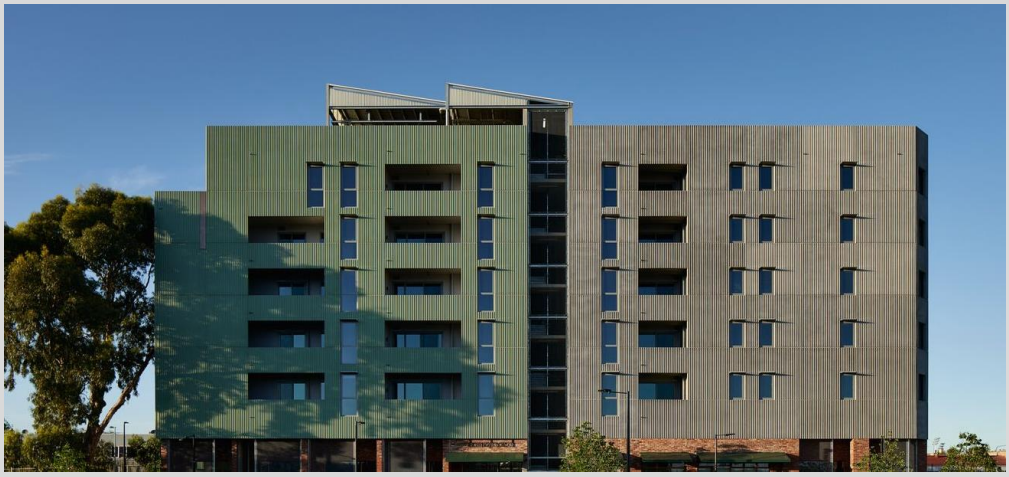
Advantages

- Not-for-profit entities are more open to innovative housing types and models that promote long term affordability and better respond to gaps in market delivery.
- Entities are mission driven so that their objectives are affordability and addressing specific housing and community needs, not profitability. More aligned to those of Council
- Sharing of risks through joint funding contributions.
- Non-profits have deep connections with local community and can better align housing projects with local needs.
- Typically well positioned to provide ongoing management of housing and occupants including added service delivery for specialist housing products.

Challenges

- Not-for-profits likely to have more limited funds and rely on grants and philanthropic contributions, so larger scale projects may be more complex to deliver.
- Still requires potentially complex legal arrangements to address and mitigate risks.
- Will require community land revocation if sales included in arrangement.

Case Study: Nightingale Bowden, Nightingale, Housing Choices SA, SA Housing Authority, Renewal SA



Nightingale Bowden is an apartment building developed on Renewal SA land for the purpose of affordable housing, but also with a strong focus on sustainability. The $13.2 million development contains 36 apartments (a mix of one and two bedrooms), as well as a commercial floor space and bike parking at ground level, rooftop garden spaces with veggie patches and bee hives. Five of the apartments comply with NDIS SDA High Physical Support criteria.

Eighteen of the apartments are pre-allocated to Housing Choices SA for affordable rental capped at 75% of market value with the remainder provided to market, noting that all apartments were sold at cost only with no profit. As such, apartments sales ranged from $312, 000 - $400,000, with all but one selling out within 24 hours.

The development has strong sustainability credentials, with a 5 Start Green Star Communities rating (8.2 star NatHERS energy rating). The development uses its location adjacent Bowden the rail station to support no car parking provision, and instead delivering bicycle storage and car share scheme for mobility.

The project is an excellent example of how partnering of key entities in a joint venture arrangement can contribute to delivery of a unique product that achieves goals the market struggles to deliver, as well as ongoing management of rentals and tenants. The project strongly demonstrates that sustainability can be achieved at an affordable cost, as a viable demonstration project and an excellent example of how curating the outcome can assist in creating a community.

Co-operative Housing

Council holds land in trust to ensure it is used for affordable housing through a co-operative scheme. Residents collectively lease their house/building keeping home prices more affordable while Council rents the land (at reduced rates to maintain affordability). The intent is that residents jointly control the cooperative for the benefits of its members. Co-operative housing can have residents living in their own homes, with a communal facility, living space or shared amenities, such as garden and entertaining spaces or swimming pool. Parking is also typically separated from individual housing. Schemes can be smaller in scale (as low of 6 dwellings or up to 30 dwellings, depending on context.

Advantages

- Has the capacity to deliver long-term affordability in products, as ongoing lease renewals will be for building only. Potential as an ongoing revenue stream for Council.
- Council / community maintains an element of control through being party to the scheme. This sense of control is empowering for residents and seen as more attractive than rental.
- Shared responsibility for the management and upkeep of the site among residents leads to stronger community bonds, and a safer environment.
- Protection from market fluctuations (which are principally land based).
- Does not require removal of community land classification (land retained in Council ownership), however lease timeframes will be limited to maximum of 42 years defined by Section 202 of the Local Government Act, 1999.
- Offers a product that offers greater security of tenure than rental due to longer tenure timeframes. Allows occupants to "personalise" buildings, within the limits of the scheme's rules.

Challenges

- Requires initial capital investment from Council to develop it (unlikely to be attractive to partnerships with private entities (but possible with not-for-profits)
- Higher and potentially complex long-term management structure, obligations and reporting than for rentals.
- Better for smaller scale projects as larger projects have large upfront costs and increased management complexities.
- Lessees need to be curated to ensure shared values and understanding of management model, obligations and limitations.
- Not a tenure model the market is currently familiar with so attractiveness needs to be tested (a risk, but potentially could be overcome through education and advocating).

There are a number of Housing Co-operatives across Adelaide that are privately established and managed. One such Co-operative is the Phoenix Housing Co-operative who have a number with properties in Edwardstown, Ascot Park, Dover Gardens, and has a history of supporting accommodation for single parent families. This Cooperative is part of Common Equity Housing SA who own the assets, and manage the financial, reporting and legislative obligations of the Cooperative.

Affordable Housing Trust

Council establishes housing trust and distributes funds that allocate money specifically for affordable housing development. These funds can come from various sources like rates or grants.

Advantages

- Provides a dedicated funding stream for affordable housing, can be tailored to local needs.
- Can be used for various purposes in support of affordable housing (such as development or rental assistance) and not just building projects.

Challenges

- Requires consistent funding to be effective, which means a strong political will (long term commitment to the project).

- Adding to revenue from the broader community at this point in time adds to cost-of-living pressures and will be politically difficult to achieve (particularly if at the expense of other projects or services).
- Can take some time to actually deliver housing itself (depending on funding amounts and external sources).
- Likely to need additional sources to deliver housing (particularly in high demand areas)
- Limited longer-term benefit from investment if not in development of housing
- Funds can be diverted to other priorities based on political shifts, particularly if not "protected" in Trust's establishment.

It is suggested that Council does not explore the Affordable Housing Trust Fund model as this is not considered to deliver the best outcome and will most likely not deliver housing in the shorter term. In addition, the State is seeking to establish a similar fund for developer contributions in lieu of direct provision of affordable housing. It is likely that grants from that fund will be able to be used by Councils through grants for specific projects (effectively meaning that Council doesn't need to manage its own fund and has the potential to tap into a larger pool of money for specific projects).

Summary of other Councils who have performed this role

Research on property development roles in local government has been undertaken by Chantal Milton in June 2023 as part of a PHD. The project examined and consulted with Councils across SA (metro and regional) to understand the extent of involvement in this space, as well as examining examples interstate and previous research. Key findings and learnings included:

- property developments by Councils (in some form) were in fact more common than perceived with one third of Councils in metropolitan Adelaide having acted in this role (however not always with a residential project);
- of those Councils active in this space, there was a strong correlation of strategic objectives with a property development program and informing a clear purpose;
- development of revenue generating property projects were typically overseen by a specialist team or individuals with property experience. These only tended to be in house when a more mature recurring property development program existed and supported resourcing these skills onto staff.

There are a number of local governments across South Australia and Australia that have ,and continue to, provide housing through developments. A high-level summary of a selection of these Councils is provided below

City of Salisbury

The City of Salisbury has been involved in developing residential projects for over 15 years at various scales and through a range of different partnerships. The Council moved into this space in response to analysis that identified the needs for their community relating to affordable housing were not being delivered, including those as defined by the definition of affordable housing established by the State Government. Housing products and pricing was tailor ed to suit their community's affordability, and included delivery of housing at 10-12% lower than the state definition of affordable housing.

The program is structured around urban development, particularly focusing on regenerating older suburbs and maximizing land use through infill development. Salisbury targets various demographic groups, including first home buyers, downsizers, and overseas migrants. The

council also emphasises creating inclusive communities where housing is accessible to people of all backgrounds and income levels.

The City of Salisbury works with community housing providers, private developers, and financial institutions to facilitate both rental and home ownership opportunities. For example, innovative financing solutions such as shared equity products and pilot programs like Build to Rent are encouraged to increase affordable housing stock.

Council has developed the Salisbury Living Program which so far has resulted in 7 land divisions (6 of which have been developed) that have contributed to 514 lots (more houses) varying in densities and including market and affordable housing price points. The program has resulted in just under 40% affordable housing provision, well above the 15% desired by State policy.

The primary outcomes are increased housing diversity and affordability. The Salisbury Living program has been integral in delivering smaller homes on Torrens Title properties, reflecting the changing demographics of the area with more single-person or smaller households. The program also promotes sustainability through water conservation efforts and environmentally friendly developments.

The Program has intentions of delivering up to 7,280 additional dwellings by 2036 through 90 identified sites, helping to address housing demand through careful and efficient reuse of surplus community land, including within its town centre.

Council has chosen not to retain any of the housing developed, but rather deliver those through affordable housing scheme managed by Homestart. It previously developed a Shared Equity Scheme across several properties, but found that the Homestart Scheme was more effective at providing this level of affordability. Instead, Council has focussed on market return to support reinvestment in community assets.

Models used include:

- Direct delivery
- Joint Venture (Public Private Partnership)
- Joint Venture (not-for-profits)

City of Adelaide

The City of Adelaide has delivered a number of housing projects over the last 15 years. These have ranged in scale and delivery model, but have ultimately taken advantage of underutilised community land for the purpose of creating development sites. Council's strategic objectives have principally been to increase population within the city, increase affordable rental housing, and increase opportunities for affordable housing. Other objectives have related to environmental sustainability, and generation of income. Some previous project stock has been on-sold following changes to grants and

Examples include:

- Troppo Apartments, Whitmore Square, Adelaide (Joint Venture – with State)
- Ergo Apartments, Sturt Street, Adelaide (Direct Delivery)
- 88 O'Connell Street, North Adelaide (Joint Venture – Public Private)
- Market Place, Grote Street, Adelaide (Joint Venture – Public Private)

Models used include:

- Direct delivery

- Joint Venture (Public Private Partnership)

City of Port Phillip (Victoria)

Council has had long term role in developing community housing between 1985 and 2006. This role included direct development, as well as contributions of land or cash. Housing projects were largely funded through joint ventures with the Victorian Department of Health and Human Services (DHHS), but also with private developers. In total 568 homes have been delivered since 1985.

In 2006, Council established the Port Phillip Housing Trust (PPHT) and transferred the ownership of its housing properties and the role of developer to HousingFirst as Trustee of the PPHT. Since then it has contributed $400,000 annually to 2015 (totalling $4million) and $500 annually since 2015 (totalling an additional $5million), along with $2.45 million in land contributions and $25million in land space rights towards the development of community / affordable housing.

Air space projects have included developments over Council car parks and community facilities, as an innovative model, and can be further examined for Council's land and facilities, given they are often in strategic and well serviced locations.

In addition to direct delivery, Council actively facilitates affordable housing through:

- providing housing needs information
- property identification
- providing assistance in the statutory planning process
- providing support for funding applications
- brokering philanthropic and ethical investor support

As a well established role, council has a dedicated housing officer for housing projects.

Models used include:

- Direct delivery
- Joint Venture (Public Private Partnership)
- Joint Venture (not-for-profits)
- Affordable Housing Trust Fund

Waverley Council (NSW)

The Waverley Council has a number of programs aimed at supporting a range of low income and vulnerable people in its community. These include:

- Waverley Housing for Older People (WHOP) aimed at people aged over 55 years who are on low incomes or are on the waiting list for public housing. The program has over 50 units in various locations and managed by a Community Housing Provider.
- Waverley Affordable Housing Program (WAHP) implemented through Voluntary Planning Agreements for developments that has established 25 units managed by a Community Housing Provider. Units are offered at a rental that is reduced from market rates and are eligible for those who have lived in the LGA for the last 3 years or five of the last 10 years.
- Waverley Community Living Program (WCLP) aimed at providing secure and affordable housing for people living with a mild intellectual disability. Council has nine units specifically designed to accommodate occupants with this need. The program also includes training and support in aid of transition to independent living.

The programs have been able to be established through the use of Voluntary Planning Agreements from developments within the NSW Planning System. A 15% floor space incentive is offered that allows the uplift to be shared between the Council and the developer, where contributions are made either through transfer of completed homes or cash contribution (or both).

Models used include:

- Joint Venture (Public Private Partnership)
- Joint Venture (not-for-profits)

Hobsons Bay Council (Victoria)

Council extended its land use policy and advocacy roles through its establishment and ongoing support of the Hobsons Bay Affordable Housing Trust and consideration of the use of Council-owned land for Affordable Housing projects. Council has developed key roles including as a:

- partner (Affordable Housing Trust, and the use of Council owned land),
- connector through the use of a concierge role for key stakeholders and building of community awareness such as arranging referrals to key services and providers.

The Affordable Housing Trust was established as a perpetual Charitable Trust for the purpose of providing a range of affordable, secure and appropriate housing in the City of Hobsons Bay. The Trust may acquire land or existing buildings in Hobsons Bay with the purpose of refurbishing them for Affordable Housing or to construct new dwellings. Housing is made available to 'eligible residents', i.e. an individual or household in need of affordable housing with significant links to the City of Hobsons Bay. Within the Planning Scheme, developers, philanthropists and other entities are able to contribute housing, land or cash to the Trust.

Housing Choices Australia (HCA), a registered housing agency, was appointed by Council as the Trustee of the Hobsons Bay Affordable Housing Trust. The Trustee delivers Affordable Housing projects on behalf of the Trust and manages future Affordable Housing contributions for the benefit of Hobsons Bay residents. To date no specific projects have been delivered and the Trust Fund is awaiting external funding to support a proposed housing project.

Model used includes:

- Affordable Housing Trust Fund

Suggested role and delivery models for the City of Marion

It is suggested that where Council wishes to play a role in the delivery of housing, that it's focus is to the delivery of a range of affordable housing across both the sale and rental tenures. However, it is also likely that the sale of market housing will be needed to assist in recovering upfront costs of the development, however projects should aim to have at least 15% or more affordable housing.

It is recommended that Council remain open to considering the range of models when assessing the potential for a housing project into the future. This is because, depending on the location or development opportunity scenario, one model will work better than another. It may therefore be beneficial for council to have preferred positions on the each model to be considered, such as :

- where the site is a larger strategic location that has the potential to support mixed use and higher scale developments – actively explore Joint Venture opportunities (either private or not-for-profits) for the delivery of the site / precinct; or

- where a single site becomes available for a small-scale project: preference the direct delivery model (where retention / part retention is sought)
- where there is a desire to allow for increased tenure security for occupants and potentially demonstrating alternative housing typology - Co-operative Housing (noting that there is scope to transfer existing housing under Council's ownership to this model into the future).

Ongoing obligations on council

All of the models identified have ongoing obligations for Council which will need to be suitably scoped, risk assessed and resourced. These would likely include:

- management of contracts for leasing / rental agents
- ongoing building maintenance costs and procurement (if not resourced in house)
- ongoing legislative obligations (depending on the model used and nature of tenure)

In this respect, as Council assets, these will need to managed in the same way Council would manage any of its other assets.

It is not recommended that Council seeks to provide additional service support functions for special needs occupants (be it disability support, aged care support or homelessness support) beyond its existing service provision on this space. In this instance, other providers are better positioned to fulfil this function.

Where could a housing project be?

Criteria for desirable locations

A high level assessment of where any future housing project is best located has been undertaken. As there is scope for potential occupants to be lower income, or potentially from vulnerable sections of our community access to motor vehicles cannot be assumed, and so it is desirable to focus locations which have:

- convenient walking access to services (shops, local employment, medical facilities and other support infrastructure)– typically measured as 400m from activity centres or an employment precinct such as Edwardstown, or Tonsley;
- within easy access to high frequency public transport, being within 400m of a train or tram station, or a Go-Zone bus route.

In this regard, there are several suburbs / locations that do not achieve this criteria and would not be ideal in supporting housing projects for vulnerable occupants. This includes Trott Park, most of Sheidow Park and parts of Hallett Cove.

Given a future housing project will seek to increase density and potentially support alternative housing typologies, a preference would be to ensure that the zoning in place supports anticipated densities and building heights that may be needed to support a development. There is an alternative to rezone specific locations, to support uplift, however this will take time and additional resources to achieve (and may only really be suitable for a larger scale strategic location). On this basis, locations that currently limit infill development should not be included in any future assessment, and this includes:

- existing Character Areas covering Plympton Park, Glandore, Glengowrie and Marion

- suburbs of Marino, Seacliff Park, Seacombe Heights, Seaview Downs and Darlington which are within the Hills Neighbourhood Zone and limit further increases in density.

Exploring options for future projects

There are a number of options available for Council to scope future development sites. This is not necessarily limited to Community Land from which it has direct control, but can also include other government or privately owned sites.

Community Land and Public Roads

A key challenge for Council in exploring housing is the use of Council land and assets for this purpose. This challenge arises from:

a) alignment of any proposal with the relevant existing Community Land Management Plan all of which do not envisage or support a housing usage of the land;
b) existing leases that may be in place for the number of facilities under Council's ownership, care or control;
c) the perceived loss of community access or service to a location that currently provides a service or houses a community group or activity. This implies a need to demonstrate a site's underutilisation or have a solution to re-accommodate the use or group in another location (or potentially back into a new facility on the site if part of a mixed-use arrangement);
d) loss of open space if the land is currently utilised as a reserve. This is not desired for those locations that currently have a shortage of open space;
e) if the project seeks to sell housing (across all or part of the site), the community land revocation process needs to be completed before the project can proceed;
f) where land is currently identified as a public road, the Road Opening and Closing process needs to be completed before the project can proceed.

Council land that does not have community land status, or public road status simplifies any future project, however, these land holdings are somewhat limited and largely accommodate critical Council facilities (such as the Administration Centre, City Services or Southern Depot). Notwithstanding this, a longer term strategy for renewal of these sites, could potentially seek to integrate a future housing project.

Government land or Private land

Opportunities for the use of Government land or land in private ownership should not be overlooked. While this will be dependent on the cooperation of the relevant government agency or landowners, it opens up the potential to utilise other underutilised sites and exploring joint venture opportunities.

This can include known land parcels in locations that have undergone uplift in zoning to support increased densities, but have not been delivered so far. Some strategic locations that would support the desirable criteria include:

- the former Hills Industry site at Edwardstown (combination of private and state ownership)
- "left over" land associated with the Torrens to Darlington project or Tram Overpass projects (where available)
- residential properties on the periphery of the Marion Centre or Oaklands Station

Council may also actively pursue partnering with government agencies or other private or not-for-profit entities in delivering affordable housing. Examples may include:

- SA Housing Trust

- Renewal SA
- Marion Life
- Salvation Army
- Junction Australia
- Aged Care providers (where redevelopment is planned and / or surplus land exists)

Next steps to be considered

This paper does not seek to resolve all the issues associated with Council further pursuing a role in housing. Should Council consider it appropriate to further pursue a role in housing, then it will be necessary to further investigate the implications across the organisation for delivering such a project, and how each of the different models will influence this.

Once clear direction on the intent to have a role in housing delivery is achieved and the principles supported, there is a need to establish governance arrangements that would support the scoping and potential delivery of individual projects.

Further understanding of the legal and financial implications of each of the models to Council is also important, along with an assessment of funding sources and opportunities currently available and proposed.

Further, scoping opportunities within Council's sites will need to be further explored, along with identifying potential partnership opportunities with other government agencies, not-for-profits and strategic private landowners. A long list of options can then be considered and assessed to determine a short-list.

It is expected that any further scoping of a short list will also require a business case, to allow for Council Members to be fully informed before committing community resources to a project.

It is suggested that more detailed investigations can be presented back to Council as part of its 2025 Planning Day, with the intent of then further informing the preparation of a business case(s) for further decisions and formal budget bid(s) for the 2026/2027 Budget.

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7.4 Draft Submission - EPP Review	
Report Reference	IEC241112R7.4
Originating Officer	Environment Officer (Waste and Recycling) – Allison Byrne
Corporate Manager	Manager Engineering, Assets and Environment - Mathew Allen
General Manager	General Manager City Services - Angela Allison

REPORT HISTORY

Report Reference	Report Title
SGC241015R11.1	Reducing Food Waste to Landfill

REPORT OBJECTIVE

The purpose of this report is to:

- Provide an outline of the State Government's legislation review of the *Waste to Resources Policy 2010.*
- Summarise key aspects of the review relevant to the City of Marion.
- Seek feedback from the IEC on the main points of advocacy to be put forward by the City of Marion in its submission to the State Government's discussion paper.

EXECUTIVE SUMMARY

The Environment Protection Authority (EPA) has released a discussion paper, *Beyond Recycling: Moving SA Towards a Circular Economy* (Attachment 1), which reviews the *Environment Protection (Waste to Resources) Policy 2010* (W2R EPP). While South Australia has led the nation in resource recovery rates, these have plateaued since 2016/17, prompting a need for policy modernisation to meet evolving sector demands and environmental goals, including achieving net-zero emissions by 2050.

The EPA is seeking feedback from a diverse range of stakeholders to inform amendments to the W2R EPP. Key areas of the review that align with the priorities of the City of Marion include:

1. State-based product stewardship legislation to reduce waste generation.
2. Flexible kerbside bin collection regulations to maximise resource recovery.
3. A State-level sustainable procurement policy to support markets for recovered resources.
4. Updated landfill bans on problematic waste such as solar panels and e-waste.
5. Improved transparency from waste management providers.

Organics reform, particularly food waste management, is a key issue in the discussion paper.

Rebecca Neumann, Unit Manager Environmental Sustainability and Allison Byrne, Environment Officer (Waste and Recycling) will deliver a presentation summarising the EPA's discussion paper to inform discussion and feedback from the Committee (Attachment 2).

Feedback from IEC will be included into a final submission to the EPA that will be presented to General Council at the 10 December 2024 seeking endorsement. Final submissions are due to the EPA 20 December 2024.

RECOMMENDATION

That the Infrastructure and Environment Committee:

1. Notes the EPA Discussion Paper on the review of the *Environment Protection (Waste to Resources) Policy 2010* (Attachment 1)
2. Provides feedback for inclusion into a final City of Marion submission that will be presented to General Council in December 2024.

DISCUSSION

The Council's recently updated Strategic Plan 2023–2034 includes an objective to minimise waste, maximise resource recovery, and foster a circular economy through its services and support to organisations and the community.

The Environment Protection Authority (EPA) has released its discussion paper, *Beyond Recycling: Moving SA Towards a Circular Economy* (Attachment 1), marking South Australia's first comprehensive review of the Environment Protection (Waste to Resources) Policy 2010 (W2R EPP).

The W2R EPP provides the regulatory framework supporting South Australia's waste management objectives, as outlined in the state's Waste Strategy. This policy has been instrumental in boosting resource recovery and positioning South Australia as a national leader in overall recovery rates across residential, commercial, and industrial sectors.

Despite the effectiveness of measures like the solid waste levy in improving recovery rates, statewide progress has plateaued since 2016–17. Significant changes have occurred since the W2R EPP's implementation in 2010, including advancements in technology, shifting global supply and disposal chains, evolving community expectations, and expanded opportunities for circular economy growth.

This review presents an opportunity to address these challenges and explore new policy directions that align with the South Australian Government's commitments to advancing the circular economy and achieving net-zero emissions by 2050. A transition to a circular economy is essential for tackling climate change, with 45% of global emissions stemming from production and consumption practices.

A modernized W2R EPP can:

- Reduce waste generation,
- Strengthen the circular economy,
- Support the state's greenhouse gas reduction targets, and
- Stimulate market demand for recovered resources.

The EPA's review of the W2R EPP aims to:

- Modernise South Australia's approach to waste regulation, and
- Facilitate the growth of a more circular economy.

The *Beyond recycling: Moving SA towards a more circular economy* discussion paper outlines the issues and opportunities for policy reform and potential policy measures.

The key policy review areas presented in the discussion paper are:

1. Supporting the transition to a circular economy.
2. Avoiding waste generation.
3. Maximising resource recovery.

4. Supporting a strong market for recovered resources.
5. Protecting the environment and human health from waste pollution.
6. Circular economy metrics, reporting and transparency.

Feedback is being sought by the EPA to guide potential amendments and identify new elements for inclusion in revised legislation. The review involves input from a wide range of stakeholders, including state and local government, the waste and recycling sector, broader industry, food and hospitality sectors, food rescue organisations, South Australian businesses, shopping centres, large event venues, product manufacturers, licensed waste depots, the health sector, and the broader community.

The State Government's discussion paper presents a key opportunity for the City of Marion, as a major stakeholder, to advocate for improved focus on regulatory measures. The following five priorities will be emphasised in council's final submission that will be presented to General Council in December 2024.

1. **Support for the circular economy**: Introducing a state-based product stewardship framework with standards for product design, manufacturing, and sales to reduce waste, improve durability and recyclability, and conserve materials and resources.
2. **Flexible kerbside bin collection**: Establishing regulations that enable economically viable resource recovery through adaptable collection systems. This includes advocating to remove the requirement for a weekly kerbside landfill (red bin) collection (as established at SGC241015R11.1)
3. **Strengthening markets for recovered resources**: Implementing a state-level sustainable procurement policy with mandatory targets for using recycled materials, to drive demand for products containing recycled content.
4. **Prohibiting problematic waste items**: Expanding landfill bans to drive greater resource recovery from solar panels, mattresses, lithium-ion batteries, and e-waste.
5. **Increased transparency in waste management**: Requiring waste service providers to publicly report on material flows, including what happens to the materials they process and how much waste by-product remains.

These points align with the City of Marion's longstanding advocacy over the past five years, through various consultations and its work with the LGA SA, for product stewardship and regulatory measures to address problematic waste streams such as e-waste, soft plastics, and single-use plastics, along with flexibility in kerbside bin collection regulations.

A significant focus in the discussion paper is on organics reform, particularly in reducing food waste through redistribution of edible food and improving resource recovery of food waste into commercial compost from residential, commercial, and industrial sectors. This issue has broad agreement across the waste, resource recovery, and government sectors and is of high public interest nationwide.

Feedback is sought from the Committee to support Council's final draft submission that will be presented to General Council on 10 December 2024. Questions to support development of this submission include:

1. Does the Committee support the general direction of the discussion paper?
2. Are there any specific issues that the Committee would like included in Council's final submission?

The deadline for final submissions is 20 December 2024.

ATTACHMENTS

1. IEC November 2024 Waste to Resources EPP [**7.4.1** - 11 pages]
2. Attachment 1 EPA Discussion Paper [**7.4.2** - 119 pages]

Environment Protection (Waste to Resources) Policy 2010

City of Marion submission

Rebecca Neumann, Unit Manager Environmental Sustainability
Allison Byrne, Environment Officer (Waste and Recycling)
12 November 2024

CITY OF MARION

Overview

Environment Protection Authority (EPA) is reviewing the law that governs waste management in South Australia.

Review objectives:

1. Supporting the transition to a circular economy.
2. Avoiding waste generation.
3. Maximising resource recovery.
4. Supporting a strong market for recovered resources.
5. Protecting the environment and human health from waste pollution.
6. Circular economy metrics, reporting and transparency.

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Key Area 1: Circular Economy

Proposed new **waste hierarchy** with more distinction between high-value and low-value recycling of materials

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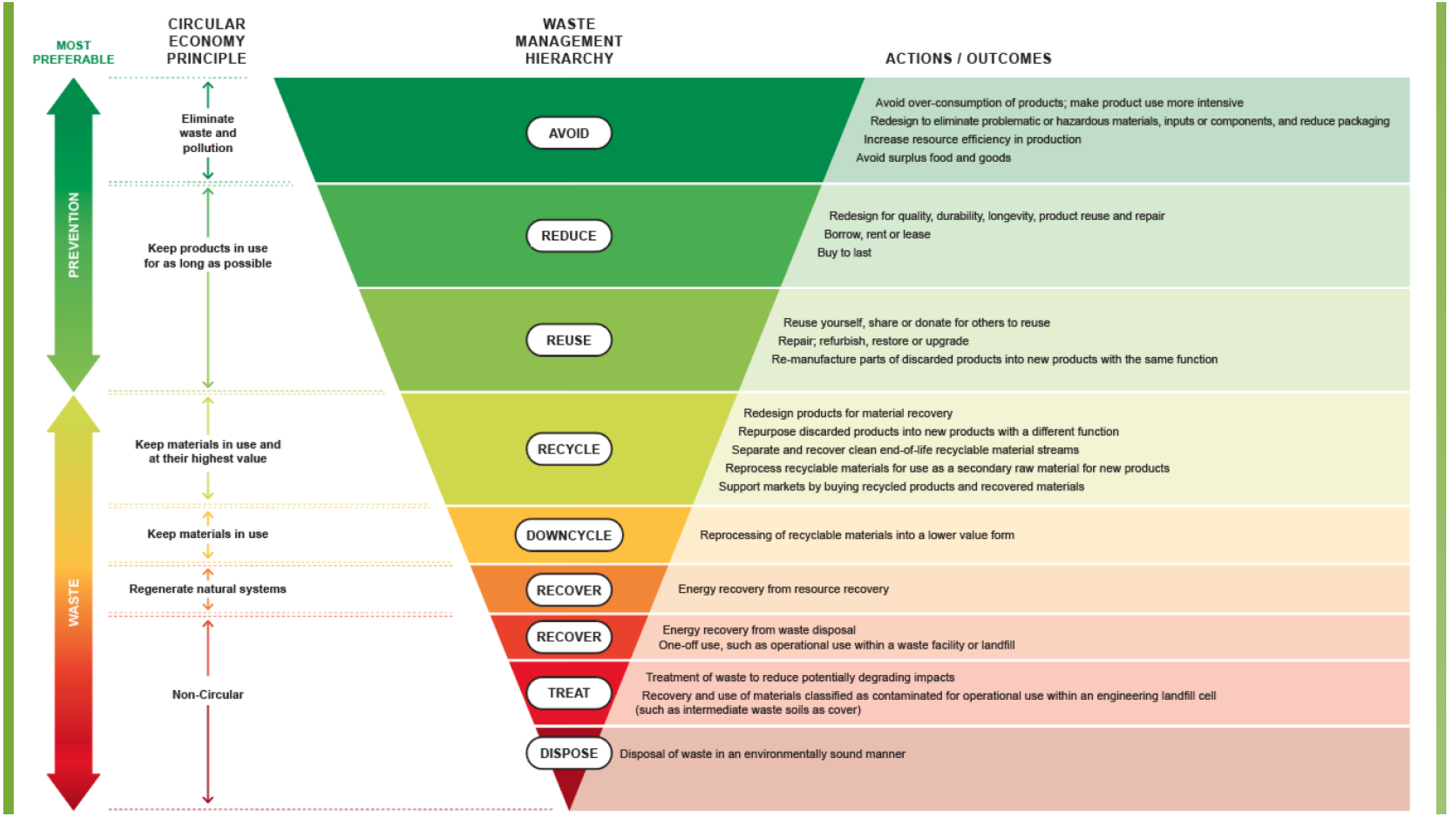
MOST PREFERABLE
CIRCULAR ECONOMY PRINCIPLE
WASTE MANAGEMENT HIERARCHY
ACTIONS / OUTCOMES
PREVENTION
WASTE
Eliminate waste and pollution
Keep products in use for as long as possible
Keep materials in use and at their highest value
Keep materials in use
Regenerate natural systems
Non-Circular
AVOID
Avoid over-consumption of products; make product use more intensive
Redesign to eliminate problematic or hazardous materials, inputs or components, and reduce packaging
Increase resource efficiency in production
Avoid surplus food and goods
REDUCE
Redesign for quality, durability, longevity, product reuse and repair
Borrow, rent or lease
Buy to last
REUSE
Reuse yourself, share or donate for others to reuse
Repair; refurbish, restore or upgrade
Re-manufacture parts of discarded products into new products with the same function
RECYCLE
Redesign products for material recovery
Repurpose discarded products into new products with a different function
Separate and recover clean end-of-life recyclable material streams
Reprocess recyclable materials for use as a secondary raw material for new products
Support markets by buying recycled products and recovered materials
DOWNCYCLE
Reprocessing of recyclable materials into a lower value form
RECOVER
Energy recovery from resource recovery
RECOVER
Energy recovery from waste disposal
One-off use, such as operational use within a waste facility or landfill
TREAT
Treatment of waste to reduce potentially degrading impacts
Recovery and use of materials classified as contaminated for operational use within an engineering landfill cell (such as intermediate waste soils as cover)
DISPOSE
Disposal of waste in an environmentally sound manner

Key Area 2: Avoiding Waste

Product Stewardship
- Packaging
- Plastic microbeads and microfibres
- Tetrapak cartons

Edible food donations

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Figure 10 Product stewardship circular economy (source: DCCEEW, 2023b)

Key Area 3: Maximise Resource Recovery

Policy measures to improve collection and recycling of food waste

Standardising bin lid colours

Business waste reduction and need for resource recovery.

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Key Area 4: Market responses

Circular procurement

Prohibiting certain materials from landfill where Council has a role to play

- Lithium-ion batteries and e-waste
- Mattresses

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Key Area 5:
Pollution and Human Health

Medical waste

Emerging contaminants and chemicals of concern (e.g. PFAS)

Landfill gas capture requirements

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Key Area 6: Metrics

Reporting that promotes transparency of waste and resource recovery pathways

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Questions for the Committee

1. Does the Committee support the general direction of the discussion paper?

2. Are there any specific issues that the Committee would like included in Council's final submission?

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Next Steps

1. Comments from IEC to be included in draft submission
2. Draft submission to General Council 10 December 2024
3. Final submission due 20 December 2024.

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CITY OF MARION

EPA South Australia

Beyond recycling: Moving SA towards a circular economy

A review of the Environment Protection (Waste to Resources) Policy 2010

ENVIRONMENT PROTECTION AUTHORITY

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Beyond recycling: Moving SA towards a circular economy

A review of the Environment Protection (Waste to Resources) Policy 2010

Author: Cate Mussared

For further information please contact:

Information Officer
Environment Protection Authority
GPO Box 2607
Adelaide SA 5001

Telephone: (08) 8204 2004
Facsimile: (08) 8124 4670
Free call (country): 1800 623 445
Website: https://www.epa.sa.gov.au
Email: epainfo@sa.gov.au

ISBN 978-1-925521-08-5

September 2024

Acknowledgements

The author thanks all stakeholders for their input during the preparation of this discussion paper.

EPA FOR RECONCILIATION

The EPA acknowledges and respects the Aboriginal peoples of South Australia as the first peoples and nations of this State. We recognise them as the traditional custodians of land and waters in South Australia and that their spiritual, social, cultural and economic beliefs are of ongoing importance today. We recognise that they have made, and continue to make, a unique and irreplaceable contribution to the State.

Artwork: 'Caring for Country', courtesy of Arrernte man Scott Rathman, for the EPA.

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Message from the Minister

South Australia has long been a leader in resource recovery and waste management and has led the way on addressing problematic single-use plastic products. As we continue on our pathway to a net zero carbon future, we must move away from the linear economy where we take, make and waste materials, and accelerate our transition to a more circular economy.

To address climate change and reduce our reliance on raw natural resources, we need to look at how to reduce the amount of waste that's generated and ensure that we are recovering high quality recyclable materials and keeping these materials circulating within our economy. We also need to look at how we can further support end markets for these recovered materials. Protecting our environment and human health from problematic wastes, chemicals of concern, and from illegal dumping are also essential components of a healthy and sustainable future.

The choices that we make today affect everyone's tomorrow.

This discussion paper is being released to explore the issues and potential policy solutions that will help us transition to a more circular economy. It is the first step in seeking broad feedback on an appropriate regulatory approach for these complex issues.

The SA Government seeks your thoughts on these important issues so that we can work together for a safe and sustainable future.

Susan Close MP

Minister for Climate, Environment and Water

Message from the Presiding Member

As South Australia's independent regulator, the Environment Protection Authority (EPA) is responsible for ensuring that all reasonable and practicable measures are taken to protect, restore and enhance the quality of SA's environment having regard to the principles of ecologically sustainable development. Supporting and enabling our transition to a circular economy is an essential part of this, and a priority for the EPA. This is reflected in the EPA's *Corporate Plan 2024-25*, which identifies the review of the *Environment Protection (Waste to Resources) Policy 2010* as a priority activity, to support our transition to a circular economy.

The EPA's approach to managing environmental challenges is to engage and collaborate with communities and industry, and work together to identify the right pathway to achieve the best outcome. Through consultation on this discussion paper, the EPA wishes to explore how, as an environmental regulator, we best continue to protect our environment while supporting more innovative and sustainable practices and driving our transition to a more circular economy.

Your consideration of these issues and input into this review will help the EPA to modernise our regulatory approach and ensure that it meets the needs of South Australia as we look to the future.

Ms Catherine Cooper

Presiding Member
Board of the Environment Protection Authority

Executive summary

The *Environment Protection (Waste to Resources) Policy 2010* (W2R EPP), through the *Environment Protection Act 1993* (EP Act), provides the regulatory underpinning for South Australia's waste management objective and actions identified under South Australia's *Waste Strategy and the National Waste Policy Action Plan*. The establishment of this ambitious regulatory framework in 2010 enabled improved waste management and resource recovery practices, including diverting resources from landfill, placing SA at the forefront of resource recovery in Australia.

Since the commencement of the W2R EPP, significant changes have occurred in the waste and resource recovery sector that warrant a review of the policy. This review provides an opportunity to consider policy initiatives that contribute to the South Australian Government's commitments to a circular economy and achieving zero net emissions by 2050. Transitioning to a circular economy is vital to addressing climate change, as 45% of global emissions come from the way we produce and consume.

A circular economy is an economic model designed to prioritise sustainability, resource efficiency, and waste reduction. As we grow our circular economy, we will improve and sustain our environment, increase our wellbeing, and grow our economic prosperity in a sustainable way. A contemporary and effective regulatory framework can strengthen implementation and enforcement, give regulatory certainty for investment, and drive the development of a circular economy.

The key policy review areas that this discussion paper is seeking to explore are:

1 Supporting the transition to a circular economy.

2 Avoiding waste generation.

3 Maximising resource recovery.

4 Supporting a strong market for recovered resources.

5 Protecting the environment and human health from waste pollution.

6 Circular economy metrics, reporting and transparency.

The purpose of this discussion paper is to engage stakeholders and South Australians more broadly on the issues and opportunities that this review presents. Your feedback will inform the development of a new Circular Economy and Waste Policy that will incorporate the existing W2R EPP (including amended provisions) and new circular economy provisions arising from this review. Once drafted, the draft policy will be released for further public consultation prior to being finalised.

The EPA invites you to contribute to the review by responding to any or all of the policy options considered in this paper and answering the specific consultation questions.

1 Introduction

1.1 Global outlook

In 2015, world leaders adopted the *2030 Agenda for Sustainable Development* and its 17 Sustainable Development Goals (SDGs) at a historic United Nations (UN) summit. The SDGs are a global blueprint for prosperity for people and the planet.

The *2022 UN Sustainable Development Goals Report* found that:

> Unsustainable patterns of consumption and production are root causes of the triple planetary crises of climate change, biodiversity loss and pollution. These crises, and related environmental degradation, threaten human well-being and achievement of the Sustainable Development Goals.
>
> If we continue on the prevailing development pathway, the Earth's finite capacity will be unable to sustain the livelihoods of current and future generations. Transforming our relationship with nature is key to a sustainable future.
>
> As the world develops strategies for sustainable recovery from the pandemic, governments and all citizens should seize the opportunity to work together to improve resource efficiency, reduce waste and pollution, and shape a new circular economy (United Nations, 2022, p.50).

1.2 Transitioning to a circular economy

South Australia (SA) is transitioning to a circular economy in order to improve and sustain our environment, increase our wellbeing, and grow our economic prosperity in a sustainable way.

A circular economy is an economic model designed to prioritise sustainability, resource efficiency, and waste reduction. It aims to move away from the traditional linear economic model of 'take-make-dispose' and instead seeks to create a closed loop system where resources are kept in use for as long as possible, with their value preserved and waste minimised.

In a circular economy we design out waste and pollution, keep products and materials in use for as long as possible (requiring less raw materials), and regenerate natural systems. Waste avoidance, reuse and recycling are maximised while raw material extraction and landfilling are minimised. Transitioning to a circular economy requires a transformation in our ways of producing and consuming, to gradually de-couple economic activity from finite resource consumption.

The circular economy transition is also vital to addressing climate change, as 45% of emissions produced globally come from the way we produce and consume. The 2017 report, *Creating Value – The potential benefits of a Circular Economy in South Australia,* estimated that a circular economy could create an additional 25,700 jobs by 2030 and reduce greenhouse gas emissions by 27% compared to a 'business as usual' scenario in SA (Lifecycles, EconSearch, Colby Industries & University of Queensland, 2017). This equates to 7.7 million tonnes of CO_2 equivalent (Lifecycles et al., 2017). By adopting more circular solutions and enhancing opportunities for recycling, repair, reuse, and remanufacturing, we can achieve better economic, social, and environmental outcomes for SA.

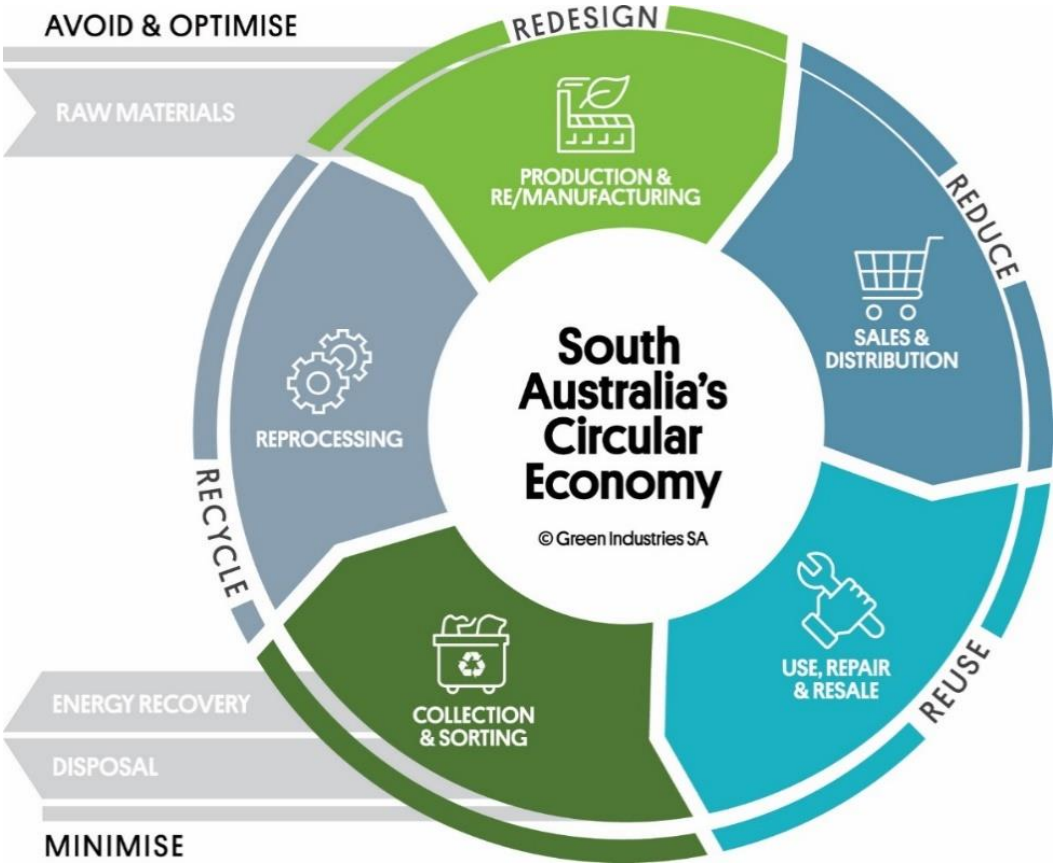

Figure 1 South Australia's circular economy (source: Green Industries SA)

In our current economy, we take materials from the Earth, make products from them, and eventually throw them away as waste – the process is linear. In a circular economy, by contrast, we stop waste being produced in the first place.

Ellen MacArthur Foundation 2024

2 Purpose of this paper

The purpose of the discussion paper is to invite your contribution to the review by seeking your views on:

- the effectiveness of the *Environment Protection (Waste to Resources) Policy 2010* (W2R EPP)
- the issues and opportunities that have been outlined in this discussion paper
- anything else that should be considered relating to waste, resource recovery and circular economy in SA.

The discussion paper has been developed through a process of reviewing and identifying issues, barriers and opportunities relating to the current W2R EPP, changes within the resource recovery and waste sector, and addressing the imperative to transition to a circular economy. Through this process, input was received from a wide range of stakeholders including state government, local government, resource recovery and waste industry, academics and subject experts, and the not-for-profit sector.

The information provides context for the issues under consideration. Further detail may be disseminated at the public meetings to be conducted during consultation.

The EPA invites you to contribute to the review, including responding to the questions identified in this paper.

2.1 How to participate

Invitation to comment

Your feedback and ideas will help inform government consideration of possible changes to the W2R EPP.

You may agree, disagree, or comment on the various issues discussed in this paper, or with the proposed policy measures identified to address these issues.

You may also suggest alternative policy measures or more appropriate ways to address these issues.

Additionally, you can make an important contribution by identifying other opportunities to improve SA's approach to resource recovery and waste management, aligned with supporting a circular economy.

To enable full consideration of your feedback and ideas, please comment on the consultation questions (located in the blue boxes in this document) and provide reasons for your comments, supported by relevant information and/or data.

Comments or written submissions can be provided via:

- YourSAy survey
- Email to: epawastepolicy@sa.gov.au
- Mail to: Environment Protection Authority
  Attention - W2R EPP Review
  GPO Box 2607 Adelaide SA 5001

Include your name, position, organisation and contact details (telephone number, email, and postal address) with your submission.

The deadline for comments and submissions is **5pm Friday 20 December 2024**.

Tips for written submissions

- List points so that issues raised are clear.
- Where possible, refer to the appropriate section or question in this discussion paper for each point.
- If you are responding to different sections of this discussion paper, keep these distinct and separate, so there is no confusion as to which section you are considering.
- Attach any factual information you wish to provide and give details of the source.
- Include a summary of your submission.

Quick survey

If you're unable to provide comment via a written submission or responding to the YourSAy survey, you may prefer to take our quick survey which will take approximately 10 minutes to complete.

Click here to take our quick survey.

2.2 Information about your submission

Submissions will be treated as public documents, unless received in confidence subject to the requirements of the *Freedom of Information Act 1991* and may be quoted in full or part in subsequent EPA reports. If you do not want the public to read your answers, please write 'confidential' on your submission.

A summary of feedback will be prepared and released publicly. Subject to the outcomes of this consultation process, further consultation with business, industry and other parties may be undertaken prior to the release of a draft Environment Protection Policy and the formal consultation on the draft policy.

3 Why are we reviewing the policy

Since the commencement of the W2R EPP in 2010, there have been significant changes that warrant a review of the policy. This includes government commitments to a circular economy and net zero emissions, as set out in *South Australia's Waste Strategy 2020–2025, South Australia's Food Waste Strategy 2020–2025*, *National Waste Policy Action Plan 2019*, *South Australian Government Climate Change Action Plan 2021–25*, and *Climate Change Role Statement* (EPA). The Australian Government is also committed to the United Nations SDGs.

Applying the principles of a circular economy is the central theme of both the *SA Waste Strategy* and the *National Waste Policy 2018*. Additionally, the Objects of the EP Act were updated in 2017 and incorporated a new Object 'to promote the circulation of materials through the waste management process and to support a strong market for recovered resources' which is yet to be referenced in an EPP.

The Objects of the Act were amended again by Parliament in 2023, adding in climate change mitigation and adaptation, and clarifying the EPA's role in addressing climate change. Consideration of policy objectives and measures to support SA's transition to a more circular economy and achieve net zero emissions, are key aspects of this review.

In addition to the above commitments, as the scope and ambition in resource recovery has increased over time, significant new and emerging waste management issues have arisen. A contemporary and effective regulatory framework can strengthen implementation and enforcement, give regulatory certainty for investment, and drive the development of a circular economy.

4 Background and context

4.1 International context

2030 Agenda for Sustainable Development

In 2015 United Nations (UN) Member States, including Australia, adopted 17 goals (Figure 2) with a 15-year plan under the 2030 Agenda for Sustainable Development.

Figure 2 United Nations Sustainable Development Goals (source: United Nations 2016a)

Goal 11, *Sustainable cities and communities* is about making cities inclusive, safe, resilient, and sustainable. One target is “by 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management” (United Nations, 2016b).

Goal 12, *Responsible consumption, and production*, commits signatories to “making fundamental changes in the way that our societies produce and consume goods and services” (United Nations, 2016c). The targets include:

- By 2030, achieve the sustainable management and efficient use of natural resources.
- By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
- By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
- Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

The *2022 Sustainable Development Goals Report* identifies key areas under this goal that need to be addressed, including:

- Reducing our growing reliance on natural resources through "increased resource efficiency, circularity measures and overall efforts to de-materialise economic growth".
- Reducing food loss and waste to help deliver on the Global Methane Pledge to which Australia is a signatory [Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2022a].

Goal 13, *Climate Action*, requires urgent action to combat climate change and its impacts, in order to limit warming to 1.5 degrees Celsius. One of the targets is to "integrate climate change measures into national policies, strategies, and planning" (United Nations, 2016d).

4.2 Australian context

The Commonwealth Government is responsible for a national framework for waste and resource recovery, which recognises our obligations under international agreements. The legislative framework for this is established through the *Recycling and Waste Reduction Act 2020* (Cth).

The Commonwealth Government has developed a national waste policy and corresponding action plan as well as a food waste strategy, which are briefly outlined below. This review intends to consider policy measures that support the principles and targets set out in these national documents, in conjunction with the state strategies and action plans which are covered in the following section.

Additionally, the Agreed Communiqué from the Environment Ministers Meeting (EMM) on 9 June 2023 states "Ministers reiterated their commitment to transition Australia from a 'take, make, waste' economy toward a more resilient and regenerative circular economy that maximises the value of materials and minimises waste and pollution" (DCCEEW, 2023a).

National Waste Policy 2018: Less waste, more resources

The *National Waste Policy 2018* provides a framework for collective action by businesses, governments, communities and individuals until 2030. It sets out five overarching principles underpinning waste management in a circular economy. These include:

1 avoid waste

2 improve resource recovery

3 increase use of recycled material and build demand and markets for recycled products

4 better manage material flows to benefit human health, the environment, and the economy

5 improve information to support innovation, guide investment and enable informed consumer decisions.

National Waste Policy Action Plan 2019

The *National Waste Policy Action Plan 2019* sets out targets and actions to implement the National Waste Policy 2018. Some of these include:

- reducing the total waste generated in Australia by 10% per person by 2030
- achieving an 80% average recovery rate from all waste streams by 2030
- significantly increasing the use of recycled content by governments and industry
- phasing out problematic and unnecessary plastics by 2025

- halving the amount of organic waste sent to landfill by 2030
- making comprehensive, economy wide and timely data publicly available to support better consumer, investment and policy decisions.

The plan complements and supports the implementation of better waste management and circular economy plans by state and territory governments, local government, business and industry.

National Food Waste Strategy 2017

The *National Food Waste Strategy 2017* provides a framework to support collective action towards halving Australia's food waste by 2030, aligning with and contributing towards global action under Goal 12, *Ensure sustainable consumption and production patterns*.

4.3 South Australian context

The regulation and management of waste and resource recovery is primarily the responsibility of the state government. The *Environment Protection Act 1993* (EP Act) establishes the primary legislative framework for this, while the *Green Industries SA Act 2004* requires Green Industries SA (GISA) to develop a waste strategy for the State every five years, and sets out what is to be included in the strategy. Further detail can be found in section 5 Legislative framework.

South Australia's Waste Strategy

South Australia's Waste Strategy 2020-2025 sets out SA's targets for waste reduction and waste diversion from landfill. The targets include:

- zero avoidable waste to landfill by 2030[1]
- waste generation target of 5% reduction per capita on a 2020 baseline.

It also sets 2025 waste diversion targets for metropolitan waste by waste sector:

- 75% for municipal solid waste (MSW) waste
- 90% for commercial and industrial (C&I) waste
- 95% for construction and demolition (C&D) waste.

For non-metropolitan waste, the 2023 target was for regional waste management plans to be in place for all SA regional local government areas and/or regional city clusters and setting regionally appropriate and progressive waste diversion targets.

[1] Zero avoidable waste to landfill equates to the diversion of all waste from landfill where it is technologically, environmentally, and economically practicable to do so. "Unavoidable' waste refers to wastes for which no other current treatment is available including (but not limited to) asbestos, toxic and quarantine waste".

Table 1 **Summary of SA's waste targets** (source: adapted from Green Industries SA, 2020)

Overall targets				
2025	5% reduction in per capita waste generation from a 2020 baseline			
2030	Zero avoidable waste to landfill by 2030			
Metropolitan waste targets				
	% diversion household bin system	% diversion all MSW	% diversion C&I	% diversion C&D
2023	60%	65%	85%	90%
2025	70%	75%	90%	95%
Non-metropolitan waste targets (all source streams)				
2020	Maximise diversion to the extent practically and economically achievable			
2023	Regional Waste Management Plans are in place for all South Australian regional local government areas and/or regional city clusters and set regionally appropriate and progressive waste diversion targets			

The *SA Waste Strategy* identifies actions to assist SA to reach these targets and contribute to the development of a circular economy – so that we can realise the best or full value from products and materials produced, consumed, and recovered in the state. This review will consider policy measures to support the Waste Strategy and achieve each of the identified targets.

South Australia's Food Waste Strategy

Food waste is a growing problem in Australia, and around the world. While many people experience food insecurity and hunger, edible food is being discarded to landfill. Food waste also impacts our natural resources and when in landfills, produces methane, a potent greenhouse gas (28 times more potent than carbon dioxide).

The Food Waste Strategy, *Valuing Our Food Waste: South Australia's strategy to reduce and divert household and business food waste (2020–2025)*, sets out the policy measures and behavioural change actions and support for industry to address the estimated 230,000 tonnes of food waste sent to landfill each year in SA and contribute to national and global targets to reduce food waste. This review will consider how these policy measures and actions can be enabled through regulation and programs, to help tackle food waste in the state.

South Australian Government Climate Change Action Plan 2021–2025

The *Climate Change Action Plan 2021–2025* sets out key objectives and government-led actions to reduce greenhouse gas emissions in SA by more than 50% from 2005 levels by 2030 and achieve net zero emissions by 2050. One of these key objectives is to develop a more circular economy (Department for Environment and Water [DEW], 2020).

5 Legislative framework

5.1 Environment Protection Act 1993

The EP Act provides the regulatory framework to protect SA's environment, including protection from pollution and waste. The Objects of the Act sets out the underlying purpose of the legislation, which includes:

- promoting the principles of ecologically sustainable development
- ensuring that all reasonable and practicable measures are taken to protect, restore and enhance the quality of the environment having regard to the principles of ecologically sustainable development and the need for climate change adaptation and climate change mitigation
- ensuring that, as far as is reasonably practicable, measures are taken to prevent, reduce, minimise and, where practicable, eliminate harm to the environment:
  - by programs to encourage and assist action by industry, public authorities and the community aimed at pollution prevention, clean production and technologies, climate change adaptation, climate change mitigation and resource recovery
  - by programs to encourage and assist industry, public authorities and the community to apply the waste management hierarchy
  - by regulating, in an integrated, systematic, and cost-effective manner:
    - activities, products, substances and services that, through pollution or production of waste, cause environmental harm
    - the generation, storage, handling, treatment, transfer, transportation, receipt or disposal of waste and other pollutants.
- ensuring that, as far as is reasonably practicable, measures are taken to promote the circulation of materials through the waste management process and to support a strong market for recovered resources:
  - by programs to encourage and assist industry, public authorities and the community to engage in resource recovery
  - by regulating resource recovery; and
  - by regulating the handling, storage, treatment, transfer, transportation, receipt, or disposal of waste or other matter.
- co-ordinating activities, policies, and programmes necessary to prevent, reduce, minimise or eliminate environmental harm, address climate change adaptation and climate change mitigation and ensure effective environmental protection, restoration and enhancement
- applying a precautionary approach to the assessment of risk of environmental harm and climate change and ensure that all aspects of environmental quality affected by pollution and waste (including ecosystem sustainability and valued environmental attributes) are considered in decisions relating to the environment
- requiring persons engaged in polluting activities to progressively make environmental improvements (including reduction of pollution and waste at source) as such improvements become practicable through technological and economic developments.

5.2 Environment Protection (Waste to Resources) Policy 2010

The W2R EPP, which commenced in 2010, provides the regulatory underpinning for SA's waste management objective, such as those outlined in the SA Waste Strategy, and promotes resource recovery and good waste management. In particular, the W2R EPP:

- requires the EPA to consider the waste management objective in its decision making
- defines when material ceases to be waste
- provides for improved regulation of illegal dumping and inappropriate stockpiling
- prescribes resource recovery processing requirements for most metropolitan Adelaide waste
- prescribes waste which are banned from disposal to landfill (such as e-waste)
- requires persons to comply with specified requirements and guidelines when handling and disposing of waste, including listed waste and medical waste
- requires the EPA to take into account specified guidelines when assessing environmental authorisations and development applications for waste depots.

6 Review objective

The objective of this review is to support a circular economy in SA, through a contemporary and effective regulatory framework that:

1 contributes to the reduction in the rate of climate change by limiting, reducing, or preventing greenhouse gas emissions through:
   - reducing consumption of natural resources
   - reducing the generation of waste
   - informing the consideration of greenhouse gas emissions in regulatory decisions relating to waste and resource recovery.

2 promotes the safe and appropriate circulation of materials through the waste and resource recovery process

3 practically applies the waste management hierarchy to facilitate the highest value circular reuse, repair and recycling of materials by industry, public authorities and the community

4 supports a strong market for recovered resources.

7 Key policy review areas

Key area 1: Supporting the transition to a more circular economy

SA is transitioning to a circular economy in order to improve and sustain our environment, increase our wellbeing, and grow our economic prosperity in a sustainable way. We need to replace the unsustainable 'take–make–waste' linear economy with circular, restorative approaches where waste is minimised.

The three key principles of a circular economy are:

1 Reduce – design out waste and pollution.

2 Preserve – keep products and materials in use and at their highest possible value.

3 Regenerate – regenerate natural systems and natural capital.

Reduce

Adopting more circular solutions requires us to move beyond resource recovery and recycling and place an emphasis on waste prevention. We need to prolong the lifespan of products by designing products to be long lasting and repairable, allowing for easy maintenance, upgrades, and reuse. The goal is to extend the lifespan of products and minimise the need for constant replacements. The focus is on reducing waste generation at the source rather than relying solely on end-of-life solutions. It is also at this point these environmental pollutants, such as forever chemicals, can be designed out of products so that these are prevented from entering the economy.

Preserve

Products also need to be designed so that they can be easily disassembled, in order for materials and components to be recovered and recycled or repurposed into new products or materials. This helps to reduce the demand for new raw materials and reduces the amount of waste going to landfill.

In addition to keeping products and materials in use longer, in a circular economy these recovered materials are to be used at their highest possible value. An example of highest value reuse would be a glass bottle being recovered and becoming another glass bottle. A lower order, or lower value reuse would be for this glass bottle to be crushed and reused in road base.

The term 'highest value', sometimes used interchangeably with 'highest order', is relative to the waste management hierarchy and applies the second principle of a circular economy, being to keep products and materials in use, either as the original intended product, or second to that as components or raw materials for new products. It relates to material resource efficiency but also the greenhouse gas emissions impact of the intended use or reuse of that product or material.

To ensure that the recovery of end-of-life products and materials is maximised, effective waste and resource collection systems and practices need to be in place, alongside efficient recovery, and recycling processes. In addition to maximising how much is collected, improvements in this area can also upgrade the quality of the recycled material that is produced.

Regenerate

Circular economies help regenerate natural systems through establishing more sustainable practices. This includes reducing demand on new raw materials, putting organics back into soils rather than in landfill, and reducing greenhouse gas emissions to mitigate climate change.

7.1 Broadening the policy objective

The current objective of the W2R EPP – termed the 'waste management objective' – is "to achieve sustainable waste management by applying the waste management hierarchy consistently with the principles of ecologically sustainable development set out in section 10 of the Act" (clause 7).

Circular economy

Since the W2R EPP commenced in 2010, the EP Act has been amended to add an Object to ensure that measures are taken "to promote the circulation of materials through the waste management process and to support a strong market for recovered resources"[2].

The waste management objective of the EPP needs to be broadened in order to address this new Object of the Act and effectively capture and support circular economy activities.

Looking to the *Green Industries SA Act 2004*, in which the principles of the circular economy are defined, it states that:

> the principle of the circular economy is a reference to an economic model that contemplates the production of goods and services:
>
> i by a reduced reliance on virgin materials; and
>
> ii on the basis of continuously functioning utility and an extended lifecycle; and
>
> iii in a manner that eliminates, as far as is reasonably practicable, waste or pollution, or harm to the environment.

Climate change mitigation

In 2023 the Parliament of South Australia again amended the Objects of the EP Act to add climate change mitigation and adaptation, clarifying the EPA's role in addressing climate change (Parliament of South Australia, 2023). The South Australian Government's Climate Change Actions document sets out the actions being taken by government to tackle climate change and identifies the EPA's role in this. The EPA is the lead Agency for Action 2.1Deliver a stronger regulatory framework to reduce waste and encourage greater reuse of materials to support a circular economy (DEW, 2022).

Greenhouse gases (GHG) can be emitted through all stages of a product's production as well as its end-of-life. The embodied carbon of a product is halted if its lifespan is extended through product design that extends durability, and through other waste prevention activities such as reuse, reselling, refurbishing, and repairing. Once a product enters end-of-life management process – waste collection, recovery, and recycling – additional GHG emissions are generated to collect, sort, recycle and remanufacture the feedstock into new products. Additionally, once waste is deposited in landfill, further GHG can be produced.

While a key benefit of a circular economy is the resulting reduction in GHG emissions, there can be circumstances where carbon benefits may not be achieved. An example of this is where the GHG emissions generated by transporting recovered resources long distances to a materials recovery facility (MRF) outweigh the carbon benefits of keeping these resources out of landfill. Factoring climate change mitigation into EPA regulatory decision-making on waste and resource recovery matters will help achieve optimal outcomes for the environment.

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2 *Environment Protection Act 1993*, section 10(1)(b)(iaa)

Policy options being considered

Circular economy objective

To reflect the evolution away from the traditional take-make-dispose approach of a linear economy, towards a focus on waste prevention and 'material management', it is proposed that the objective of the EPP be broadened to include a circular economy objective and incorporate circular economy principles. The objective and principles will underpin the activities required to facilitate the continued circularity of materials in the economy such as:

- preventing environmental harm and protecting human health by designing out waste and pollution
- reducing the use of, and dependence on, raw (virgin) materials
- avoiding waste generation by practically applying a waste management hierarchy
- keeping resources in use and circulating by addressing resource inefficiency, e.g., improving resource recovery through activities such as separation of wastes at the source of generation, and requiring recovered materials to be used for their highest value reuse
- regenerating natural systems through ecologically sustainable practices.

These concepts and related supporting measures are expanded on in later sections.

Climate change mitigation objective

It is proposed that the EPP objective also be broadened to include a climate change mitigation objective[3]. This will ensure that climate change is factored into EPA regulatory decision-making on matters relevant to this amended EPP, alongside the waste management objective and circular economy objective.

It should be noted that the existing provisions under clause 7(2) of the W2R EPP that set out other principles to achieve the objective of the EPP (e.g., promoting best practice and accountable waste management, effective reporting systems, and promoting environmental responsibility and involvement in waste avoidance, waste minimisation and waste management) are consistent with the proposals above and can be retained.

QUESTIONS

7.1 Broadening the policy objective

1 Do you agree that 'circular economy' should be an objective of the W2R EPP? If not, please explain your reasons.

2 Do you agree that 'climate change mitigation' (i.e., limiting, reducing, or preventing greenhouse gas emissions) should be an objective of the W2R EPP? If not, please explain your reasons.

3 Are there other objectives for this W2R EPP that should be considered?

[3] Climate change mitigation means limiting, reducing, or preventing greenhouse gas emissions.

7.2 Expanding the waste management hierarchy

Current South Australian legislation references the waste management hierarchy which is a widely recognised framework that establishes a preferential order of waste management options to reduce and manage waste. The activities at the top of the hierarchy have the highest environmental benefit.

In SA, the EP Act defines the 'waste management hierarchy' as:

> … a reference to an order of priority for the management of waste in which:
>
> a avoidance of the production of waste; and
>
> b minimisation of the production of waste; and
>
> c reuse of waste; and
>
> d recycling of waste; and
>
> e recovery of energy and other resources from waste; and
>
> f treatment of waste to reduce potentially degrading impacts; and
>
> g disposal of waste in an environmentally sound manner,
>
> are pursued in order with, first, avoidance of the production of waste, and second, to the extent that avoidance is not reasonably practicable, minimisation of the production of waste, and third, to the extent that minimisation is not reasonably practicable, reuse of waste, and so on[4].

This is depicted in Figure 3.

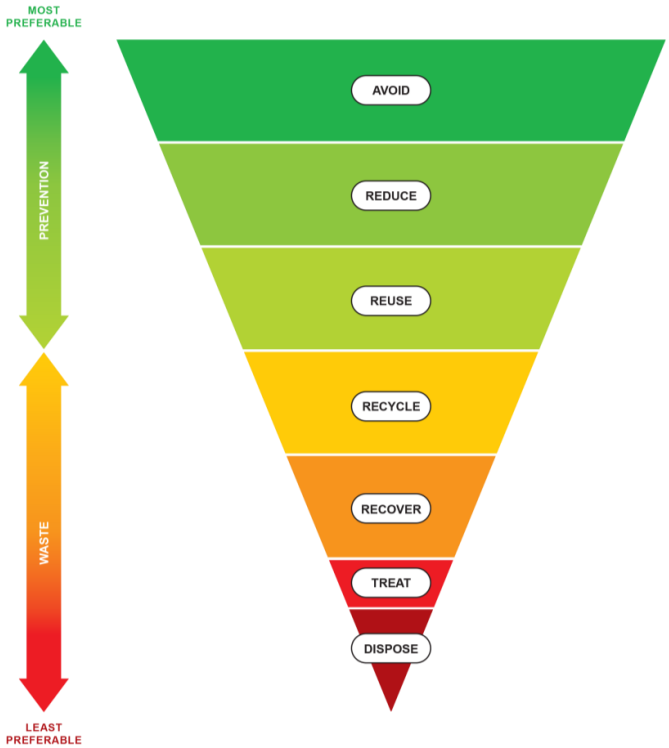


Figure 3 SA waste management hierarchy

[4] *Environment Protection Act 1993*, section 4B

The top three levels of the waste management hierarchy – avoid, minimise (or reduce) and reuse – are considered as waste prevention activities which are any deliberate actions taken that keep an item, component or material in use and stop it from entering a waste management facility or system.

These activities are distinct from the activities of recycling or resource recovery, that divert waste from landfill after the items have entered a waste management process, by returning them back to the economy for further use. The W2R EPP focuses mainly on the management of wastes and the recovery of resources, which are lower order activities in the hierarchy.

By contrast, a circular economy hierarchy (also represented as the 10R's) is a concept that goes beyond waste management, emphasising sustainable resource management and the circular flow of materials. It expands on the traditional waste management hierarchy by placing more focus on waste avoidance activities, reducing the need for consumption in the first place, and keeping materials in circulation for as long as possible before needing to recycle or dispose them. The circular economy hierarchy takes a more holistic approach and acts to embed circular concepts across the economy.

Below is an example of how the activities or tiers of the waste hierarchy can be expanded to incorporate circular economy principles and activities (Figure 4).

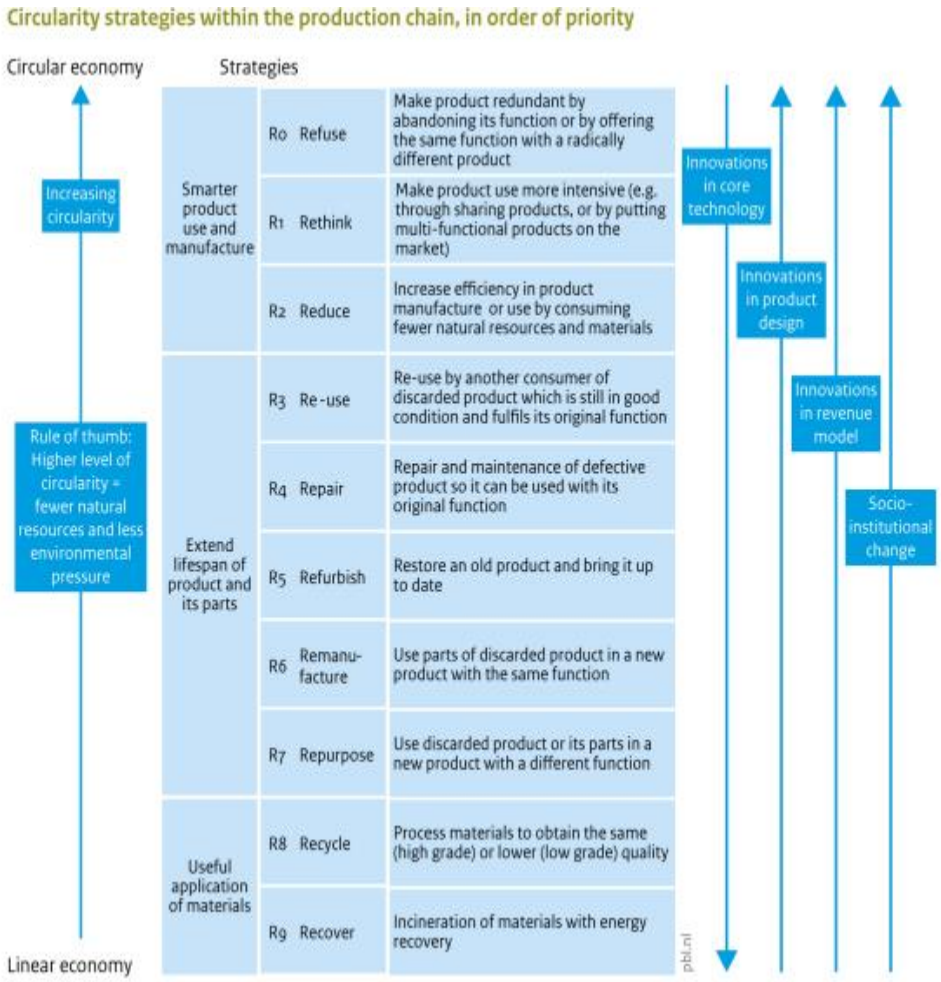


Figure 4 Circularity strategies within the production chain, in order of priority
(source: PBL Netherlands Environmental Assessment Agency, 2017)

Work has already taken place in Australia to expand on the traditional waste hierarchy to add a range of waste prevention activities. Figure 5 is one such example. This expanded hierarchy gives greater prominence to waste prevention activities, and also distinguishes more clearly between them.

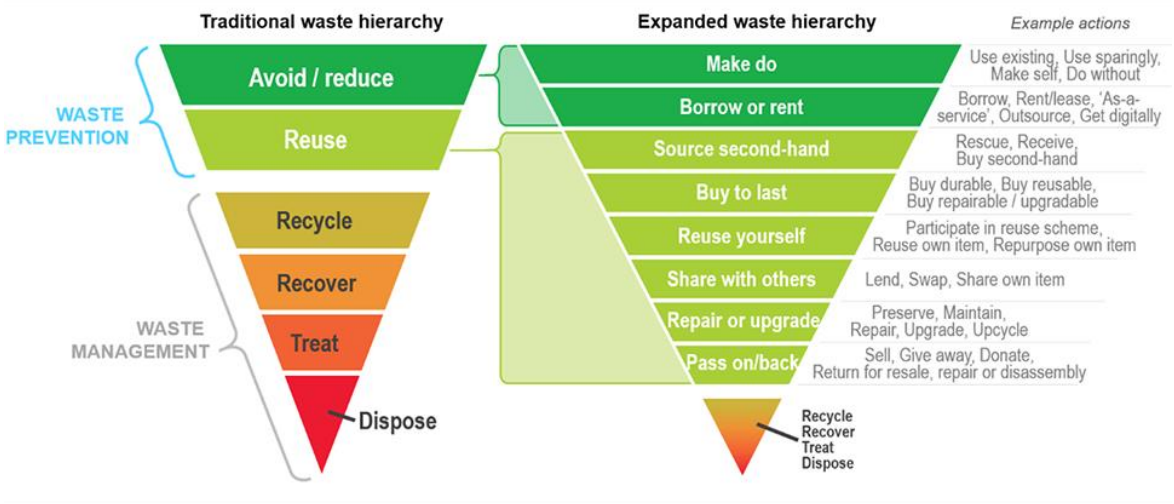


Figure 5 Expanding the waste hierarchy (source: DCCEEW, 2022b.)

Another expanded version of the traditional waste hierarchy has been developed by Charitable Recycling Australia (see Figure 6). This Resource and Waste Hierarchy reinforces the differences between waste and resources and highlights the priority of the 'Use' phases before 'Waste' phases. It also includes descriptions to clarify understanding and to encourage implementation of highest and best use.

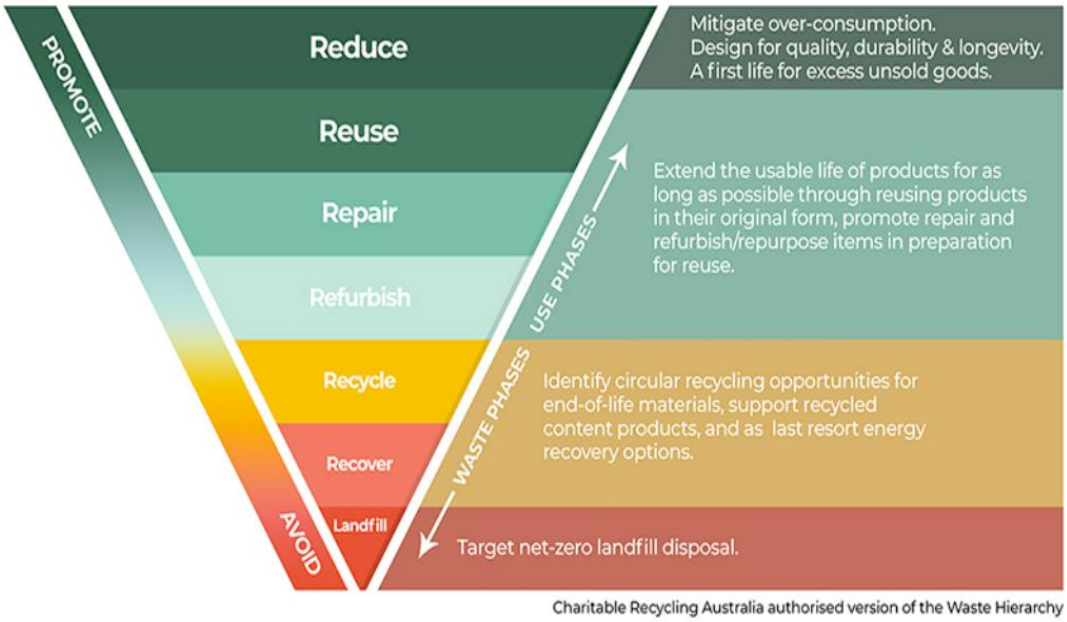


Figure 6 Charitable Recycling Australia's Resource & Waste Hierarchy – highest and best use (source: Charitable Recycling Australia website, 2024)

Policy options being considered

In order to ensure better alignment between the waste management hierarchy and circular economy principles, consideration is being given to expanding on the current waste management hierarchy and providing additional guidance on how the hierarchy is to be applied in a practical way. Through this we will be able to drive better material flow, enhance circularity and improve environmental outcomes.

An expanded waste hierarchy would have broader application and assist in prioritising waste prevention activities over waste and resource recovery activities.

The waste hierarchy could be revised to distinguish between reuse and high-value recycling (i.e., activities that keep items or materials in use for as long as possible) from low-value reprocessing, referred to as 'downcycling', such as recyclable materials processed into a lower value form such as glass into road base.

Given that disposal is minimised in a circular economy, the waste hierarchy could also be revised to distinguish between activities that are circular (i.e., keeping items or materials in use) from activities that are non-circular (i.e., end-of-life activities such as energy recovery through incineration of waste, once off use activities such as operational use of recovered materials within a waste facility or landfill, treatment prior to disposal, and disposal to landfill).

Table 2 below sets out the activities and outcomes sought relevant to each tier of a proposed expanded hierarchy, to better define the hierarchy and give it more practical application.

QUESTIONS

7.2 Expanding the waste management hierarchy

1 Do you have any comments on the proposed expanded SA waste management hierarchy set out in Table 2 and depicted at Figure 7 (below)?

Table 2 Proposed expanded SA waste management hierarchy

Circular economy principle	Waste management hierarchy tier	Actions/outcomes sought
ACTIVITIES THAT PREVENT OR REDUCE WASTE GENERATION		
Source prevention of waste/more resource efficient product design, manufacture and use		
Eliminate waste and pollution	**AVOID** Avoidance of the production of waste	**Refuse:** avoid over-consumption of products; make product use more intensive; use existing; use sparingly; do without; make it yourself **Redesign:** design products to need fewer material inputs and fewer material types; to eliminate problematic or hazardous materials, inputs or components that cause environmental harm; to reduce packaging; to increase shelf life through improved food packaging and labelling **Increase resource efficiency in production:** consume fewer raw natural resources and materials and reduce waste in product manufacture; avoid food waste; repurpose food scraps without processing for animal feed, repurpose food scraps into other products **Avoid surplus food and goods:** reduce the volume of surplus food generated; donate edible surplus food to food redistribution charities; ensure a first life for excess unsold goods
Extend lifespan of products and its parts/keeping items in use/retain value and function		
Keep products in use for as long as possible	**REDUCE** Minimisation of the production of waste	**Redesign:** design for quality, durability and longevity; design for service; design for product reuse and repair **Borrow or rent:** borrow; rent/lease; 'product as a service'; outsource; get digitally **Buy to last:** buy durable, reusable, repairable, upgradable
	REUSE Reuse of waste	**Reuse yourself:** participate in reuse scheme; reuse own item, repurpose own item, repair own item **Reuse by another/share with others:** reuse by another consumer of discarded product to fulfil its original function, eg rescue, receive, source, buy second hand; lend, borrow, swap, share own item; sell, give away, donate; return for resale, repair or disassembly **Repair:** repair and maintenance of defective product so it can be used for its original function **Refurbish or upgrade:** restore an old product to bring it up to date, preserve, upcycle **Re-manufacture:** Use parts of discarded product into a new product with the same function

ACTIVITIES THAT DIVERT WASTE FROM LANDFILL AFTER ITEMS HAVE ENTERED THE WASTE MANAGEMENT PROCESS		
Keeping materials in use/beneficial application of recovered materials to regenerate natural systems		
Keep materials in use and at their highest value	**RECYCLE** Recycling of waste	**Redesign:** design products for material recovery **Support markets for recycled products and recovered materials:** produce, sell or buy products that are recyclable; sell, buy and use recycled content products; identify circular recycling opportunities for use of end-of-life products or materials, at their highest value **Recover:** recover clean end-of-life recyclable material streams through source segregation and separate collections **Repurpose:** use discarded products or its parts in a new product with a different function, at their highest value **Reprocess:** reprocess recyclable materials for use as a secondary raw material for new products, at their highest value
Keep materials in use	**DOWNCYCLE** Downcycling	**Downcycle:** reprocessing of recyclable materials into a lower value form such as glass into road base
Regenerate natural systems	**RECOVER** Recovery of energy and other resources from waste	**Energy recovery from resource recovery:** anaerobic digestion of recovered organic matter to generate biogas with residual digestate for beneficial use in application to land
ACTIVITIES THAT ARE NON-CIRCULAR		
Non-circular	**RECOVER** Recovery of energy and other resources from waste	**One-off use:** one-off use, such as operational use of recovered materials within a waste facilityor landfill **Energy recovery from waste disposal:** for example incineration (including refuse derived fuel); pyrolysis; gasification; landfill gas capture; anaerobic digestion to generate biogas with residual waste disposed to landfill; bioreactor landfill that produces biogas for electricity generation with digestate remaining in landfill cell
	TREAT Treatment of waste to reduce potentially degrading impacts	**Treat:** treatment of waste to reduce potentially degrading impacts **Use of contaminated materials:** recovery and use of materials classified as contaminated for operational reuse within an engineered landfill cell (such as intermediate waste soils as cover)
	DISPOSE Disposal of waste in an environmentally sound manner	**Dispose:** Disposal of waste in an environmentally sound manner

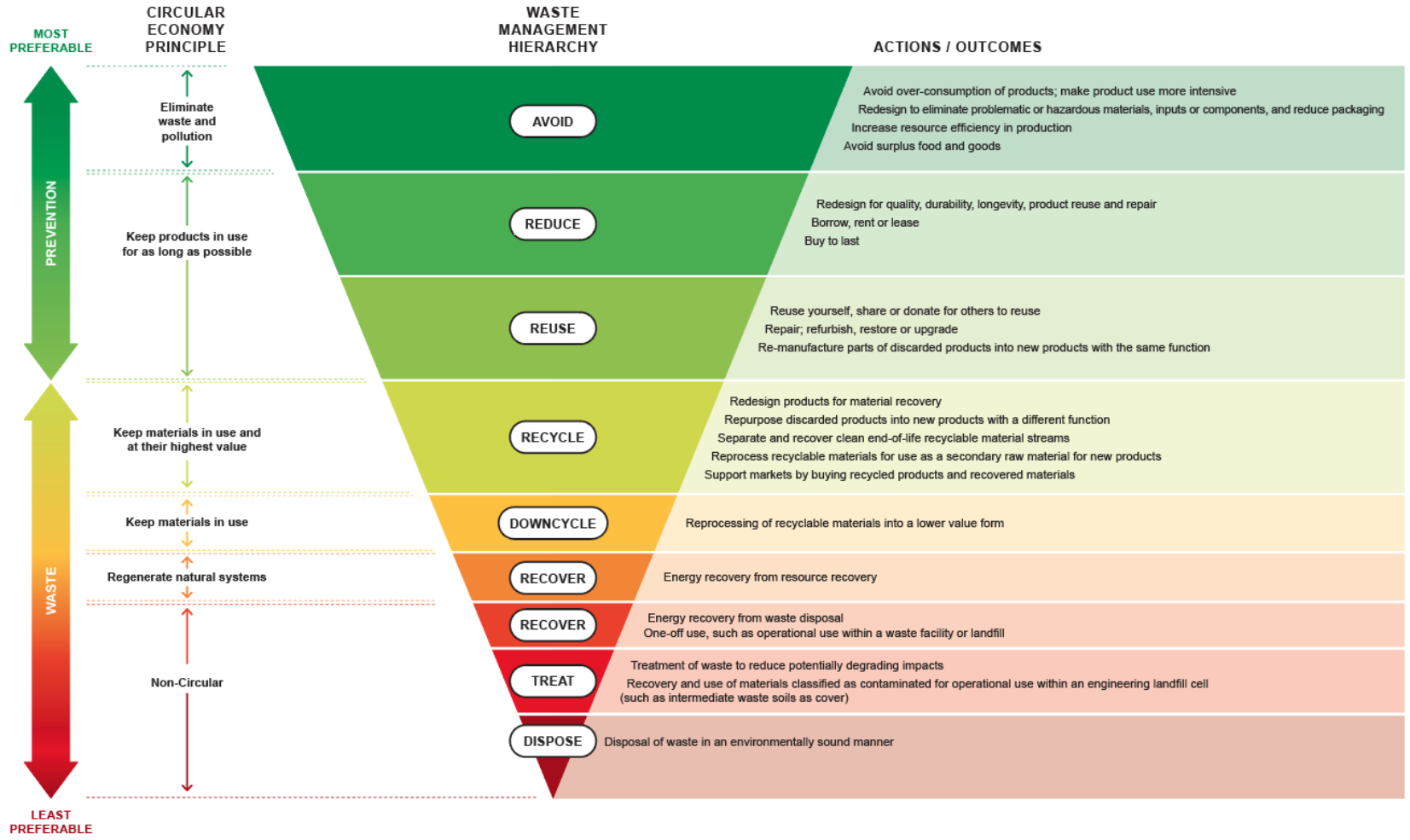


Figure 7 Proposed expanded SA waste management hierarchy

7.3 Managing resources to preserve value

A circular economy seeks to create a closed loop system where resources are kept in use for as long as possible, with their value preserved and waste minimised. In a closed loop, used products come back to the manufacturer and components or materials are used again to produce new products of the same type.

Applying circular economy principles includes recognising that there are various forms of resource recovery, some of which keep resources in use for longer than others and represent a higher value reuse.

For example, in its pure form glass is infinitely recyclable. Glass recycled into further glass products (such as glass bottles recycled into more glass bottles) represents a closed loop of recycling. This is the highest value recycling for glass and is the most preferable in a circular economy.

Glass which is crushed and incorporated into another product such as road base, is considered downcycling. While the road base maybe be recovered and reused again, the glass is no longer recoverable and infinitely recyclable as in closed loop recycling. This hierarchy of recovery is demonstrated in Figure 8.

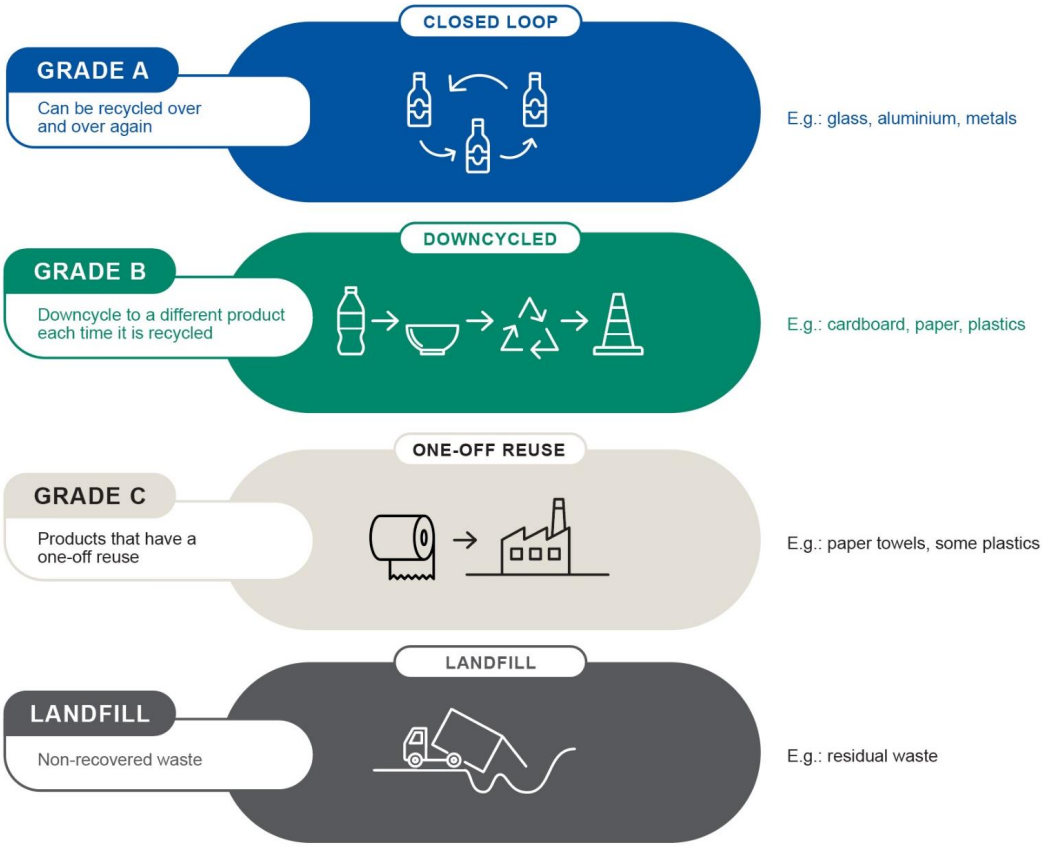


Figure 8 Material grades and flows

The lowest value form of recycling is reprocessing waste or resources into material with only a one-off use, such as when resources are manufactured into fuel for energy production (i.e. refuse derived fuel). In this example, once the fuel is used, the material no longer exists in that form.

Another example is when materials are used on site at landfill depots, such as organics derived from residual municipal solid waste (MSW) for landfill capping. When materials are used operationally, they typically become non-recovered waste (see Fig 8) because they never leave the landfill site and no longer circulate

within the economy. There is a high risk of these options effectively becoming a convenient form of disposal while avoiding the waste levy. This ultimately undermines upstream source segregation and higher value resource recovery. The existing waste management hierarchy reflects this approach in that it places 'reuse of waste' above 'recycling of waste', and 'recycling of waste' above 'recovery of energy and other resources from waste'. However, there is opportunity to provide further detail in the EPP to support clear and consistent regulatory application of these principles across the full waste management process.

For example, source segregation is an important prerequisite to supporting effective closed loop recycling, but application of the existing waste management hierarchy (section 7.2) on its own might not offer sufficient grounds to require source segregation of waste by licensees, or as a prerequisite to approving a resource recovery proposal.

Currently, it is common for resources to be recovered but not used for their highest value reuse. Products are often made of different combinations of material types, and as waste becomes more mixed in nature, the costs of processing the waste to separate out valuable resources increase. This can result in a preference for downcycling which is a process of converting materials into new materials of lesser quality and reduced functionality.

Where further resources are able to be recovered from residual waste and downcycled into products with a legitimate use (preventing landfilling and saving virgin materials which may otherwise be used), this is a positive outcome. However, this should not be performed in preference to source segregation and processing which could result in a higher value reuse. For example, manufacturing mixed glass cullet with no other reuse option into road base is a positive outcome, but not if the practice undermines incentives to source separate glass to recycle back into glass products.

Similarly, once materials have been aggregated for recycling, they should be reused for their most beneficial purpose. There is a risk of materials aggregated for recycling being blended with other waste to dilute contaminants and produce useable low-grade materials, particularly within landfills. For example, in relation to organics, the SA Waste Strategy 2020-2025 identifies a priority action to "restrict use for operational purposes at landfills, organic materials that have been aggregated for recycling" (p.31). This reflects the need to ensure that these recovered materials are used at their highest value, which is to be composted and returned to soil.

Why action is needed

By embedding new circular economy concepts into the EPP, alongside an expanded waste management hierarchy, we can support the ambition of keeping resources in use for as long as possible and preserving their value. This will provide clarity and certainty to businesses about what is required to support achieving the best circular outcomes possible in each situation. It will also enable the EPA to make regulatory decisions which better support the highest value reuse of materials, preventing avoidable downcycling and one-off recovery of resources, and thereby supporting a more circular economy.

Policy options being considered

Consideration is being given to incorporating new concepts into the EPP to give practical effect to circular economy principles in EPA regulatory decision-making, such as:

Highest value reuse

The term 'highest value', (sometimes used interchangeably with 'highest order'), is relative to the waste management hierarchy and applies the second principle of a circular economy – to keep products and materials in use, either as the original intended product, or second to that as components or raw materials for

new products. It relates to material resource efficiency but also the greenhouse gas emissions impact of the intended use or reuse of that product or material.

As outlined above, there are various forms of reuse and recycling, some of which keep resources in use for longer than others. The revised EPP could be amended to reflect this and prescribe an intention for regulatory decisions to support the 'highest value reuse' for materials.

This could enable the EPA to reject proposals where there are other more preferable higher value options available for those materials.

Beneficial use or reuse

Currently the W2R EPP focuses on minimising the risk of environmental harm from a proposed reuse. This is particularly relevant in the application of low-grade waste derived materials to land. However, this may mean that it is only necessary to demonstrate that the material is inert. One way to improve assessment of potential reuse may be to consider whether it has benefit. For example, whether the material is in fact a beneficial growing medium for plants as opposed to a material which is simply inert, if that is the intended use.

In this context, 'beneficial use' or 'beneficial reuse' relates to the outcome being a net environmental benefit, i.e., contributing to environmental sustainability and resource efficiency. It aligns with the circular economy principles of reducing waste and pollution, keeping resources and materials in use and at their highest possible value, and regenerating natural systems and natural capital. It does not refer to economic or financial benefits.

Prevent dilution

There are instances where source separated recovered materials or virgin materials (particularly soil) are blended with mixed wastes in order to dilute contaminants and produce a useable low-grade material.

Section 3.6 of the *Standard for the production and use of Waste Derived Fill* (WDF Standard) states that 'dilution is not a suitable waste management approach and is not supported by the EPA'. However, this concept is not currently prescribed more broadly.

The EPP could be amended to clearly prescribe that dilution of contaminants in order to avoid regulatory controls or legislated requirements is not an accepted waste management approach.

Source separation

The EPP could be amended to support the concept of source separation. This would oblige the EPA to require that low-value reuse proposals (such as the manufacture of fuels for energy from waste production) must only use waste that has already been subject to source separation.

Treatment for resource recovery

Treatment for resource recovery is not a new concept, as the W2R EPP already requires that waste or other matter produced in specified areas be subject to treatment for resource recovery prior to disposal to landfill (clause 11). However, the EPP could be amended to require that low-value reuse proposals (such as the manufacture of fuels from waste for energy production) must only use waste that has already been subject to treatment for resource recovery. This requirement is consistent with current EPA decision-making practices and the EPA Thermal energy from waste (EFW) activities position statement, but its inclusion would provide additional clarity.

QUESTIONS

7.3 Managing resources to preserve value

1 If the concept of highest value use or reuse is defined and incorporated into the EPP to inform decision making, how general or prescriptive should it be, and why? Please explain your reasons.

   a Should a reuse proposal be rejected if there is a higher value reuse option available for that material?

   b What mechanisms should be considered when thinking of maximising higher value reuse of materials?

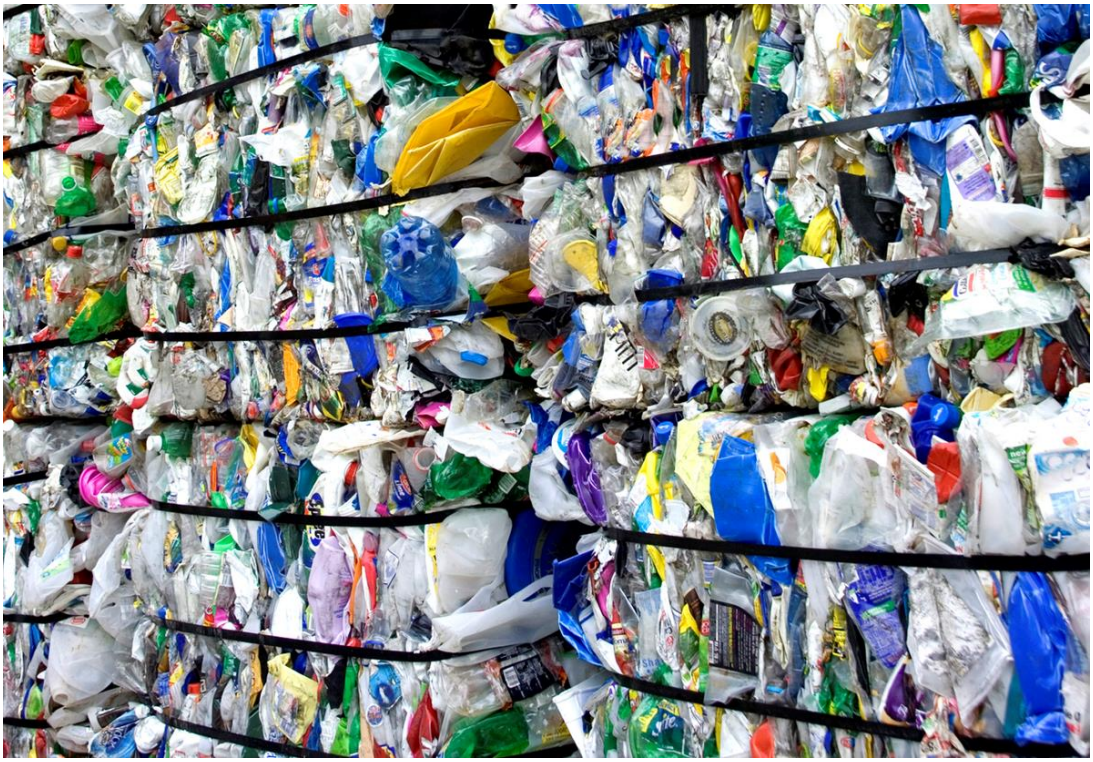
   c How can SA businesses and organisations (e.g., waste food generators and organic processors) contribute to higher value reuse of materials like organics? Should specific regulations or incentives (e.g., waste levy) be mandated to encourage their higher value reuse?

2 Do you agree that proposals to reuse waste derived materials should be required to demonstrate that it is a beneficial and genuine reuse, in addition to not posing a risk of environmental harm or undermining resource recovery markets? Please explain your reasons.

3 If dilution of waste with other materials (source separated recovered materials or virgin materials) is prohibited, are there any situations where diluting waste with other materials should be acceptable, and what are these?

4 If source separation of waste is incorporated into the EPP as a requirement, who should this requirement apply to? Please explain your reasons.

5 What additional concepts could be introduced to support the practical application of circular economy principles?



7.4 Defining waste

How we define waste is pivotal for a number of reasons. Waste needs to be dealt with in certain ways and can pose a risk to both the environment and human health if not managed or disposed of correctly. Making sure that our regulatory regime effectively addresses these matters is a goal of the EPP update. Further to this, as we progress in our transition to a circular economy and aim to keep products and materials in circulation as long as possible through reuse, repair, and recycling, we need to also define the point at which recovered materials within the waste management process are no longer waste, but can be safely reused for beneficial purposes, become a valuable product, or become feedstock material for a new product.

Getting this definition right has implications for the state ambition to become a more circular economy, supporting resource recovery, providing regulatory certainty to support investment, encouraging innovation, and ensuring a consistent and level playing field for industry. It also has implications for waste being treated through the waste management process and the waste management hierarchy and determines when and what the solid waste levy applies to.

Current definitions of waste

Waste is defined in section 4 of the EP Act as:

> … any discarded, dumped, rejected, abandoned, unwanted or surplus matter, whether or not intended for sale or for purification or resource recovery by a separate operation from that which produced the matter, whether or not of value.

Pursuant to section 4 of the EP Act, the definition of waste may be extended or limited by regulation or environment protection policy. As such, clause 4(1) of the W2R EPP declares that certain material is not 'waste' if:

a it constitutes a material that meets specifications or standards published, or approved in writing, by the Authority; or

b in the absence of such a specification or standard, it constitutes a material that is ready and intended for imminent use without the need for further treatment to prevent any environmental harm that might result from such use.

Clause 4(1)(a) of the W2R EPP provides that material ceases to be 'waste' if it meets the requirements of an approved specification or standard which play a critical role in managing potential risks of environmental harm or harm to human health from reuse of waste. In the absence of a relevant standard, material may cease to be waste by virtue of clause 4(1)(b) based on market acceptance and environmental suitability.

Given the changing nature of waste management and resource recovery in SA, and with standards and specifications in place since the W2R EPP commenced in 2010 (e.g., *Standard for the production and use of Waste Derived Fill*), it is timely to review clause 4 and particularly the assessment criteria under clause 4(1)(b) to provide greater certainty regarding the definition of waste and to support circular economy principles.

The assessment of new resource recovery proposals, such as those requiring a new approved standard or specification under clause 4, is increasingly complex and resource intensive for the EPA, with other waste and resource recovery activities potentially cross subsidising the more complex aspects of new resource recovery proposals. Adequate resourcing of this function for the EPA is critical to ensuring effective implementation of the W2R EPP, and any future Circular Economy EPP, in support of SA shifting towards a more circular economy, and in supporting the resource recovery industry in providing timely assessment of new and innovative resource recovery proposals.

Why action is needed

Action is needed to ensure effective application of a risk-based approach to regulating waste, where potential risks to environment and human health are appropriately managed, while also ensuring that the reuse of low-risk waste-derived materials is not hampered by unnecessary regulation.

Policy options being considered

The EPA is looking to establish a risk-based approach to waste regulation where higher risk waste types are regulated and required to meet a standard or specification and the lowest risk waste types are not regulated. Consideration is also being given to whether a cost-recovery model should be adopted by the EPA for the assessment of new resource recovery proposals such as those requiring a new standard or specification under clause 4, to ensure that this important and complex function is adequately resourced.

QUESTIONS

7.4 Defining waste

1 Should waste only cease to be waste if it complies with an approved EPA standard or specification? If so, what would be the benefits and costs of this approach? If not, why?

2 What waste-derived materials are currently in use which do not have an approved EPA standard or specification under clause 4(1)(a) of the W2R EPP?

3 Which wastes or waste materials containing harmful chemicals or contaminants are high risk and should be captured by regulation?

4 What principles, or combination of principles, should be used in determining whether material is waste (aside from when it meets an approved EPA standard or specification)?
For example,
- it is being reused for a purpose consistent with the product or material's original intended purpose
- it is intended for imminent use for beneficial purposes
- it has genuine market value
- there is no potential for environmental harm
- there is no potential for harm to human health

Please explain your reasons.

a How should 'genuine market value' be defined or determined?
b How should 'beneficial use or reuse' be defined or determined?

5 What materials would benefit from greater clarification regarding the status of 'waste'?

6 Should the EPA adopt a cost-recovery model for the assessment of new resource recovery proposals? Please explain your reasons.
a Are there other cost recovery options which could be implemented?
b What barriers might need to be addressed when adopting a cost-recovery model for the assessment of new resource recovery proposals?

Key area 2: Avoiding waste generation

According to the South Australian *Circular Economy Resource Recovery Report 2022–23* (CERR Report), SA generated 5.16 Mt of waste during that year – an increase of 5.7% from 2021–22. This equates to 2,785 kg of waste generated per person, an increase of 4% since the previous year and an increase of 29% since 2003–04. While per capita resource recovery efforts have improved by 72% over this same period, we need to focus more effort on preventing waste from occurring in the first place (Green Industries SA, 2024).

The *National Waste Policy Action Plan 2019* has set a target to reduce total waste generated in Australia by 10% per person by 2030. The current *Waste Strategy 2020–2025* has a target to reduce per capita waste generation by 5% from a 2020 baseline. SA has consistently failed to meet the targets for reducing waste generation set in consecutive SA Waste Strategies[5], having only achieved a 1.4% reduction in per capita waste generation between 2015 and 2020, falling short of the target of 5% reduction from a 2015 baseline. For the current target, we have achieved a reduction of just 0.5% between 2020 and 2023 (Green Industries SA, 2024).

Why action is needed

Avoiding or reducing waste generation is an objective in both state (EP Act) and Commonwealth legislation (*Recycling and Waste Reduction Act 2020*). However, current policies and practices tend to focus on end-of-life management rather than on avoidance of waste generation through prolonging the use of products in their intended form. While resource recovery and recycling are essential parts of a circular economy, we need to give preference to upstream interventions that assist with removing products from the end-of-life pathway. Strategies that extend the lifetime of products help preserve the economic value embedded in products and materials, slow down resource flows, and reduce waste and environmental impacts.

According to the European Commission (2024), up to 80% of a product's environmental impact is determined in the design phase. Ideally, all products, from fast-moving consumer goods to long-term assets, should be designed, accessed, and used in ways that eliminate waste and pollution.

Products need to be designed to maximise the lifespan of the product and for end-of-life management. Currently however, many products are designed for obsolescence rather than for repair, reuse, disassembling and recycling. Additionally, the use of composite or problematic material, including chemicals of concern, in product design limits recyclability and exacerbates the problem.

Packaging is another area that requires change. We need to eliminate unnecessary packaging and ensure that packaging is designed to be recovered, reused, recycled and reprocessed safely. Harmful chemicals and other contaminants in packaging need to be designed out.

The image below, (see Figure 9), was developed by RSA Great Recovery, a UK project that looked at the challenges of waste and the opportunities of a circular economy through the lens of design, recognising that good design plus consideration of the system as a whole, are pivotal in the transition to more circular systems (RSA, 2016a). They identified the different paths a product can take in order to be designed for circularity. This is expressed through the four models in the image, with the order of priority starting with the inner loop (design for longevity) and extending outwards to the fourth loop (design for material recovery).

[5] GISA is responsible for developing SA-wide waste strategies every five years, with the first strategy released in 2011–15.

Figure 9 Four design models for circular economy (source: RSA 2016b)

The *National Waste Policy 2018* sets out five principles, the first being to 'Avoid waste', through the following:

- Prioritise waste avoidance, encourage efficient use, reuse, and repair, and
- Design products so waste is minimised, they are made to last and we can more easily recover materials.

The SA *Waste Strategy 2020–2025* sets out priority actions for waste avoidance including:

- Supporting reuse and repair for further waste avoidance, and
- Promoting design of products and components to increase reparability, durability, upgradability, and recyclability to design out waste.

Reuse and repair

Reuse and repair of products contributes to waste avoidance by extending the life of products and thereby increasing their utility. 'Reuse' refers to the reallocation of products or materials to a new owner or purpose without the need for reprocessing or remanufacturing (but may include repair, maintenance, or cleaning). Examples of these activities include the use of sharing platforms, donations to charities and repair hubs.

'Reuse' is a higher-level activity than 'recycle' on the waste management hierarchy. Policies that support the growing reuse and repair sector will reduce reliance on recycling, divert material from landfill, reduce greenhouse gas emissions, and encourage responsible consumer behaviours. Reuse and repair activities are more labour intensive than recycling or landfill activities and so prioritising reuse and repair activities over recycling and disposal has the added benefit of creating more jobs (Gaia, 2021; Raillard, 2021).

To ensure that products can be reused and repaired, they first need to be designed for durability and repairability. These requirements, among others, can be achieved through mandating product stewardship requirements in regulation.

7.5 Product stewardship requirements

Product stewardship is an approach to environmental protection that promotes a holistic and responsible approach to product management, aiming to minimise environmental impacts, conserve resources, and create a more sustainable and circular economy.

Australia's Product Stewardship Centre of Excellence (2021) explains product stewardship as:

> … a concept and set of approaches based on the idea that those involved in designing, manufacturing and selling products should accept responsibility for ensuring they do not have adverse impacts on the health of humans and environments. This includes impacts across the lifecycle of the products, from the extraction of materials, the way products are used, and how they are managed at End of Life (EoL).

Figure 10 Product stewardship circular economy (source: DCCEEW, 2023b)

Examples of good product stewardship are when companies:

- design their products for easier recycling
- limit the harmful chemicals and other contaminants their products contain
- ensure systems are in place for source separation and collections of recyclable materials
- use more recycled materials and less resources to manufacture their products

Additionally, consumers should be made aware that there are recycling options for the products they use.

At the Environment Ministers Meeting (EMM) on 9 June 2023, Ministers agreed that:

> … for the first time, Australia will mandate obligations for packaging design as part of a new packaging regulatory scheme based on international best practice and make industry responsible for the packaging they place on the market. This scheme will also regulate out harmful chemicals and other contaminants in packaging. To support food waste recycling Ministers agreed that a timeline will be set to remove contaminants from compostable food packaging (DCCEEW, 2023a).

Arising from the EMM on 10 November 2023, it was confirmed that "the Federal government will step up as the new regulator of packaging standards" (DCCEEW, 2023c). Their communiqué stated that:

> Strengthened regulation will drive investment, minimise waste and support circular economy outcomes, industries and jobs. Better packaging design makes it easier to reduce waste, and to reuse, recycle or compost packaging waste. Creating demand for recycled content will also increase recycling rates.

At the June 2023 EMM there was also agreement to progress several approaches including:

> … accelerating product stewardship efforts including by developing a framework to guide interjurisdictional efforts and drive action on problematic products. This framework will support national efforts to regulate packaging, solar panels and electrical equipment and support jurisdictions to progress reform in relation to particular products.

This framework was then agreed upon at the November 2023 EMM.

One of the priority actions under the SA *Waste Strategy 2020–25* is to "advocate for national solutions to problematic wastes such as packaging and hazardous wastes and consider state-based solutions if required" (Green Industries SA, 2020).

Looking to other jurisdictions, NSW has already established a legislative framework to enable the NSW EPA to take action at a state level under the *Plastic Reduction and Circular Economy Act 2021*. The objects of the Act include:

- to promote and support the principles of a circular economy
- to support material circularity through design, production, use, reuse, collection, recycling, reprocessing and end-of-life management
- to ensure responsibility for products across their life cycle.

The Act provides for the NSW Minister to *ban* unnecessary or problematic plastic items, and to prescribe *design standards* for an item for environmental, human health or economic reasons, and lists a number of possible reasons. It also lists what a *design standard* may contain as a requirement, for example the type or amount of materials or substances that must or must not be included in the item, or the way in which the item must be designed, constructed or manufactured[6].

The Act also provides for the Minister to prescribe "a requirement (a *product stewardship requirement*) for the stewardship of the life cycle of a regulated product, including the development, design, creation, production, assembly, supply, use or reuse, recovery, recycling or disposal of the regulated product" and to

[6] See *Plastic Reduction and Circular Economy Act 2021* (NSW), section 8 for more information.

set targets[7]. The Act then sets out a comprehensive list of matters that can be prescribed as a *product stewardship requirement*, such as "the use or re-use of recycled materials", "the longevity of a product", and "the ability of a product to be recycled, composted, repaired, processed, re-processed or re-used", among others.

Policy options being considered

While a national approach to product stewardship is preferable, the NSW legislation sets out a broad framework and establishes powers for the state to take action if required. SA could consider a similar approach to NSW. To be clear, this is not a proposal to establish new state-based product stewardship schemes.

QUESTIONS

7.5 Product stewardship requirements

1 Should SA establish a product stewardship legislative framework to enable action to be taken at the state level for certain products/items? Please explain your reasons.
   - Should these actions include product *bans*, *design standards* and/or *product stewardship requirements*, and why?
   - What specific requirements could be included in a list of potential *product stewardship requirements*?
   - What should be included as a reason for a *design standard*?

2 Is there an alternative approach for action to be taken to address problematic products at the state level, in the absence of a national solution? Please outline.

3 Are there specific problematic items, materials or products (e.g., that contain hazardous materials) that should be considered for regulation at the state level, either through a *ban*, *design standard* or *product stewardship requirement*? Please list and explain why.

Consideration of specific problematic items

If a product stewardship legislative framework were to be established in SA, the following items could be considered for regulation, either through a *ban*, *design standard* or *product stewardship requirement*.

7.5.1 Tethered single–use drink bottle lids

Due to their size and nature, single-use plastic drink bottle lids are often disposed of improperly and, as litter, they pollute our environment. They are also challenging from a material recovery and recycling perspective and can cause contamination in recycling streams.

An option for addressing this is for a *design standard* to be applied to single-use plastic bottles requiring that the lid be tethered to the bottle. Tethered lids for single-use plastic drink bottles are designed with the intention of remaining attached to the bottle.

[7] See *Plastic Reduction and Circular Economy Act 2021* (NSW), section 13 for information about how regulations may prescribe requirements and specify targets.

This will reduce the chance that the lid will be littered and increase the chance that the lid will remain with the bottle during the collection process (via the container deposit scheme or council collected co-mingled recycling kerbside bins) and during the sorting process at the MRF. If the materials used in both the plastic bottle and the lid are designed to facilitate recycling, this would increase the amount of materials that can be both recovered and recycled. When the entire bottle, including the lid, is more likely to be recycled, this promotes the recycling loop and reduces demand for raw materials to produce similar products, thereby supporting the circular economy.

This proposal is in line with the NSW Environment Protection Authority's (NSW EPA) proposal to introduce *design standards* for tethered lids and is aligned with the European Union where this requirement will come into effect in 2024 (NSW EPA, 2023).

QUESTIONS

7.5.1 Product stewardship requirements | Tethered single–use drink bottle lids

1 Should a *design standard* requiring single-use plastic bottles to have tethered lids be considered? Why or why not?

2 Should the *design standard* also require that the materials used in the plastic lid and bottle are designed for recyclability in Australia?

7.5.2 Plastic microbeads

Microbeads are pieces of manufactured plastic less than 5 mm in diameter, that are used in products for a variety of reasons, often for their abrasive or exfoliant properties. They are problematic as they do not degrade or dissolve in water and are not captured by most wastewater treatment systems due to their tiny size. When washed down the drain they can end up in our waterways and oceans. Plastic microbeads persist in the environment and have a harmful effect on marine life, environment, and human health. The most effective way to reduce their impact is to stop them from entering the environment in the first place by preventing their production and supply.

A national voluntary industry phase-out of microbeads commenced in 2016. The Agreed Communiqué from the Environment Ministers Meeting (EMM) on 15 April 2021 identified microbeads in personal health care products as one of eight 'problematic and unnecessary' plastic products types for industry to phase out nationally by 2025 (DCCEEW, 2021). NSW then proceeded to ban the supply of certain rinse-off personal care products containing microbeads from 1 November 2022 under their *Plastic Reduction and Circular Economy Act 2021*. They are now proposing a phase out of plastic microbeads in cleaning products that are washed down the drain (NSW EPA, 2023). This follows Queensland and Western Australia introducing bans on microbeads in cleaning products from 1 September 2023.

SA could follow suit and phase out the use of microbeads in rinse-off personal care products and cleaning products that are washed down the drain.

QUESTIONS

7.5.2 Product stewardship requirements | Plastic microbeads

1 Do you agree that the use of microbeads in rinse-off personal care products and cleaning products that are washed down the drain should be phased out? If not, why not?

2 What would be an appropriate timeframe for *bans* on these products to commence, and why?

7.5.3 Plastic microfibres

Microfibres are tiny pieces of plastic, usually made from polyester or nylon, which make up microfibre products such as cleaning cloths and clothing. Every time these synthetic products are washed, strands of microplastics (less than 5 mm in diameter) in the form of microfibres are released and flushed down the drain. Like microbeads, they do not degrade and end up in our waterways and oceans. They can also contain toxic chemicals that are added to textiles during the manufacturing process.

The use of microfibre filters on washing machines is one option for reducing the amount of microfibres being flushed down the drain. In Australia, the *National Plastics Plan 2021* aims to "work with the textile and whitegoods sectors on an industry-led phase-in of microfibre filters on new residential and commercial washing machines by 1 July 2030". In 2020 France passed a law requiring that all new washing machines be fitted with a microfibre filter by January 2025.

SA could consider a *design standard* requirement for new residential and commercial washing machines sold in SA to be fitted with a microfibre filter.

QUESTIONS

7.5.3 Product stewardship requirements | Plastic microfibres

1 Should there be a *design standard* for new residential and commercial washing machines that are sold in SA requiring that they be fitted with a microfibre filter? Why or why not?

7.5.4 CCA treated timber posts

One problematic waste type which may be considered for a product stewardship regulatory approach is timber treated with copper chromium arsenic solution (CCA; commonly known as 'permapine'). Several industries within SA – particularly viticulture, but also building and aquaculture – use CCA treated timber. An economically and environmentally sound disposal technology for this waste timber is currently not available in SA and with growing quantities of CCA timber waste being generated, stockpiles of these timber posts have developed.

As detailed in the *EPA Waste management guideline for CCA timber waste*, when CCA treated timber becomes wet it can produce a leachate that contains the heavy metals arsenic (As), chromium (Cr) and copper (Cu). Stockpiling CCA treated timber may increase the potential for leachate to contaminate soils and groundwater. Stockpiling also poses a fire risk and combustion of CCA timber releases toxic gases and toxic residual ash. Currently, the EPA recommends that sites generating CCA timber waste should develop site-specific waste management plans to ensure that it is managed safely and appropriately (SA EPA, 2016).

To address these issues, a restriction on the use of CCA treated timber in SA could be considered. A restriction would likely apply to the use of CCA timber in viticulture only, allowing CCA timber to continue to be used for other outdoor uses such as telegraph poles, fencing, landscaping and other domestic uses. This could be done through the issuing of an approval or through a Standard which restricts who can use CCA treated timber. Another option could be to impose a *product stewardship requirement* for the producers of CCA treated timber to develop solutions to address the end-of-life stage of their products in order to prevent environmental harm.

QUESTIONS

7.5.4 Product stewardship requirements | CCA treated timber posts

1 Should the use of CCA treated timber be restricted or regulated? If so, should this apply to viticulture only or to other uses also? Please explain your reasons.

2 Should producers of CCA treated timber be required to develop solutions to address the end-of-life stage of their products in order to prevent environmental harm? Please explain your reasons.

7.5.5 Liquid paperboard beverage containers

Waste management providers have identified that there is currently a lack of options for recycling liquid paperboard beverage containers (both aluminium-lined and non aluminium-lined) in SA. Non aluminium-lined liquid paperboard containers are manufactured from paperboard with layers of plastic and are used to package fresh beverages and foods. Aluminium-lined liquid paperboard containers have an additional layer of aluminium foil and are used for long-life products such as long-life milk. The aluminium-lined material has limited reprocessing options and waste management providers are mostly disposing of it to landfill. The non aluminium-lined material also has limited reprocessing options.

For this reason, some states (e.g., Tasmania) and some councils in Western Australia and Victoria advise their residents to place the aluminium-lined containers directly in kerbside general waste bins and not the recycling bin. Others are not publicly communicating that the containers are being separated out at material recycling facilities for disposal to landfill. In SA there appears to be mixed messaging on this matter.

It is noted that brand owner Tetra Pak (producers of aluminium-lined liquid paperboard cartons) has funded the development of a purpose-built facility in NSW that receives end-of-life products such as Tetra Pak and other liquid paperboard, for recycling into building materials or paper and cardboard products such as boxes, paper towels and tissues (Tetra Pak, 2022).

While the recycling pathway for liquid paperboard beverage container waste that is generated in SA is limited, a *product stewardship requirement* that requires these products to be more easily recycled could be considered.

QUESTIONS

7.5.5 Product stewardship requirements | Liquid paperboard beverage containers

1 While there are limited pathways for liquid paperboard beverage container waste generated in SA to be recycled, should these containers be subject to a *product stewardship requirement* to ensure they are more easily recycled and more circular? Please explain your reasons.

7.6 Edible food donations

Food waste is a significant issue in SA, as it is in many parts of the world. The United Nations Environment Programme's (UNEP) Food Waste Index ranks Australia as the 10th most wasteful country in the world (UNEP, 2021). Nationwide, we waste 7.6 million tonnes of food every year at a cost of $36.6 billion per year to the economy (Food Innovation Australia Limited [FIAL], 2021).

The problem of food waste arises at various stages of the food supply chain, including production, processing, distribution, and consumption. Through the food supply chain including manufacturing, distribution, wholesale and retail, 2.06 million tonnes of food are wasted. An additional 1.47 million tonnes of

food waste are generated by the hospitality sector and institutions (FIAL, 2021, pg12). At the same time, according to the *Foodbank Hunger Report 2023*, 3.7 million households in Australia experienced moderate to severe food insecurity in 2023, representing 35% of the population (Food Bank, 2023). The report found that in SA, the level of food security has decreased from 71% in 2022 to 63% in 2023, exacerbated by increased cost of living pressures.

Adopting an edible food donation policy will ensure that unsold edible food from sections of the commercial and industrial sector is being used at its highest value use, which is to feed those in need. Food donated for redistribution delivers a social return on investment of $23 per kilogram. For every tonne (1,000 kg) of food that is not wasted to landfill, the equivalent of 2.1 tonnes of CO_2 emissions is avoided (DCCEEW, 2023d).

Looking at how this issue is being addressed elsewhere, France was the first jurisdiction to pass food donation legislation. From 2017 supermarkets in France with a floor size of at least 400 m^2 have been required to establish contracts with charitable organisations to donate their surplus unsold edible food for redistribution. A lesson can be taken from France's experience of this new law, which saw the creation of an issue of oversupply to the food charities who were not initially equipped to deal with the additional donations. Ensuring that the necessary infrastructure and logistical arrangements are in place to support this type of legislative requirement is essential.

In 2016, in an effort to reduce emissions of short-lived climate pollutants, Californian legislation *SB 1383: State Organics Law* established goals to reduce the amount of compost materials disposed to landfills by 75% by 2025 and to rescue at least 20% of edible food currently disposed for human consumption by 2025 (CalRecycle, 2024a). Commencing in January 2022, this law requires some food service businesses to donate the maximum amount of edible food they would otherwise dispose, to food recovery organisations. The businesses captured include those who typically have more produce, fresh grocery, and shelf-stable foods to donate, specifically wholesale food vendors, food service providers, food distributors and grocery stores and supermarkets with a floor space of over 10,000 square feet (929 m^2). Commencing on 1 January 2024, this requirement extends to additional businesses of certain sizes, including hotels, restaurants, health facilities, state agency cafeterias, large venues and events, and local education agencies with on-site food facilities (CalRecycle, 2024b).

For the Californian legislation, edible food is defined as "food intended for people to eat, including food not sold because of appearance, age, freshness, grade, size, surplus" and includes (but not limited to) "prepared foods, packaged foods and produce" (CalRecycle, 2024c). Food donations must meet the relevant food safety requirements.

Closer to home, the NSW EPA has proposed to mandate that large supermarkets report on surplus food donations to food rescue organisations from 1 July 2025 (NSW EPA, 2021; 2024b).

Policy options being considered

Consideration is being given to preventing certain businesses from disposing of unsold edible food and requiring that these businesses instead donate these foods to food rescue charities. Edible food and beverages from manufacturing and production, including mislabelled products and product overruns, which are suitable for food donation could also be captured.

Note that food that is not suitable for donation or surplus to a charity's needs would need to be redirected for animal feed or source segregated for food waste collection.

The businesses captured by this requirement could be identified by various criteria (or a combination of), such as:

- Businesses that generate over a certain threshold amount of food waste (e.g., large supermarkets)
- Business type (e.g., food manufacturers or food retailers)
- Business floor plan size (e.g., supermarkets exceeding 400 m^2)
- Location (e.g., Metropolitan Adelaide or major regional centres).

In addition to which businesses this requirement would apply to, how we define 'unsold edible food', i.e., what is included and what is not included, is also important to determine. Commencement of this requirement could be set at a date that would enable the necessary supporting systems, agreements, infrastructure, and capacity to be established.

QUESTIONS

7.6 Edible food donations

1 Do you agree that food waste generating businesses should be required to donate unsold edible food to food rescue charities or recipient agencies? If not, please outline why.

2 What criteria should be used to determine which businesses this would apply to?

- a Business type: what type of food waste generating businesses should be captured?
- b Businesses that generate over a certain threshold amount of food waste: what should this threshold be and should this threshold be reduced over time to capture additional food waste generating businesses?
- c Business floor plan size: should this apply only to businesses over a certain size?
- d Location: what areas should this requirement cover, (i.e., metropolitan Adelaide, regional centres, all regional areas) and why?
- e Other criteria: what else should be considered?

3 What is the optimal timeframe for this proposed requirement to commence and why?

4 How should 'unsold edible food' be defined? In other words, what edible foods should be included or not included in this proposed requirement?

5 What would be the implications for current food rescue models arising from the implementation of a mandatory food donation policy?

6 What is the extent that existing systems, infrastructure, and capacity would need to change to enable businesses and charities to implement an unsold edible food donation policy?

7 What are the opportunities arising from this proposed policy?

8 What are the challenges or barriers for this proposed policy and how can these be addressed?

9 What needs to be in place to support the success of this proposed policy?

10 Do you have alternative views on how unsold edible food may best be redirected?

Key area 3: Maximising resource recovery

The review of the W2R EPP seeks to promote waste management and resource recovery practices which support a circular economy, where resources are kept in use for as long as possible with their value preserved and where waste is minimised. This includes managing resources in a manner that supports highest value reuse and recycling, for example, through source separation of material types to enable closed loop recycling (i.e., recycling glass products back into glass products). Where possible, closed loop recycling should be supported over downcycling, where materials are recycled into a low value mixed product with limited use over time. See section 7.3 - Managing resources to preserve value for an explanation of the concepts of source separation, closed loop recycling and downcycling.

While SA has long been a leader in resource recovery, there is more that can be done to improve our recycling rates and resource efficiency and ultimately reduce our impact on the environment.

Circular Economy Resource Recovery Report 2022–23

The *Circular Economy Resource Recovery Report 2022–23* produced by Green Industries SA (GISA), presents the findings from a survey of SA's resource recovery sector for the 2022–23 financial year. The report includes data on reuse, recycling, and energy recovery, as well as the environmental, social and financial benefits that the sector provides. The data measures SA's waste generation, landfill diversion and resource recovery, including progress against targets defined in South Australia's *Waste Strategy 2020–2025*. Progress against the targets is set out in the table below.

Table 3 **Summary of state waste targets and progress achieved in 2022–23**
(source: adapted from CERR Report, Green Industries SA, 2024)

Topic	Target	Progress
Landfill diversion	Zero avoidable waste to landfill by 2030	SA disposed about 914 kt of waste to landfill in 2022-23, an increase from 885 kt in 2021-22.
Waste generation	5% reduction in waste generation per capita from a 2020 baseline	Waste generation per capita showed a 4% increase in 2022-23 compared to 2021-22. The long-term trend is downward.
Metropolitan diversion	Diversion by 2023:	Diversion rates achieved by metropolitan SA in 2022-23:
	MSW 65%	MSW 62%
	C&I 85%	C&I 76%
	C&D 90%	C&D 97%

This data shows that more needs to be done to improve diversion rates for the municipal solid waste (MSW) and commercial and industrial (C&I) waste streams, in order to meet the diversion targets as set in the South Australian *Waste Strategy 2020–2025*.

The SANKEY diagram (Figure 11), adapted from the CERR Report, depicts the flow of SA's recovered resources by waste stream and material stream, the volumes of each and the destination for processing of these resources.

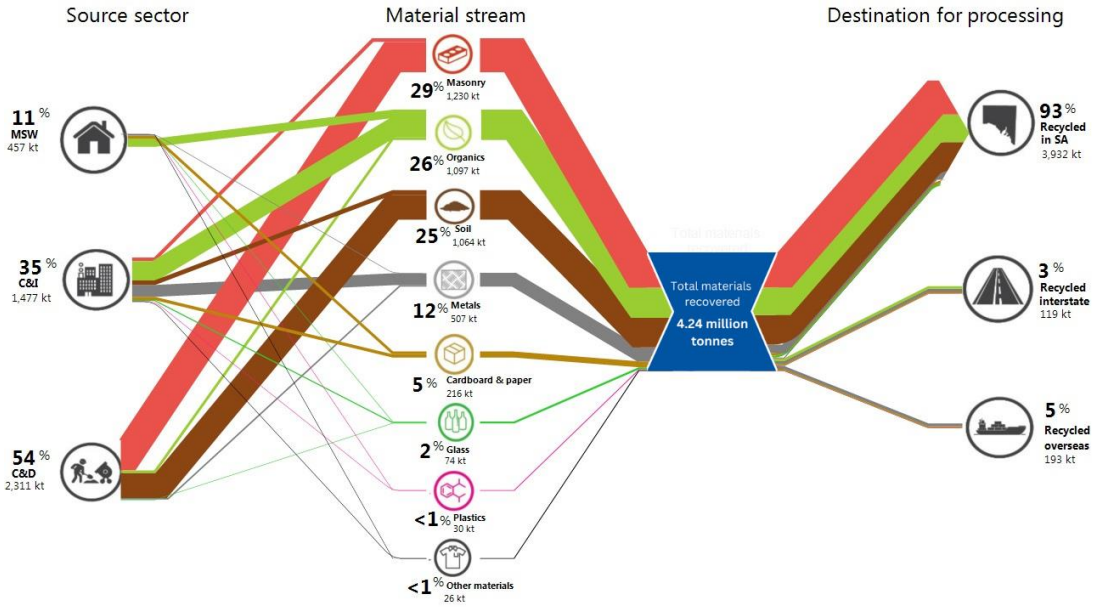


Figure 11 Resource recovery, including energy recovery, in SA during 2022–23, by material, source stream and destination, not including e-waste or material reused
(source: adapted from CERR Report, Green Industries SA, 2024)

The report identified that SA recovered about 4.24 million tonnes of material in 2022–23 from an estimated 5.16 million tonnes of waste generated, equating to 82.3% recovery rate of all materials (up from 81.9% in 2021–22). Disposal to landfill increased with 914,000 tonnes of waste landfilled in 2022–23 compared to 885,000 tonnes in 2021–22.

The table below shows the rates of recovery and disposal to landfill by source waste stream in 2022–23 according to the CERR Report. The report shows that the estimated recovery rate for construction and demolition (C&D) waste was the highest in 2022–23 at 97%, followed by C&I at 75% then MSW at 57%, bringing the total recovery rate for 2022–23 to 82%.

Table 4 South Australian recovery and landfill disposal by source stream in 2022–23
(source: adapted from CERR Report, Green Industries SA, 2024)

Sector	Recovery		Landfill disposal		Recovery rate
	kt	% of total	kt	% of total	
MSW	457	11%	347	38%	57%
C&I	1,476	35%	494	54%	75%
C&D	2,311	54%	73	8%	97%
Total	**4,244**	-	**914**	-	**82%**

A new partitioning method of the landfill split by waste streams was used to determine these results. The method is based on the findings of an audit conducted at several C&I transfer stations in 2022 in which materials were weighed to determine waste composition and tonnages. The EPA mass balance reporting data supplemented these results to produce a more accurate method than the previous model, which used an older landfill audit that relied on volumetric estimates and assumed densities.

Mass balance reporting

Since 2021, waste depots that receive over 20,000 tonnes of waste per annum have been required to report mass balance data to the EPA. Mass balance reporting monitors the movement of waste (material flows) to and from waste depots throughout the state, and tracks stockpiling of materials. While mass balance data captures only 15% of EPA licensed waste depots, it represents 77% of total tonnages of the material flows across SA. The additional 23% of tonnages from the waste depots that are not required to report is calculated based on estimated tonnages relating to each waste depot's licensed activity level. The mandatory reporting requirements, coupled with the data analytics, ensure that this data is rigorous.

Mass balance data shows that the average landfill diversion rate for the 2022–23 financial year was 81%. Within the 81% diverted from landfill, 59% comprised recovered resources while the remaining 22% was allocated equally for waste depot operational use on-site (11%) and stockpiling[8] (11%). Of the 59% of the recovered resources, 55% was recycled and 4% was used for energy from waste (i.e., refuse derived fuel) purposes. Furthermore, 78% of the 11% of materials used operationally during this financial period were used for capping or interim cover within landfill cells.

Although mass balance data indicates that stockpiling across the industry remains stable, there is a large volume of material stockpiled across the industry, with 5.03 million tonnes of material currently stockpiled. The majority of the stockpiled material is from the C&D waste stream, with 58% of all material stockpiled being waste fill (i.e., clean soil).

Table 5 South Australian resource recovery and landfill disposal, mass balance data 2022–23

Material fate	% of total
Disposed to landfill	19%
Recycled	55%
Incinerated for energy from waste	4%
Used onsite for operational use	11%
Stockpiled	11 %

Currently mass balance reporting requirements do not provide a breakdown by waste stream or material type for waste disposed to landfill. This additional information, if required, would give more rigour to reporting on the end fates of the different waste streams and provide useful data to better understand material flow. This is discussed further under section 7.15.

[8] It is important to note that stockpiling is interim and not indicative of end fates of materials.

Circular Economy Resource Recovery Report data and mass balance data

While the data from the CERR Report and mass balance reporting show recovery (i.e., diversion from landfill) rates of 82% and 81% respectively for the 2022–23 year, it is important to note that the mass balance data figure includes resources that are incinerated for energy recovery, resources that are used for operational use on-site by waste depots, as well as resources that are stockpiled[9]. What remains after these are deducted is the percentage of the recovered resources that are sent for recycling and reprocessing. It is these materials that continue to circulate in the economy and contribute to a growing circular economy.

It should be noted that the 2022–23 CERR Report has incorporated the mass balance data collected by the EPA in addition to other data sources, which has provided a fuller picture of SA's waste and resource recovery. If the provision of MSW data from local government were to be a mandatory requirement rather than being provided on a voluntary basis to GISA as it currently is, this would lead to further improvements in data collection and subsequent reporting back on waste and resource recovery trends and outcomes in SA. This is discussed further in section 7.16.

Why action is needed

In a circular economy, waste is seen as leakage from the economy. To stop this leakage and prevent valuable recyclable materials ending up in landfill or used for a lower value purpose, we need to improve the way we sort, segregate, collect and process waste and recyclable materials.

Source separation

We know that source separation (the separation of waste as close as possible to the point of generation), results in higher-quality recovered resources than a single bin system that relies on downstream processing technology to subsequently separate out the various materials. Ensuring that we have clean, source separated feedstock across all waste streams will mean that we can deliver uncontaminated feedstock for high-value recycling.

The challenges and opportunities to address this goal are explored further below for two waste and recycling streams – MSW and C&I – with a separate section on food waste.

Contamination

When people and businesses dispose of waste or materials in the wrong bin, less resources are recovered. Additionally, materials being diverted for recycling or composting can become contaminated and more waste is sent to landfill than is necessary. When recyclable and organic materials become contaminated, this impacts the quality of the feedstock and potentially how it can be used. Contamination is an issue for co-mingled recycling bins as well as organics bins, imposing additional processing costs on the receiving materials recovery facilities (MRFs) and composting facilities and their customers, impacting on the quality of the recovered materials and subsequent value of output products. Significant contamination can lead to recyclables being disposed to landfill.

[9] Note that CERR Report data excludes some resources that are used for operational purposes within landfills (consistent with methodology used in the National Waste Report), where mass balance data includes these.

What is happening elsewhere?

Australia

In New South Wales, it is proposed that councils provide food and garden organics kerbside collection services to all households from 1 July 2030 (NSW EPA, 2021; 2024b). Additionally, large food waste generating business will be required to source separate food waste for recycling from 1 July 2025 (NSW EPA, 2024a; 2024b).

Mandatory separation of commonly recyclable materials and organic waste is also planned for Victoria, through *Recycling Victoria: A new economy*, where new rules are expected to come into effect by 2025 for businesses that are not eligible for kerbside collection systems (Department of Environment, Land, Water and Planning, 2020).

In late 2023 the Australian Capital Territory (ACT) passed the *Circular Economy Act 2023*. This new legalisation provides for a regulation to be made requiring businesses to reduce the amount of waste they produce through preparing a plan to reduce waste, keeping records, and reporting on compliance with the waste reduction plan. It also provides for a regulation to be made for businesses to sort their waste and dispose of it in a stated way.

The regulations, which are currently going through public consultation, will prevent businesses from disposing recyclable waste produced by the business to landfill. It lists recyclable waste as aluminium cans, trays, and foil; cardboard; glass bottles and jars; liquid paperboard cartons; paper; rigid plastic bottles and containers with lids removed; and steel cans.

The draft regulation also prevents food waste produced by food businesses from being disposed to landfill. Additionally, the regulation includes a requirement for food businesses to prepare a waste reduction plan that identifies where food waste is produced, how much is wasted, ways to reduce the waste and to monitor the effectiveness of the plan and to regularly review and update it if necessary. Food businesses are defined as supermarkets, cafes or restaurants, clubs, hotels, or bars that sell food and businesses that sell takeaway food but excluding businesses conducted by not-for-profit entities or volunteers.

Europe

Scotland's *Waste (Scotland) Regulations (2012)* require every business operating in Scotland to separate their waste for recycling. Food businesses are required to ensure the separate collection of food waste produced by the business. The law initially excluded business that produced less than 50 kg of food waste per week for the first two years after it commenced (2014–15). In 2016 the second phase commenced, and the threshold was reduced from 50 kg to 5 kg per week. By capturing additional food waste generators this has increased the recycling of food waste. The *Landfill (Scotland) Regulations 2003* were also amended to prohibit the acceptance of 'biodegradable municipal waste' at landfills, as of 2021.

Ireland's *Waste Management (Food Waste) Regulations 2009*, which commenced in 2010, require all major producers of food waste to source segregate food waste generated on their premises, prevent contamination, and ensure it is collected and sent for recycling by composting (or another approved recycling process) or treated on site in an authorised composting unit. These regulations impose obligations on the "shops, supermarkets, public houses, state buildings, restaurants, cafés, bistros, wine bars, hot food outlets, canteens in office buildings, hotels, B&Bs, guest houses, hospitals, nursing homes, schools, colleges, train stations, marinas, and airports" (FoodWaste.ie, 2012). Businesses that produce less than 50 kg of food waste per week can seek an exemption from these requirements.

In Wales, from April 2024, all businesses, charities, and public sector organisations are required to sort their waste for recycling (Welsh Government, 2024). The following materials are required to be separated for collection, collected separately, and kept separate from each other and not subsequently mixed:

- food – for any premises that produce more than 5 kg of food waste a week
- paper and card
- glass
- metal, plastic and cartons
- unsold textiles
- unsold small waste electrical and electronic equipment.

This is coupled with a ban on sending food waste to sewer, wood waste to landfill, and separately collected waste going to incineration and landfill.

North America

In Canada, the City of Vancouver and the Metro Vancouver Regional District have banned food scraps from disposal as garbage since 2015. All food scraps need to be recycled and businesses must have a food waste diversion plan. The amended law required each county and city to prepare and submit to the department a countywide integrated waste management plan.

In the USA, a number of states have enacted food waste regulation. In Connecticut, covered food waste generators including supermarkets, resorts, conference centres, commercial food wholesalers and distributors, industrial food manufacturers or processors must separate and divert food waste to an organic processing facility if they are within 20 miles (32 km) of a facility and generate over 104 tonnes per year of food waste.

Vermont set up the same scheme in 2014 (104 tonnes per year and within 20 miles of an organic processing facility) but reduced the threshold to 52 tonnes per year in July 2015 with further reductions each year until 2020, when all food waste had to be separated.

In Massachusetts, 'commercial organic material' is banned from entering solid waste disposal streams. Food waste generating entities (other than households) that generate more than 1 tonne of food and vegetative material waste a week must either donate, process on site, or send the waste to compost, anaerobic digestion, or animal feed facilities.

Since 2016, Californian law *AB 1826: Mandatory Commercial Organics* required businesses that generated more than 8 cubic yards (4.2 m^3) of organic waste per week to arrange for organic waste recycling services. This reduced to 4 cubic yards (2.1 m^3) in 2017, then from 2019, businesses that generated 4 cubic yards or more of solid waste per week were also required to arrange for organic waste recycling services*. In 2016, in an effort to reduce emissions of short-lived climate pollutants, Californian legislation *SB 1383: State Organics Law* established goals to reduce the amount of compost materials disposed to landfills by 75% by 2025 and to rescue at least 20% of edible food currently disposed for human consumption by 2025 (CalRecycle, 2024a). This law commenced in 2022 and requires the provision of organic waste collection services to all residents and businesses and for the recycling of these organic materials.

* Assembly Bill No. 1826, an Act to add Chapter 12.9 to Part 3 of Division 30 of the Public Resources Code, relating to solid waste.

7.7 Municipal solid waste

In 2022–23 South Australian households generated a total of 697,000 tonnes of waste for kerbside collection by local government, with 535,000 tonnes of this being generated in the Adelaide metropolitan area out of which 53.6% was recovered, while in regional SA the rate was 43.6%, adding up to a total recovery rate of 51.2%. Breaking this down by materials saw 32.7% organics and 18.5% recyclables recovered, with 48.8% being disposed to landfill.

Table 6 **Materials collected from household at kerbside and recovery rate in 2022–23**
(source: adapted from CERR Report, Green Industries SA, 2024)

Region	Collected at kerbside (kt)				Recovery rate (%)
	Residual	Recycling	Organics	Total	
Metro	248	100	187	535	53.6%
Regional	91	30	41	162	43.6%
SA	340	129	228	697	51.2%

There are many factors that influence both waste generation and recovery rates, including economics, location and type of residence, weather, demographics, household awareness/education, consumption trends and behaviours as well as kerbside bin services.

The *Local Government Act 1999* requires South Australian councils to provide services to residents such as household waste and recycling collection and disposal services. Some South Australian councils have established waste management authorities to provide these services, while others provide these services directly or through private waste contractors.

According to the CERR Report 2022–23, about 99% of South Australian households live in a council area that provides a general waste bin service, 97% have a recycling service and 91% have an organics service.

In metropolitan Adelaide, 94% of households have a three-bin system (general waste, co-mingled recyclables, and organics). All 19 metropolitan councils offer a three-bin service, however three of these only provide an organics bin on request and one council provides an organics bin to around two-thirds of its households (mostly Adelaide Hills township households).

Waste collection in regional SA is more variable. Approximately half of the councils offer a three-bin service with many offering this service only to townships. While there is reasonable consistency for a large percentage of the population, different models of kerbside services can impact on people's waste and recycling disposal. Having a consistent three-bin system will provide more familiarity and convenience for households which can help improve how they separate their waste and recyclables and place them into the correct bins for kerbside collection.

Food waste

In Australia 30% of food waste is generated in the home. In other words, one in five bags of household groceries are discarded. This equates to 2.5 million tonnes per annum, costing the economy $319.3 billion and the average household $2,000–2,500 per year (Australian Bureau of Statistics [ABS], 2017). Sadly, 70% of wasted food is still edible (FIAL, 2021).

Despite our efforts in SA to recycle food waste via food organics and garden organics (FOGO) waste collection services, it is estimated that 230,000 tonnes of food organics are still disposed to landfill each year (Green Industries SA, 2021a). In metropolitan Adelaide, waste audits of municipal solid waste have shown that 40% of the waste sent to landfill by households is food waste. Across the state, an average of 11% of household food waste is recovered through organics kerbside collection bins with an average rate of diversion from landfill for organics of 54% (Green Industries SA, 2021b).

SA's Waste Strategy 2020–2025 sets targets for diversion from landfill, including a target of 75% diversion for MSW (70% from household bin systems) and 90% diversion from C&I streams by 2025. The *Food Waste Strategy, Valuing our Food Waste – South Australia's strategy to reduce and divert household and business food waste 2020–2025* details the food waste prevention and diversion actions required to enable these targets to be achieved.

Recognising the environmental impact, Australia has pledged its commitment to the United Nations Sustainable Development Goal of reducing global food waste generation by 50% at the retail and consumer levels. Efforts to reduce food waste not only help address environmental concerns but also contribute to mitigating greenhouse gas emissions. Food waste sent to landfill is responsible for 3% of Australia's emissions annually, excluding the embodied energy and resources from the production of the wasted food (DCCEEW, 2024). Every kilogram wasted generates the equivalent of 2.1 kg in CO_2 emissions (DCCEEW, 2023d). By preventing food waste and diverting it from landfill through strategies such as food rescue and redistribution, as well as recovery through source segregated systems for composting, the associated greenhouse gas emissions can be significantly reduced. For example, if 70% of household food waste currently sent to landfill was diverted, it would realise over 100,000 tonnes CO_2-e reductions annually ongoing.

There are also economic benefits to be gained from diverting food waste away from landfill. Sending food waste to composting facilities creates an additional 6.1 full-time equivalent jobs per 10,000 tonnes of waste compared to landfill. By taking action to reduce food waste generated and recover unavoidable food waste for return back into the food production cycle and to regenerate soils, SA has the opportunity to continue to lead nationally in organics management, recovery and processing to market standards.

Applying the waste management hierarchy and circular economy principles, to ensure that food is used at its highest value, the first preferred reuse is for surplus edible food to be donated to food rescue charities so that it can be redistributed to those in need. This is addressed in section 7.6.

Second to this is for food waste to be recovered and used as animal feed or sent for composting to eventually return to and regenerate soil. This requires the management and separation of food waste at its source, to prevent contamination and ensure a high quality recycled organic end product.

These actions will help deliver the highest value outcomes for food waste.

Multi–unit dwellings

Waste segregation and collections from multi-unit dwellings (MUDs) can be problematic where the necessary waste management infrastructure and/or access for conventional waste collection compactor vehicles is inadequate. Ideally all new MUD constructions should provide the necessary infrastructure and space for the sorting, segregation and collection of co-mingled recyclables, organics and general waste. Providing these services and making it convenient for residents to sort and segregate their waste is essential. This requires consideration at the design stage and through planning and development approval processes, which is governed by the Planning and Design Code under the *Planning, Development and Infrastructure Act 2016*. Where developments have not included adequate planning and implementation of effective waste and recycling segregation and collection systems, long-term management and cost impacts for councils and residents arise.

Regional resource recovery and waste management

Under the SA *Waste Strategy 2020-2025*, the 2023 target for non-metropolitan waste was for regional waste management plans to be in place for all regional local government areas and/or regional city clusters, and the setting of regionally appropriate and progressive waste diversion targets. According to the 2020 *Regional SA Waste and Resource Recovery Background Report* prepared for the Legatus Group (Central Local Government Region regional subsidiary which represents 15 member councils), there are some common challenges facing regional councils. These challenges include the size of their council areas; distances to processing, disposal and markets; high transport costs; and high disposal and processing costs due to low volumes of materials (Rawtec, 2020). Contamination in co-mingled recycling and organics bins, illegal dumping and the informal management of waste on properties are also issues. Problematic wastes arising from agricultural sources such as CCA treated timber posts and plastic wrap, are another challenge.

Opportunities for regional councils include developing regional resource recovery infrastructure, including composting capability, arising from improved recovery and collections of organics waste, and upgrading transfer stations and resource recovery facilities to deliver increased source separation and efficiency for managing materials.

Resource recovery and waste management in remote Aboriginal and unincorporated outback communities

Waste and resource recovery services in the unincorporated or out-of-council areas of SA face a range of unique challenges due to a number of factors. A common factor is their remoteness, which when coupled with a lack of local waste and resource recovery infrastructure and capacity, means that if recyclable

materials are collected locally, they need to be transported long distances to an appropriate resource recovery facility. This creates significant transport costs (and greenhouse gas emissions) for materials that may have low commercial value as well as challenging end markets (e.g., tyre waste). Even for materials with higher commercial value (e.g., metals) or for hazardous wastes that are required to be managed in a particular way (e.g., asbestos), the challenging road conditions pose difficulties for waste transporters. Finite funding and resources for waste and resource recovery services and programs are also common factors.

CASE STUDY - City of Holdfast Bay

In July 2022, following a trial of 1,000 households, the City of Holdfast Bay changed their default residential kerbside waste collection schedule to a weekly organics collection with fortnightly general waste collection and fortnightly recycling collection (on alternate weeks). To ensure compliance with the W2R EPP, the City of Holdfast Bay allows residents to opt out of the new sustainable kerbside service model and retain the old service model of weekly general waste collection with organics and recycling collections on alternate fortnights.

A council-wide kerbside audit conducted in May 2023 showed that the new sustainable service model is achieving 83% diversion from landfill compared to the old service which is achieving only 50% diversion from landfill (Rawtec, 2023). Council-wide, this equates to a diversion rate of 69%. Compared to their 2021 audit, which showed a landfill diversion rate of 60%, the 2023 result is a significant improvement.

Contamination rates of organics bins has remained at acceptable levels across the three audit groups (1% to 3%). It was also found that very little organics contaminated the co-mingled recycling bins across the three residential groups, indicating that the change in the organics bin collection frequency would not impact the composition of the co-mingled recycling bins.

The 2023 audit also found that the general waste bins of all three groups had high proportions of unrecovered resources (52% to 66%) with most of this being suitable for the organics bin. However, a comparison between the proportions of loose food placed in the general waste bins showed that the 'Old Service' had 22% loose food and multi-unit dwellings had 21%, whereas the new 'Sustainable Service' had only 14%.

Why action is needed

South Australia's kerbside performance demonstrates that a step-change is needed to achieve the *Waste Strategy 2020–2025* target of 70% diversion by 2025 for MSW household bin systems in Metropolitan Adelaide, zero avoidable waste to landfill by 2030, and improve waste diversion in regional SA. Providing consistent and convenient kerbside collection services across metropolitan Adelaide, increasing kerbside collections services (and associated infrastructure) in regional SA, and implementing kerbside bin systems that optimise diversion of organics and recyclables, will help to achieve this target. Also, by supporting households to separate their waste and recyclable materials and place these into the correct bins, we can reduce contamination which will improve the quality of the recovered resources.

It should be noted that an outcome of the Environment Ministers' Meeting on 9 June 2023 was that "a national roadmap will be developed for staged improvements to the harmonisation of kerbside collections, taking into account circumstances of metropolitan, regional and remote communities for Ministers to consider in 2024" (DCCEEW, 2023a).

South Australian Waste Strategy 2020–2025

The *SA Waste Strategy* identifies priority actions for the MSW waste stream, including the following:

- Increase material diversion rates through provision of the three-bin system, including a minimum service to all households:
  - fortnightly collection of co-mingled recyclables
  - fortnightly collection of organics, including food waste.
- Reduce the amount of recyclables and organics (including food) in red/blue bins.
- Increase the recovery of recyclables in yellow bins.
- Increase the recovery of organics and food waste in the green bin and processed in accordance with *Australian Standard AS 4454 – Composts, Soil Conditioners and Mulches.*
- Ensure all kerbside bins are compliant with *Australian Standard AS 4123.5 – 2008 Mobile waste containers* as soon as practicable (through replacement and in-field bin maintenance) before 2030, with a review to be undertaken by 2025.
- Encourage the uptake of segregated organics collection systems, including potential for legislative reform to increase the recovery of this material for processing into soil improvement products.

Policy options being considered

7.7.1 Household waste

Given that a key area for improvement in council kerbside bin collection systems is food waste, policy measures to improve the collection and recycling of food waste and reduce waste going to landfill are being considered. While over 80% of South Australian households currently have access to kerbside collected organics bins, the provision of organics bins and collection services for all residential premises in metropolitan Adelaide and inner regional SA would enable all residents in these areas to separate and recycle their food waste, garden organics and other compostable materials.

To address this, the EPA is investigating mandating a three-bin kerbside collection system, with a staged approach to implementation.

Stage 1 Metropolitan Adelaide

We are seeking feedback on the following potential alternative options:

Option 1: The three-bin system could apply to councils whose geographic area falls wholly within the metropolitan Adelaide boundary. This would in effect exclude Adelaide Hills Council whose local government area falls partly within and partly outside the metropolitan Adelaide boundary, noting that this does not prevent it from providing a three-bin service to all or part of its area.

Option 2: The three-bin system could be required to be provided to all residential premises within the urban areas of metropolitan Adelaide.

Option 3: The three-bin system could be required to be provided to all residential premises within the metropolitan Adelaide boundary.

To identify the optimal policy outcome, we are seeking further information to assist in determining the value in extending a three-bin system mandate to rural properties within the metropolitan Adelaide boundary. For example, residential premises in urban areas are more likely to utilise the organics bin for vegetation disposal in addition to food waste due to the size of the property, whereas residential premises in rural areas may have greater scope to dispose of vegetation and food waste onsite. Further information on the waste disposal habits and likely use of an organics bin for food waste on rural residential premises (within the metropolitan Adelaide boundary) is being sought to help determine the value of including such properties within the scope of any future proposed mandate.

It is noted that multi-unit dwellings that are serviced by private contractors or local government, may require site-specific plans for three-bin waste and recycling segregation and collection services (particularly for existing housing stock) in order to meet this requirement.

We are also seeking feedback from metropolitan councils who have undertaken trials aimed at increasing diversion from landfill and improving resource recovery outcomes, including rolling out the Sustainable Kerbside Service model (i.e., switching the kerbside collection frequency of general waste bins with the organics (FOGO) bins, to provide households with a weekly organics collection service and a fortnightly general waste collection service). Feedback on the results of these trials and what can be learned from them will assist in identifying any additional policy measures that will help increase diversion from landfill and improve resource recovery outcomes.

Stage 2 Large regional centres and townships

The second stage could extend the three-bin system requirement beyond those areas included in the first stage, to capture additional local government areas, townships and large regional centres where local processing capacity is available. The appropriate areas and timeframe for this to commence will need to be identified and feedback is sought on this.

QUESTIONS

7.7.1 MSW | Household waste – metropolitan Adelaide, large regional centres and townships

1 If a requirement to provide a standardised three-bin system (recyclables, organics, and general waste) to all residential premises, in particular metropolitan Adelaide areas, was mandated, which councils or which areas should this apply to and why?

2 Should a requirement to provide a standardised three-bin system to all residential premises in metropolitan Adelaide apply to multi-unit dwellings serviced by private waste contractors?

- If so, what needs to be considered?
- If not, what should the requirement be?

3 If separate collections for recyclables or organics, whether by council or private waste contractors, are unable to be provided due to lack of access or infrastructure, should this trigger a requirement for the waste collected to be treated for resource recovery prior to disposal to landfill?

4 What additional areas, townships, or regional centres should be included in Stage 2 and when should this stage commence? Please explain your reasons including whether there is current or planned local processing capacity.

5 What can be learned from the results of local government trials (and council-wide rollouts) aimed at increasing diversion from landfill and improving resource recovery outcomes, including changing the default residential kerbside waste collection service to a weekly organics collection with fortnightly general waste collection and fortnightly recycling collection?

6 Are there other policy measures that could support enhanced resource recovery outcomes through any or all of the following:

- consistency in kerbside services
- source segregation and collections
- reduction in contamination of recyclable and organic waste bins.

7.7.2 Outer regional and rural areas

No policy measures have been identified at this stage. Feedback is sought to help identify options for outer regional and rural collection service provision, recognising that for some of these areas a three-bin system may not be suitable and other options that enable residents to participate in recycling and diversion of organics may need to be considered. This information will help determine the value of mandating any particular service models.

QUESTIONS

7.7.2 MSW | Household waste – Outer regional and rural areas

1 How might waste and resource recovery collection services in outer regional and rural areas be modified to achieve cost-effective improvements in rates of resource recovery and diversion of organics? Please explain your reasons and the area that your response relates to.

2 What are the barriers to improving resource recovery outcomes in outer regional and rural areas? Please explain your reasons and the area that your response relates to.

3 What are the opportunities for these areas that may arise from improved resource recovery outcomes (e.g., new local enterprises, skills development, job creation)? Please explain your reasons and the area that your response relates to.

7.7.3 Remote Aboriginal and unincorporated outback communities

No policy measures have been identified at this stage and it is recognised that a one-size-fits-all approach is unlikely to be effective. Feedback is sought to help identify sustainable long-term solutions to assist communities to achieve improved waste management and resource recovery outcomes and reduce the impact of waste on the environment and communities while honouring cultural values and connection to Country.

QUESTIONS

7.7.3 MSW | Household waste – Remote Aboriginal and unincorporated outback communities

1 What are the challenges and/or barriers to achieving improved waste management and resource recovery outcomes in remote Aboriginal and outback communities?

2 How might these challenges or barriers be addressed?

3 Are there opportunities that could be explored that facilitate cost-effective resource recovery (e.g., using reverse logistics/backloading to utilise the space in the food trucks returning to Adelaide empty)?

4 Are there opportunities to develop local skills and create jobs?

5 What support would assist communities in the management of waste and the recovery of valuable materials for recycling? Please specify the community or area that your response relates to.

7.7.4 Standardisation of waste bins

In SA currently, some councils use red lids for their general waste kerbside bins, while others use blue lids. Across SA 67.5% of dwellings have bins with red lids and 32.5% of them are blue. Having a kerbside bin system with non-standardised bin lid colours can create confusion within the community, especially for residents who move between council areas. It also makes statewide communications and education on which bin to use more difficult. See these images from the Which Bin education campaign.

Figure 12 Which Bin resources www.whichbin.sa.gov.au (source: Green Industries SA)

Australian Standard AS4123.7–2006 *Mobile waste containers, Part 7: Colours, markings, and designation requirements* specifies colours, markings, and designation requirements for mobile waste containers with two wheels and capacity up to 400 L for lifting devices (kerbside collection bins) as well as other mobile waste containers with capacities up to 1,700 L. The aim of the Standard is to enhance the maximum resource recovery by providing guidance on colours and markings for various elements of the waste stream. The colour designations for lids for kerbside waste bins are listed in this table.

Types of material	Designated lid colour
Garbage / general waste	Red
Green waste / organics	Lime Green
Recyclables	Yellow

Consideration is being given to whether SA should require adherence to the *Australian Standard AS4123.7–2006 Mobile waste containers, Part 7: Colours, markings, and designation requirements* in relation to colour designation for two-wheel containers with a capacity up to 400 L (i.e., kerbside collection bins). Compliance with this standard could be achieved by councils through existing in-field maintenance, bin replacement programs or rollouts, within a specified period of time, with the commencement of this requirement being set at a future date (e.g., 2030).

QUESTIONS

7.7.4 MSW | Standardisation of waste bins

1 What is a reasonable approach and timeframe for standardising the colour of kerbside collection bin lids in compliance with *the Australian Standard AS4123.7–2006 Mobile waste containers, Part 7: Colours, markings and designation requirements*?

7.8 Commercial and industrial waste

Another significant opportunity for improvement in resource recovery in SA is in the commercial and industrial (C&I) sector. C&I waste makes up a significant part of the total waste generated in SA, generating 1.5 million tonnes of waste and recyclables. Figure 13 depicts the volumes of waste generated in the C&I sector in 2022, by waste or material stream and the destinations of these wastes or materials.

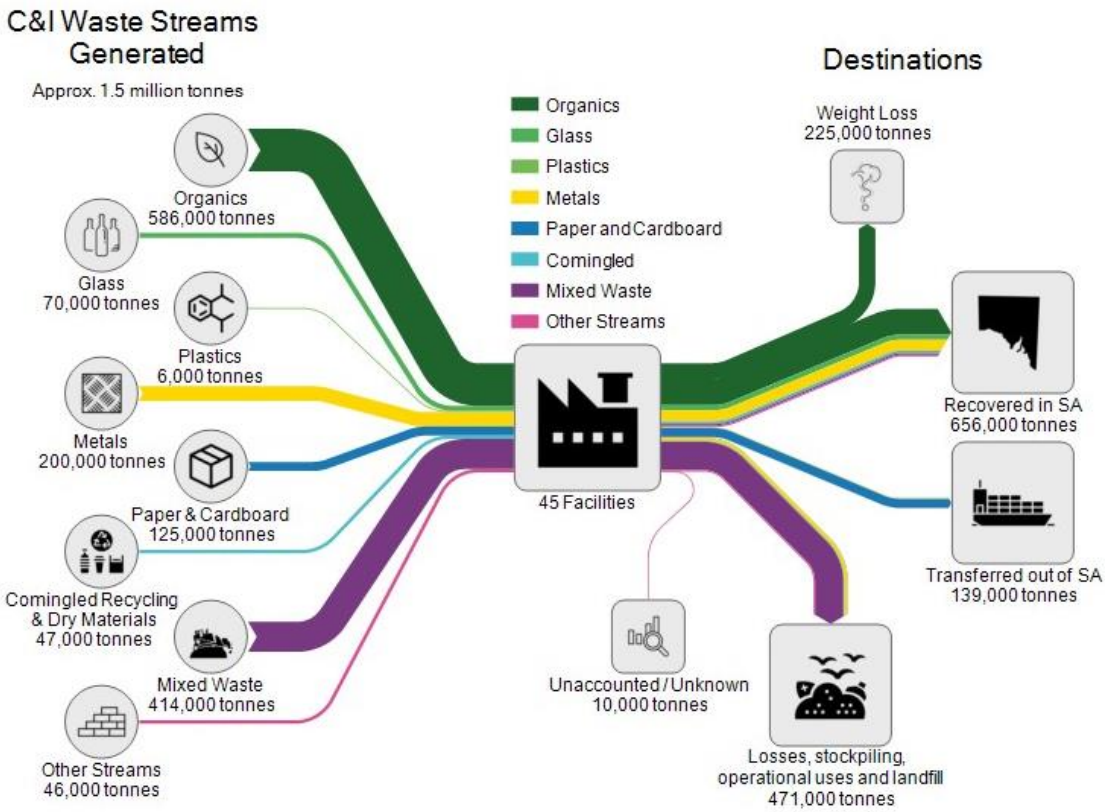


Figure 13 C&I waste streams from generation to disposal/reprocessing location
(Source: Rawtec, 2022)

In 2022, GISA commissioned a physical audit of C&I waste with the results published in a report titled *C&I Waste Audit of Metropolitan South Australia* (Rawtec, 2022). The audit was conducted to assist understanding of the composition of the mixed C&I waste (general waste and dry general waste streams) at the point of waste generation. A total of 8,457 kg of waste was audited across samples from 50 C&I waste trucks and the audit results were weighted with consideration to the net weight of the truck which the sample was taken from and the total incoming tonnes of C&I waste at each audit site. The weighted audit results found that the following six streams emerged as the biggest components of mixed C&I waste:

- 18.9% paper and cardboard
- 18.8% food waste (loose and packaged)
- 13.6% plastic films
- 13.1% wood (treated and untreated)
- 8.5% non-recyclable plastic/expanded polystyrene
- 7.2% textile materials.

The C&I sector generates over 400,000 tonnes of mixed waste per annum that is sent to landfill, even though much of it could be recovered and reused, recycled or composted if separated at the source.

The type and volume of waste and recyclable materials varies between business depending on the type and size of the business. While a restaurant or food manufacturer would likely generate larger volumes of food waste, a warehouse with packaging and storage would likely generate greater volumes of plastics and cardboard. Due to these differences, systems to optimise source separation, storage, and collection need to be tailored to the needs of the business.

While resource recovery rates can be improved across the sector, there are barriers that some businesses experience, including space restrictions, difficulties introducing service or frequency changes within existing contracts, proximity to resource recovery infrastructure, and a perception that there is cost, and effort involved in sorting and separating waste outweighs the benefits.

Another challenge for the C&I waste stream is how we ensure that the materials collected in co-mingled recycling bins are used for recycling and not for a lower-value purpose (under the waste management hierarchy) such as energy from waste, which is an end destination for these materials. When businesses separate and present their recyclables for collection, they have a legitimate expectation that these recyclables will be sent for recycling. Unfortunately, this does not always occur. Many of these services are provided to customers as a recycling service with expectations that C&I recycling is being sent to MRFs for sorting, equivalent to household co-mingled bin. Coupled with a lack of transparency about the end fates of these recyclables, i.e., where they go and what happens to them, this means that businesses are not always able to make informed decisions about what happens with their recyclables. A policy option to address the lack of transparency is set out under section 7.15.

A further challenge arises from the varying levels of demand for recycled materials and products. This reflects the current situation where local markets for recovered resources are still developing, capacity and infrastructure is being built, and investor confidence in the circular economy is still growing. As a result, some of these recovered resources are currently being sent overseas for reprocessing. Supporting the development of strong local markets for recovered resources is essential to keeping materials circulating in the economy and to close the loop.

Food waste

About 26% of C&I waste is food waste. For cafes and restaurants this figure is up to 60% and for the broader hospitality sector it is around 40%. The C&I Waste Audit estimates businesses collectively dispose of 86,300 tonnes of loose and packaged food waste annually (Rawtec, 2022). This presents a significant opportunity for intervention to ensure that food waste is used at its highest value through prevention actions and source segregation of this material to enable this to be achieved.

In addition to minimising waste going to landfill and the associated greenhouse gas emissions, by minimising food waste, businesses can reduce their expenditure. The *Business Case for Reducing Food Loss and Waste* presents a strong case for industry to invest in food waste prevention activities. International data from 1,200 sites across 700 companies in 17 countries indicated that nearly every site had a positive return on investment, with half seeing a 14-fold or greater return on investment (Champions, 2017).

Why action is needed

Action is required to improve the rate of resource recovery to ensure that these valuable materials continue circulating, reducing the demand for raw materials, and decreasing greenhouse gas emissions.

Separating waste at the point of generation combined with separate collections of recyclable materials, will help ensure these valuable materials are recovered, minimising material losses and the likelihood of contamination from other wastes. Keeping the recovered materials separate, by preventing separately collected resources from being combined with other collected waste streams, will help maintain their quality. The higher the quality of the recovered resource, the higher will be the quality of the final end-product.

While the W2R EPP already bans aggregated recyclables from being disposed to landfill, mixed recyclables collected from the C&I sector are sometimes disposed of straight to landfill due to contamination with other waste, and sometimes sent for use as alternative fuel (energy from waste), despite an expectation from businesses that these are being recycled. By expanding the material types that are subject to source separation and collections, this will help reduce contamination and lead to improved recovery rates and higher-quality recovered materials for recycling. Preventing separately collected recovered resources from being disposed to landfill, will also ensure that these resources continue circulating as intended.

Policy options being considered

7.8.1 Source separation and collections of co-mingled recyclables

The EPA is investigating mandating the separation and collection of certain recyclable wastes or materials generated by the C&I sector. In addition to separating and collecting food waste, this could include the separation and collection of the same types of materials that are accepted in the co-mingled recycling (yellow lid) kerbside collection bins, such as:

- paper and cardboard
- glass bottles, jars, and containers (non-deposit items)
- empty drink cans and bottles
- metal cans and non-ferrous metal
- aluminium foil
- hard plastic items, plastic trays and pots, and plastic food containers.

By keeping the types of recyclable wastes or materials that can be deposited into C&I collected co-mingled recycling bins consistent with MSW kerbside collected co-mingled recycling bins, this will help avoid confusion and maximise resource recovery.

This potential mandate could be phased in over time, commencing initially with larger waste generators and limited to geographic areas where the necessary collection infrastructure and processing capacity currently exists or can reasonably be scaled up in time for the commencement of such a requirement. It could then be extended to additional, smaller waste generators once the waste and resource recovery industry has further expanded its collection and processing capacity, and end markets for the recovered resources are available.

Feedback is invited on the idea of mandating source separation and collections of co-mingled recyclables in the C&I sector, and what recyclable materials should be included. Ideas are also sought to help identify the most appropriate criteria to define the organisations or businesses that should be captured by any future proposed mandate, for example:

- type of organisation/business
- size of organisation/business
- volume of waste generated per annum
- Proximity to resource recovery infrastructure.

Additionally, feedback is sought on which larger waste generators (e.g., supermarkets, food courts, large sporting venues etc) should initially be included and appropriate commencement date, and an appropriate timeframe for smaller waste generators to be added later.

QUESTIONS

7.8.1 C&I | Source separation and collections of co-mingled recyclables

1 For South Australian businesses and organisations that do not have access to council collected kerbside bins, what recyclable materials should be required to be separated for resource recovery collection? For example:

- food waste
- organics (such as garden waste from commercial operators)
- paper and cardboard
- glass bottles, jars, and containers (non-deposit items)
- empty drink cans and bottles
- metal cans and non-ferrous metal
- aluminium foil
- hard plastic items, plastic trays and pots, and plastic food containers

2 Should all South Australian businesses or organisations be required to separate their recyclable materials for collections, and if not why, who should be and why?

3 If a mandate for separation and collections of recyclables were to be phased in over time, which businesses or organisations should be included in the first phase and what are the criteria that would help identify them? For example:

- type of organisation/business
- size of organisation/business
- volume of waste generated per annum
- proximity to resource recovery infrastructure

4 If a mandate for separation and collections of recyclables were to be phased in over time, which businesses or organisations should be included in the second phase and what are the criteria that would help identify them?

5 What would be appropriate timeframes for each phase to commence, and why?

6 What are the barriers (e.g., space, infrastructure) that businesses or organisations might need to address to enable source separation and collections?

7 What support might businesses or organisations need to implement this requirement?

8 What are the opportunities created by this requirement (e.g., shared infrastructure, precincts)?

7.8.2 Source separation and collections of food waste

To minimise food waste, reduce the amount of food waste being sent to landfill and the associated greenhouse gas emissions, and to increase recovery of food waste for composting, the EPA is looking into potential options for mandating food waste separation and collection for businesses and organisations that generate food waste. This policy measure is in line with action being taken in both NSW and Victoria.

This requirement could be phased in over time, to enable food waste generators to set up systems for segregating food waste, and for the waste and resource recovery industry to further expand their collection and processing activities. This could commence first for larger food waste generators such as large supermarkets, food manufacturers, hospitals, residential facilities, large event or sporting venues, large cafes

and restaurants, and food courts etc and then extend to smaller ones, as has been done in other jurisdictions. Businesses or organisations could be classified according to the amount of food waste they generate within a given period of time, which would determine when this requirement would commence for them.

Alternatively, businesses or organisations could be classified according to the size/capacity of their general waste bins, which reflects the volume of waste they send to landfill. This second option would provide an incentive to reduce the overall amount of waste being disposed to landfill, in order to be under the threshold for this requirement. The threshold could then be reduced over time, providing additional incentive to reduce the generation of waste and increase the rate of recovery of recyclable materials. Like the previous option, this type of staged approach would help build up the collection efficiencies and cost-effectiveness of source separated food waste services. It would also provide time for businesses to put systems in place to reduce their food waste generation and for the waste and resource recovery industry to further expand their collection and processing activities.

To ensure that the collected food waste does not end up in landfill, a food waste recycling requirement would need to be coupled with a ban on disposing to landfill any aggregated organics that have been collected for recycling (see proposal under section 7.10). Together this will have a significant effect on reducing how much food waste is generated, as well as increasing source segregated quantities that can be used to improve soil health and reduce greenhouse gas emissions through avoiding food waste being landfilled.

QUESTIONS

7.8.2 C&I | Source separation and collections of food waste

1 Should the separation and collection of food waste for businesses that generate food waste be mandatory? Please explain your reasons.

2 How should ‘food waste’ be defined? In other words, are there particular foods or types of foods (e.g., packaged food, food processing wastes) that should be included or not included in this proposed requirement?

3 Which businesses/organisations should be given the priority for applying the threshold requirement? Should the criteria for businesses/ organisations to be included in the mandate be determined by the quantity of food waste or the amount of general waste they generate?

4 What should the thresholds be for:

- large food waste generators?
- small food waste generators?

5 Should this requirement apply to:

- Metropolitan Adelaide only?
- Metropolitan Adelaide and major regional centres where collections and processing capacity are in place?

6 Should this be extended to other parts of SA through a phased-in approach?

7 If mandatory separation and collection of food waste was phased in over time, commencing first for large food waste generators and then extending to smaller food waste generators, what would be the appropriate timeframes for each phase to commence?

8 What other options should be considered?

9 Do you have alternative views on how to divert food waste from landfill?

7.8.3 Business waste reduction plans

To support a reduction in waste generation and improved circularity at a business or organisation level, the EPA is seeking feedback on whether businesses or organisations should be required to prepare a plan to:

- reduce their waste generation by practically applying the waste management hierarchy
- provide for source separation and collection of their waste and recyclable materials (where source separation of co-mingled recyclables and/or food waste is already a requirement)
- keep records on how they are complying with their waste reduction plan, with these records to be made available to the EPA upon request.

We are also seeking feedback on whether this should apply broadly, or only to businesses or organisations who meet certain criteria. For example, the criteria could consider business type, waste material type, volume of waste being generated, or some other measure. Alternatively, the requirement could be limited to those businesses or organisations who are mandated to source separate and collect either co-mingled recyclables and/or food waste.

QUESTIONS

7.8.3 C&I | Business waste reduction plans

1 Should South Australian businesses and organisations be required to prepare waste reduction plans? If not, why?

2 Should this apply to all South Australian businesses and organisations? If not, who should be excluded and why?

3 What are the opportunities relating to this approach?

4 What are the barriers that need to be considered?

5 Do you have other ideas on how the EPA could require producers of waste to identify opportunities to reduce and reuse waste?

7.8.4 Prohibiting the recombining of separately collected materials

Consideration is being given to prohibiting the re-combining of waste and resource recovered materials that have been collected separately. An example of this is where co-mingled recyclables are collected separately, but then combined with dry general waste, contaminating the recyclable materials which then impacts on the ability for these to be recycled into high-quality recycled products. Another example is the combining of separately collected high quality organics with waste collected from a general C&I waste collection or kerbside collected general waste (whether subsequently treated or not), effectively downgrading the resulting combined material so that it is unsuitable for repurposing into high-quality compost for agricultural use.

The intention of this policy measure would be to ensure that the recovered materials can be reused at their highest value by preventing deliberate contamination and the subsequent downgrading of the material's value and use.

QUESTIONS

7.8.4 C&I | Prohibiting the recombining of separately collected materials

1 Do you agree that the recombining of waste and resource recovered materials that have been collected separately should be prohibited? Please explain your reasons.

2 Are there any situations where this prohibition should not apply? Please outline and explain your reasons.

7.8.5 Public place recycling and organic waste bins

Consideration is being given to whether recycling bins and organic waste bins should be required to be provided in public places. Providing organic waste bins will support the recovery of food and any food-contaminated certified compostable serviceware at public locations, and providing recycling bins will help prevent recyclable materials being sent to landfill. While taking action to improve diversion of these materials from landfill, we also need to prevent or minimise contamination in these bins in order to ensure that the recovered material is of high value and results in quality end-products.

QUESTIONS

7.8.5 C&I | Public place recycling and organic waste bins

1 Do you agree that recycling and organic waste bins should be provided in public places? Please explain your reasons.

2 Should the materials in public place recycling or organic waste bins be prohibited from disposal to landfill? If so, should there be any exceptions to this? Please explain your reasons.

7.8.6 Event and venues recycling and organic waste bins

Consideration is also being given to whether recycling and organic waste bins should be required to be provided for all major events and large venues. Aligned with action being taken on single-use plastics, this will support the recovery of food and any food-contaminated certified compostable serviceware at these locations, and help prevent recyclable materials being sent to landfill, supporting circular outcomes. Events and venues requiring certified compostable service ware, alongside next phases of single-use plastics bans coming into place will support this measure.

QUESTIONS

7.8.6 C&I | Event and venues recycling and organic waste bins

1 Should three-bin systems be provided at all major events and large venues?

7.8.7 Resource recovery treatment for public place bins

Under clause 11 of the W2R EPP, waste or other matter is required to be treated prior to disposal to landfill. ‘Treatment’ in this instance includes treatment for resource recovery. This requirement is limited to certain areas specified under Schedule 2, and Schedule 3 lists wastes or matter that is excluded from this.

The current EPP excludes waste collected by a council from bins located in public places (clause 1(f) of Schedule 3) from the requirement for resource recovery treatment. There is currently no differentiation between public general waste bins and public bins for recyclables or organics. This means that even when recycling and/or organics bins are provided in public places, they are not required to be treated for resource recovery.

It is proposed that the only public place bins that are excluded from the requirement for resource recovery treatment are council collected general waste bins where the council also provides separate bins for recyclable waste and/or organic waste. This requirement could be limited to certain areas, for example metropolitan Adelaide, and would exclude wastes listed under Schedule 3.

This will prevent materials disposed in recycling bins or organics bins from being sent directly to landfill. It will also encourage councils to provide recyclable waste and organic waste bins in public places as general waste bins on their own will require resource recovery treatment.

QUESTIONS

7.8.7 C&I | Resource recovery treatment for public place bins

1 Should public place general waste bins require treatment for resource recovery prior to disposal to landfill where recycling and organic waste bins have not been provided?

7.8.8 Requirement for treatment of waste prior to disposal to landfill

In order to support the transition to a circular economy, it is essential that valuable recyclable materials are not lost through disposal to landfill. As referred to earlier, the requirement for waste or other matter to be treated for resource recovery prior to disposal to landfill is limited to certain areas specified under Schedule 2 of the W2R EPP. Currently the only area that is specified is metropolitan Adelaide, and so waste produced outside of metropolitan Adelaide is not required to be treated for resource recovery prior to landfill.

Since the commencement of the EPP, waste and resource recovery services, capacity and infrastructure have developed in regional areas, enabling improved resource recovery and diversion from landfill. While recognising the barriers relating to the distance that recovered resources may be required to be transported to receive treatment, in order to maximise resource recovery in other parts of SA, consideration is being given to extending the specified area beyond metropolitan Adelaide. Extending the area that clause 11 (resource recovery requirements) applies to will increase recovery of recyclable materials.

QUESTIONS

7.8.8 C&I | Requirement for treatment of waste prior to disposal to landfill

1 Should the requirement for waste or other matter to be treated prior to disposal to landfill be expanded beyond metropolitan Adelaide?

2 If so, what areas should be included?

3 What might be the barriers to implementing this requirement in areas beyond metropolitan Adelaide, how might these be overcome, and what support might be needed?

4 What would be an appropriate timeframe for the commencement of this requirement in the area(s) identified?

7.8.9 Standardising bins to Australian Standard AS4123.7–2006

Australian Standard AS4123.7–2006 *Mobile waste containers, Part 7: Colours, markings, and designation requirements* specifies colours, markings, and designation requirements for mobile waste containers with capacities up to 1,700 L. The aim of the Standard is to enhance the maximum resource recovery by providing guidance on colours and markings for various elements of the waste stream.

Consideration is being given to whether adherence to the Australian Standard AS4123.7–2006 in relation to colour designation for four-wheel containers with a capacity of between 500 L and 1,700 L, should be required in SA. Compliance with this standard could be achieved within a specified period of time, with the commencement of this requirement being set at a future date.

The colour designations are set out in Table 7.

Table 7 Colour designation under Australian Standard AS4123.7–2006

Types of material	Body	Lid
Garbage/general waste	Dark green or black	Red
Paper/cardboard	Dark green or black	Blue
Green waste/organics	Dark green or black	Lime green
Recyclables	Dark green or black	Yellow
Metal cans	Dark green or black	Light grey
Food waste	Dark green or black	Burgundy
Clear glass	Nature green	White
Brown glass	Nature green	Brown
Green glass	Nature green	Nature green
Mixed glass bottles	Nature green	Yellow
Plastics	Dark green or black	Orange
Office paper	Blue	Blue
Electronics	Dark green or black	White
Clinical and related – incineration*	Yellow	Orange
Clinical and related – technologies other than incineration*	Yellow	Yellow
Cytotoxic*	Purple	Purple
Radioactive*	Red	Red
*Appropriate hazard warnings shall be affixed Note: Where the bin body is metal it may remain neutral or galvanised.		

QUESTIONS

7.8.9 C&I | Standardising bins to Australian Standard AS4123.7–2006

1 What is a reasonable approach and timeframe for standardising the colour of C&I mobile waste bins in compliance with the *Australian Standard AS 4123.7–2006 Mobile waste containers, Part 7: Colours, markings, and designation requirements*?

Supporting markets for recovered resources

Supporting the development of strong local markets for recovered resources is an essential part of our transition to a circular economy. This is explored in detail in the next section, Key Area 4.

Key area 4: Supporting a strong market for recovered resources

In 2019, section 10 of the EP Act was amended to add an Object to ensure that measures are taken "to promote the circulation of materials through the waste management process and to support a strong market for recovered resources"[10].

This review provides an opportunity to consider how the EPP can secure this Object of the Act by promoting the circulation of materials (discussed earlier) and by supporting a strong market for recovered resources.

The problem/opportunity

To help our transition to a circular economy, we need to develop markets for the materials that are collected and recycled, as well as the products that use them. There is little value in collecting recycled materials if there is no end market for them. Instead, this leads to stockpiling of these resources or disposal to landfill, neither of which is a desirable outcome.

The key to successfully implementing a circular economy lies in increasing the demand and value of recyclable materials and products produced from recycled content (Green Industries SA, 2020). Requiring products to include recycled content will stimulate demand for recycled materials and thereby boost their market. Mandating it can lead to economies of scale which will help the market further increase products with recycled content. This requires collaborative effort by the state, local government, businesses, and consumers. For example, one way local government could support the increase in demand for recycled materials would be by requiring councils to utilise recovered organics for landscaping purposes. In the absence of end markets for these materials and products, the demand for raw materials will continue, impacting on the environment and contributing to higher greenhouse gas emissions, water and energy use, and more waste production.

Feedback is sought on what mechanisms or tools should be used to help stimulate the market for recycled materials.

Why action is needed

We need to close the loop. Governments and industry can play an important role in generating demand for local recyclable and recycled materials and recycled-content products. Increasing demand for these recycled materials and products can help attract investment in local remanufacturing, drive innovation and support the transition to more sustainable business models and practices.

A key target of the *2019 National Waste Policy Action Plan* is to significantly increase the use of recycled content by governments and industry. The *SA Waste Strategy 2020–2025* also identifies the need for an increase in market demand for recyclable materials and recycled content products to help create market opportunities for new, sustainable products made from recycled materials.

7.9 Circular procurement

Embedding circular principles into procurement policies is one way to help boost demand for circular solutions and support local markets for recycled materials and recycled-content products.

Circular procurement is an approach to purchasing works, goods and services that accelerate the transition to a more circular economy by prioritising the purchase of products and services with circular attributes.

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10 *Environment Protection Act 1993*, section 10(1)(b)(iaa)

Circular procurement policies can require consideration of durability, reparability, upgradability, reuse, recyclability (including the ability to be disassembled at end-of-life), and the use of recycled materials in procurement decisions. They can also consider reduction in consumption, resource efficiency, reduction of hazardous substances, avoidance of goods made from problematic materials, amount of waste, and the type and amount of packaging. Supplier 'take-back' requirements at a product's end-of-life can also be part of a circular procurement policy.

Other considerations can include prioritising local suppliers and businesses who have adopted circular practices or are certified sustainable businesses. This can promote the growth of local economies, encourage circular or sustainable practices, and reduces transport-related emissions.

Circular procurement builds on sustainable procurement practices which consider broad sustainability factors like energy consumption, greenhouse gas emissions, water use, water quality impacts, and impact on natural habitat. Circular procurement adds additional elements and looks to close the loop on material use.

The role of public procurement

Public procurement is widely recognised as a key driver in the transition towards a circular economy. Public authorities are large consumers and through their procurement practices can play a critical role in the transition to a circular economy. By using their significant purchasing power to choose sustainable goods, services and works, they can make an important contribution to sustainable consumption and production. This helps provide market certainty for circular products and services and supports industry to develop, innovate and invest in the circular economy activities.

The South Australian Government in its 2023 *South Australian Economic Statement*, notes that as a significant purchaser and employer, 'it can meaningfully shape outcomes through its procurement policies, with $8.5 billion in goods and services purchased each year'. It goes on to explain:

> Government can shape and even co-create markets through associating key outcomes with procurement - whether that be local content or sustainability metrics. We can also drive innovation through our procurement activities, leveraging government purchasing power to develop new products or methods of production (Government of South Australia, 2023, p.21).

CASE STUDY - SA Local Government Association circular procurement pilot project

The Local Government Association's (LGA) *Buying it Back* project was a pilot project where councils worked together to use their buying power to increase the demand for recyclable materials. The aim of this project was to improve the sustainability of waste management practices, make recycling more viable and reduce councils' waste management costs. The project was a step towards developing local markets for recyclable materials in Australia and establishing a circular economy.

Looking abroad, in 2017 the European Commission published the document *Public Procurement for a Circular Economy – Good practice and guidance* (2017). This was developed to action the 2015 *EU Action Plan for the Circular Economy,* which recognised public procurement as a key driver in the transition towards a circular economy (European Commission, 2015). The guide refers to incorporating circular principles into existing procurement policies and practices. One way to do this is to apply a hierarchy, based on the traditional waste hierarchy, to prioritise potential actions.

By way of example, the Government of Wales has adopted a sustainable procurement hierarchy to guide their procurement decision making (WRAP Cymru, 2021). This hierarchy has been designed to exemplify best practice in sustainable procurement rather than being a definitive method.

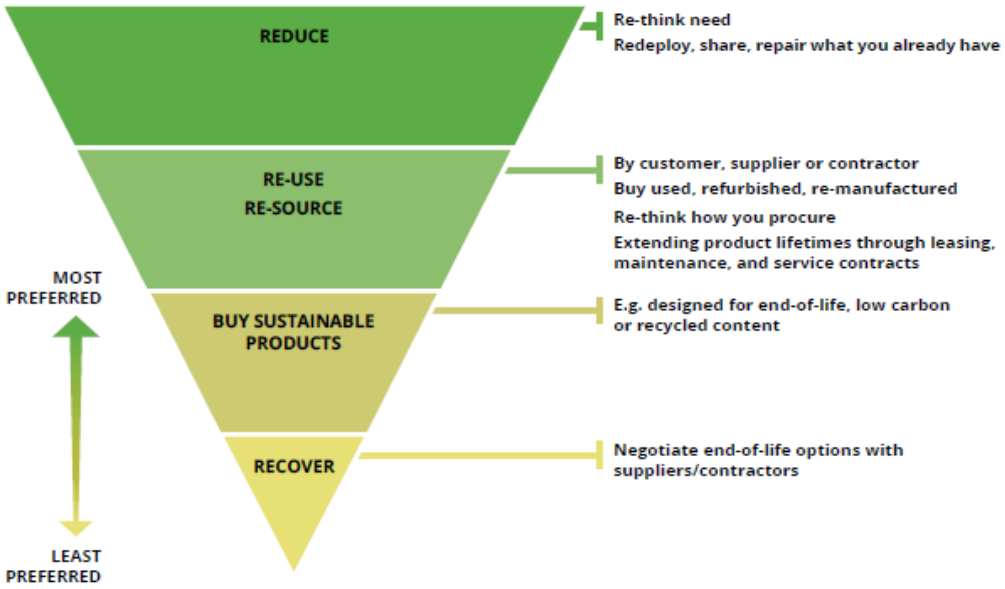

Figure 14 Wales's Sustainable Procurement Hierarchy (Source: WRAP Cyrmu, 2021)

Closer to home, the NSW Government is requiring departments to preference products that contain recycled content during procurement and to report annually on the use of recycled content in state government procurement and its associated impact on emissions and waste reduction (NSW EPA, 2021). All NSW Government-owned and leased buildings over 1,000 m^2 will also be required to obtain and publish a National Australian Built Environment Rating System (NABERS) Waste Rating by 2026.

In SA, the *Waste Strategy 2020–2025* sets out a number of priority actions to progress sustainable procurement practices. This includes investigating and identifying legislative and policy measures. Additionally, the *Circular Economy in South Australia's built environment – Action Plan (2023),* which sets out key actions required for driving a circular economy in the built environment, recommends that circular economy requirements in procurement processes for infrastructure and capital works projects be mandatory (Green Building Council of Australia, 2023, p.39). It proposes a phased implementation over time commencing with major projects (>$50 million). It also proposes that Infrastructure Sustainability (IS) and Green Star ratings should also be considered as these tools have circular economy principles, metrics and reporting embedded.

South Australian Government

Sustainable procurement is being progressed across state government, with the introduction of agency level sustainable procurement policies (e.g., Department for Infrastructure and Transport) and through various agency level projects and trials. Current whole-of-government policies, guidelines and resources that can be used to support agencies in sustainable procurement include the Green Procurement Guideline and the GISA Circular Procurement Knowledge Hub. A collaborative project by GISA, the Department for Environment and Water, and Procurement SA is being progressed to develop an evidence base for sustainable public procurement best practice and applicable policy options in the SA context. This piece of work will inform SA Government ESG Procurement Strategy currently being developed by Procurement SA.

Policy options being considered

Consideration is being given to whether South Australian public authorities should be required to adopt a whole-of-government circular procurement policy or alternatively embed circular economy principles and considerations into their public procurement decision making.

Principles to guide circular procurement decision making could include:

- A requirement to apply a circular procurement hierarchy to all procurement decisions
- Certain criteria or considerations, including their prioritisation, such as:
  - reusing existing assets or materials
  - procuring products as a service (e.g., from providers that incorporate take-back, reuse, repair, refurbishment and recycling as part of their business model)
  - life cycle assessments to evaluate the environmental impact of products and services over their entire life cycle, from raw material extraction to disposal
  - product durability and lifespan
  - repairability
  - ability to be disassembled
  - recyclability
  - recycled content
  - preference for products and materials that have an identified end-of-life use
  - avoidance of products made with hazardous substances or problematic materials
  - type and amount of packaging
  - agreements with suppliers to take responsibility for packaging, or to take back the goods at their end-of-life
  - preference for suppliers who participate in an accredited product stewardship scheme
  - support for local businesses
  - support for accredited sustainable businesses.

Additionally, a circular procurement policy could set:

- minimum standards or requirements, e.g., a minimum requirement for packaging to contain at least 50% recycled content
- physical or descriptive requirements which specify characteristics of the goods or service, such as a product must be repairable or recyclable
- mandatory requirements, such as meeting a certain level of Infrastructure Sustainability (IS) rating, Green Star Rating, or National Australian Built Environment Rating System (NABERS) Waste Rating
- performance requirements, such as requiring a certain percentage of waste to be diverted from landfill
- targets for performance against certain criteria to encourage continual improvement
- measurement and reporting requirements, such as requiring suppliers to report on certain sustainability performance indicators to enhance transparency or requiring public authorities to report on their performance against mandatory requirements and/or progress towards circular procurement targets.

QUESTIONS

7.9 Circular procurement

1 Should there be a South Australian whole-of-government circular procurement policy, or sustainable procurement policy that incorporates circular economy principles?

– If so, should this be mandatory and regulated by the EPA?

2 Should a requirement for government reporting of performance against adopted circular procurement standards, criteria, or targets, be regulated by the EPA?

3 Should a circular procurement policy also be mandated and regulated by the EPA for industry/business?

If yes, should this be limited to businesses over a certain size? If so:

a What size business should this apply to?

b What would be an appropriate reporting mechanism for businesses?

c What is a reasonable lead time for businesses to commence and undertake this requirement?

4 What collaborative actions by government, industry and the community should be prioritised to grow sustainable markets for recycled materials and products?

5 How can SA incentivise markets that extract the highest value from recovered materials?

a What incentives could be implemented to encourage SA councils and businesses to use recycled content?

7.10 Prohibited landfill waste

The *National Waste Policy Action Plan 2019* commits all governments to developing 'a common approach to restrict the disposal of priority products and material in landfill, starting with lithium-ion batteries, materials collected for the purpose of recycling, and e-waste'.

The W2R EPP lists all prohibited landfill wastes in SA (Schedule 4). These wastes were included on the basis that there were established resource recovery options for those materials or that they posed a risk of environmental harm if disposed of directly to landfill.

This review provides an opportunity to consider additional wastes to prohibit from disposal to landfill and to provide additional clarity on what is covered under Schedule 4.

Priority products

Each year, the Federal Minister for Environment (currently Minister for Climate Change, Energy, the Environment and Water) releases a list of priority products and materials that need urgent product stewardship action. By doing so, the Minister is signalling that regulatory measures may be considered for these items if industry does not act.

The 2022–23 Priority List (DCCEEW, 2022b) included:

- photovoltaic systems
- electrical and electronic products
- oil containers.
- child car seats
- clothing textiles
- problematic and unnecessary single-use plastics
- mattresses
- plastics in healthcare
- end-of-life tyres.

The Minister's Priority List for 2023-24 (DCCEEW, 2023e) includes:

- clothing textiles
- tyres
- plastics in health-care products in hospitals
- mattresses
- child car seats

A number of products on the 2022–23 list are not on the 2023–24 list as the federal government is progressing regulating these due to insufficient progress made by industry. The items include photovoltaic systems, electrical and electronic products, problematic and unnecessary single-use plastics, and oil containers (DCCEEW, 2023b).

Why action is needed

To keep valuable materials circulating through the economy, we need to ensure that items or materials that have a pathway for resource recovery and recycling are prevented from being disposed to landfill. Banning these materials from landfill encourages the development of recycling, reprocessing, and recovery industries, which in turn creates jobs and economic activity. It also reduces the environmental impact of landfilling certain wastes, such as food and organic waste, which generate methane, a potent greenhouse gas, when decomposing in a landfill.

From a circular economy perspective, when considering the appropriateness of banning particular items from landfill for the purpose of resource recovery, we need to consider the existence of, or the development of infrastructure and collection systems, the reprocessing capacity, and whether there are off-take markets for the recovered materials. In the absence of these, unintended consequences of banning certain items from landfill, such as stockpiling, may occur.

Additionally, items that pose a risk of environmental harm if disposed of directly to landfill should be considered for prohibition. Banning problematic items or environmentally harmful wastes from landfill can encourage those who produce these items, or generate these wastes, to prioritise higher order actions under the waste management hierarchy, such as waste avoidance, designing for circularity, reuse, repair, and resource recovery.

Policy options being considered

Recoverable materials

The following items are being considered for inclusion in the list of prohibited landfill wastes due to the existence, or development, of resource recovery options for these items. A phased-in approach to prohibition from landfill for these items can be adopted to allow for the development of collection systems, resource recovery and reprocessing infrastructure, and end markets.

7.10.1 Aggregated organics

Currently under Schedule 4 of the W2R EPP, a landfill ban applies to "vegetative matter aggregated for resource recovery and collected by a council by a kerbside waste collection service operated as a separate collection service for such waste". In other words, food and organic waste that has been put out for kerbside collection in the green organics bin, cannot be disposed to landfill (other than for biosecurity reasons, e.g., fruit fly). This ban however does not extend to other organic matter such as garden waste from commercial operators, segregated organics from business and events, and segregated food waste from the food service industry.

7.10.1 Aggregated organics

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A priority action of the Waste Strategy 2020–2025 is to "pursue regulatory interventions to ensure that all organic materials that have been aggregated for recycling are prohibited from direct disposal to landfill". To address this priority, it is proposed that all organic matter aggregated for recycling be prohibited from disposal to landfill.

QUESTIONS

7.10.1 Prohibited landfill waste | Aggregated organics

1 Should organic matter that has been aggregated for recycling be prohibited (banned) from disposal to landfill in SA?

2 Is there capacity for additional organic materials recovered from the C&I sector to be received and processed by composting facilities or is a delay in commencement of this proposed ban required to enable additional capacity to be developed?

7.10.2 Clothing textiles

Australia generated 780,000 tonnes of textile waste in 2018–19, with clothing making up approximately 32% of this waste. Only 3% was recycled and the rest was disposed to landfill. In 2019–20 Australia exported 93,058 tonnes of worn clothing (DCCEEW, 2022c). The complex mix of fibre types and chemicals in commonly used clothing textiles makes them difficult to separate and recycle, and discarded clothing can pollute the environment through the release of hazardous chemicals.

A National Clothing Product Stewardship Scheme for clothing textiles, *Seamless*, launched in June 2023, aims to reduce the environmental impact of clothing through its life cycle, including through product design improvements related to durability, reparability, reusability and/or recyclability of clothing. While the scheme is currently a voluntary scheme, the communiqué from the Environment Minister's Meeting on 10 November 2023 made it clear that "if voluntary product stewardship doesn't work, government will regulate" (DCCEEW, 2023c).

While many Australians buy second-hand clothing, there are no formal collection services other than mainly through charities and their 'op' shops. Some of the clothing given to these charities is unsuitable, leaving the charities to manage this as waste. To support resource recovery and recycling of unwearable textile clothing, the Product Stewardship Scheme will support the development of collection systems, which will then provide the feedstock for new products to be manufactured from recycled textiles. These collection services will need to complement charitable donations (for clothing that can be reused) and not replace them, as reuse as second-hand clothing is a higher value beneficial reuse option than recycling.

To provide textile recycling businesses with regulatory certainty about the availability of this recovered material, consideration is being given to banning these items from landfill. To enable the development of the systems, infrastructure, capacity and end markets needed to support textile recycling activities, the commencement of a ban on textile clothing could be set at an appropriate future date.

QUESTIONS

7.10.2 Prohibited landfill waste | Clothing textiles

1 Should unwearable clothing textiles be prohibited (banned) from disposal to landfill in SA?

2 What is the current or planned capacity for clothing textile recycling and reprocessing within SA, and what markets exist for this recycled material?

3 What are the opportunities if unwearable clothing textiles were prohibited from disposal to landfill in SA?

4 What are the risks if clothing textiles were prohibited from disposal to landfill in SA?

5 If clothing textiles were to be prohibited from disposal to landfill, when should this commence?

Other items

The following items are being considered for dual reasons – risk of environmental harm due to containing hazardous materials, and resource recovery as they also contain valuable materials.

7.10.3 Batteries

The only batteries that are currently listed as prohibited landfill waste under Schedule 4 of the W2R EPP are lead acid batteries. Other types of batteries such as commonly used single-use alkaline batteries are not banned from landfill.

A total of 728 million handheld batteries (i.e., all batteries under 5 kg) were sold in Australia in 2021, representing 99% of all batteries sold, equating to 14% of batteries sold by weight. This represents an increase of 309 million (7,260 tonnes) compared to sales in 2018. In 2021 South Australians purchased 47,820 single-use batteries and 3,820 rechargeable batteries, with a combined weight of 14,040 tonnes (Battery Stewardship Council, 2023a).

Batteries are problematic in that they can catch fire, contaminate waste and recycling infrastructure, and leach toxic chemicals into the environment. They also pose a risk of environmental harm if improperly disposed, leaking toxic materials such as lead, mercury, and cadmium into the environment. Li-ion batteries in particular are known to cause waste fires, fires in waste collection vehicles and explosions in recycling facilities.

Another reason for keeping them out of landfill is that they contain valuable materials and if recycled, up to 95% of a battery's components can be turned into new batteries or used in other industries. B-Cycle, a national industry-led product stewardship scheme for batteries was launched by the Battery Stewardship Council in February 2022 with collections commencing in February 2023. The scheme provides easily accessible collection points and facilitates the recycling of loose and handheld batteries, batteries that are not embedded inside a product, button batteries and rechargeable batteries, to recover materials for reuse.

The Battery Stewardship Council's 2023 *Battery Market Analysis* report observed that of the 2,240 tonnes of batteries collected in Australia in 2021, 76% of total batteries were mechanically shredded and the battery materials were supplied to domestic materials markets such as plastics recyclers, metal recyclers, and downstream material processers. Another 11% of the material recovered was exported to global materials markets (Battery Stewardship Council, 2023a).

It is proposed that all batteries that are covered by the B-Cycle product stewardship scheme (loose batteries, consumer electronics, power tool batteries, button batteries, e-bikes and portable energy storage) be included in the list of prohibited landfill waste. Consideration is also being given to additional battery types that are yet to be included in a product stewardship scheme including battery energy storage systems and electric vehicle batteries.

Single-use alkaline batteries

The Battery Stewardship Council's 2023 *Battery Market Analysis* report found that alkaline batteries represented the largest share of battery sales by number with over 570 million batteries sold in 2021. It also identified that alkaline batteries represented the largest share of recycled batteries by battery type with 1,300 tonnes of alkaline batteries recycled in 2021 (Battery Stewardship Council, 2023a).

In September 2022 Nyrstar announced that their Port Pirie site would become the first B-Cycle accredited recycler to recover commodity grade quality metals from single-use alkaline batteries for local and international markets (Nyrstar, 2022). They have since become accredited, which provides a pathway for resource recovery for these items in SA.

Button cell batteries

Button batteries, also known as zinc air batteries, cell batteries or coin batteries, are flat, round single cell batteries that are used in everyday devices such as car keys, watches, power tools, hearing aids and children's toys. Sales of these batteries in Australia totalled over 34 million in 2021 making them the fourth largest share of battery sales (Battery Stewardship Council, 2023a). They are recyclable and included in the B-Cycle product stewardship scheme.

QUESTIONS

7.10.3 Prohibited landfill waste | Batteries

1 Should single-use alkaline batteries be prohibited (banned) from disposal to landfill in SA, and when should this commence?

2 Should button cell batteries be prohibited from disposal to landfill in SA, and when should this commence?

3 Are there any other batteries that should be prohibited from disposal to landfill in SA? What are these and why? (Note that Lithium-ion batteries are discussed in the next section)

7.10.4 Lithium-ion batteries

The growth in demand for energy storage technology has created a growing Lithium-ion (Li-ion) battery waste problem. Li-ion batteries are the predominant battery type used in electric vehicles, battery energy storage systems and portable consumer electronics. The 2023 *Battery Market Analysis* report found that Li-on batteries are the second largest share of battery sales in weight, with just over 26,000 tonnes of batteries sold in 2021 and the third highest in number of batteries sold (just over 38 million). Statistics have shown that Li-ion battery waste is growing by 20% per year and could exceed 136,000 tonnes by 2036. Only 10% of Australia's Li-ion battery waste was recycled in 2021, compared with 99 per cent of lead acid battery waste (Zhao, Ruether, Bhatt, & Staines, 2021). This presents an opportunity to significantly increase the amount of Li-ion batteries that are recycled by ensuring they are collected safely and not disposed to landfill.

Under Schedule 4 of the W2R EPP, a waste that is classified as a 'hazardous waste' is a prohibited landfill waste. 'Hazardous waste' is defined in the EPP as "listed waste having a characteristic described in schedule A list 2 of the *National Environment Protection (Movement of controlled waste between States and Territories) Measure"* (NEPM Movement of Controlled Waste). Li-ion batteries contain lithium, an alkali metal, which is a Listed Waste under Schedule 1, Part B of the EP Act 1993, and has a characteristic described in the NEPM Movement of Controlled Waste.

Battery energy storage systems

Battery energy storage systems (BESS) are systems that provide stationary energy storage using rechargeable batteries and are used to power homes and businesses. The batteries used in residential battery energy storage systems are predominantly Li-ion batteries with a small amount of lead acid batteries being used for larger-scale storage systems.

In 2021, 10,000 BESS batteries were sold in Australia and it is expected that the size of this market will grow over the next 25 years with tonnages projected to grow between 10% and 40% each year until 2030 (Battery Stewardship Council, 2023a).

The Australian Government's discussion paper, *Wired for change: Regulation for small electrical products and solar photovoltaic system waste* is consulting on whether energy storage batteries should be included in their proposed product stewardship regulatory scheme covering small-scale solar photovoltaic systems (DCCEEW, 2023h).

Electric vehicle (EV) batteries

With strong growth in sales of electric and hybrid-electric vehicles, electric vehicle (EV) batteries are a growing waste stream. The Battery Stewardship Council's 2023 Battery Market Analysis report projected that stocks of EV batteries will reach 600,000 tonnes in 2030 and over 4 million tonnes by 2050.

The National Electric Vehicle Strategy outlines the Federal Government's commitment to supporting an EV circular economy to help mitigate the environmental impacts of EV production and EV waste. Additionally, it states that:

> The Government will undertake research to inform an EV and other large format battery recycling, reuse and stewardship initiative. This will consider end market demand for materials derived from these batteries, to reduce waste, grow jobs, and support emerging Australian industries. (DCCEEW, 2023f, pg. 25).

The Battery Stewardship Council is considering establishing a product stewardship scheme for EV batteries with consultation through a discussion paper that was released in 2023 (Battery Stewardship Council,2023b)

Notwithstanding that Li-ion battery waste may already be captured as hazardous waste through existing legislation, in the same way that lead acid batteries are, specifically listing Li-ion batteries in the EPP (as lead acid batteries are similarly listed) will provide clarity and remove doubt that these items are banned from landfill.

Under clause 12(2) of the W2R EPP it is an offence to place hazardous waste in a bin for collection or transport for disposal at a landfill depot. This includes kerbside collection general waste bins. Given the safety risks associated with the incorrect disposal of Li-ion batteries, it is proposed that this be extended to all kerbside collection bins, i.e., adding co-mingled recycling (yellow lid) bins and food organics and garden organics (FOGO green lid) bins.

QUESTIONS

7.10.4 Prohibited landfill waste | Lithium-ion batteries

1 Noting that Li-ion batteries are prohibited from disposal to landfill in SA, what is needed at the state level to support their safe recovery and provide a pathway for recycling at their end-of-life?

2 Noting that it is an offence to place Li–ion batteries in kerbside collection general waste bins (bins designated for disposal to landfill), should this be extended to include all kerbside collection waste bins (i.e., to include co–mingled recycling and food organics and garden organics bins)?

3 Are there any Li-ion batteries that are not already included or proposed to be included in a national product stewardship scheme (other than electronic medical devices and vapes that are considered a biohazard)?

4 Should SA consider establishing a state-based product stewardship scheme, in the absence of effective action being taken at the national level? Please outline your reasons.

7.10.5 E-waste

E-waste is a rapidly growing waste stream. Australia generated 511,000 tonnes of e-waste in 2019 with over $430 million worth of valuable materials contained within the e-waste being discarded to landfill (DCCEEW, 2023h). E-waste contains hazardous materials that pose a risk to the environment and human health, as well as valuable materials such as gold, copper, nickel, silicon, and lithium, which need to be recovered.

Currently the W2R EPP prohibits computer monitors and televisions, whitegoods, and electrical or electronic equipment from being disposed to landfill.

This review provides an opportunity to clarify what is covered under the existing ban and to look at expanding the list of items banned.

It also provides an opportunity to align with the proposed national e-waste stewardship regulation as outlined in the Australian Government's discussion paper *Wired for change: Regulation for small electrical products and solar photovoltaic system waste* which proposes to cover small electrical and electronic equipment found in homes and small businesses weighing up to 20 kg (DCCEEW, 2023h). The scheme proposes to include embedded batteries in these products, but not loose batteries (e.g., AA and AA batteries) which are covered under the B-cycle product stewardship scheme discussed above.

Solar PV systems

Solar photovoltaic (PV) systems comprise Australia's fastest growing electronic waste stream. As of 2020, Australia had 20.8 gigawatts of installed solar capacity. In 2019, PV and battery storage system waste was estimated at around 3,500 tonnes. By 2030 this is expected to increase 18-fold to around 62,000 tonnes (DCCEEW, 2022b).

Solar PV systems were included in the Federal Environment Minister's Priority List for the first time in 2016–17 (DCCEEW, 2016). The listing includes solar panels, inverter equipment and system accessories, for domestic, commercial, and industrial applications.

Components of PV systems may contain hazardous substances which can leach into the environment if disposed to landfill. While PV systems contain many recoverable materials of value, the complexity of these systems creates challenges for the full recovery of valuable materials.

In 2023 the Australian Government released a discussion paper *Wired for change: Regulation for small electrical products and solar photovoltaic system waste,* to consult on their intention to regulate waste from small solar photovoltaic systems (up to 100 kW) and small electrical and electronic products through a product stewardship scheme (DCCEEW, 2023h). In Victoria, solar PV panels are already included in their e-waste landfill ban, which came into effect in 2019.

The inclusion of small solar PV systems on the South Australian list of prohibited landfill wastes could support this proposed product stewardship scheme by ensuring that these items are recovered for recycling and not sent to landfill.

QUESTIONS

7.10.5 Prohibited landfill waste | E-waste

1 What additional e-waste items should be included in the existing prohibition (ban) on disposing e-waste to landfill in SA?

2 Should small solar PV systems be included in the definition of e-waste?

7.10.6 Wind turbine blades

Like solar energy, wind energy is an important part of Australia's renewable energy transition but also a significant source of future waste that needs to be addressed. Wind farms are currently built for a lifespan of 20–30 years with some existing Australian wind farms reaching their end-of-life in the next 5–15 years. While turbine parts can be recycled more easily, the materials used in wind turbine blades (carbon and glass fibre composites) are more challenging and currently do not have a clear pathway for recycling or an end market for the recovered materials. As a result, they mostly end up in landfill.

In Europe, four countries – Austria, Finland, Germany, and the Netherlands – have banned wind turbine blades from disposal to landfill, with more countries expected to follow suit. A landfill ban can help drive changes to design and promote more sustainable approaches to end-of-life wind turbine blades.

If wind turbine blades were to be banned from disposal to landfill in SA, a delay in commencement of the landfill ban would provide time for the research and development of recycling options and reprocessing capacity. It would also provide time for legislative harmonisation with other Australian jurisdictions to ensure that the waste problem is not just transported interstate.

QUESTIONS

7.10.6 Prohibited landfill waste | Wind turbine blades

1 Should wind turbine blades be prohibited (banned) from disposal to landfill in SA?

2 What are the potential risks associated with prohibiting wind turbine blades from being disposed to landfill?

3 What are the opportunities arising from prohibiting wind turbine blades from being disposed to landfill and how can these opportunities be utilised?

4 If wind turbine blades were to be prohibited from disposal to landfill, when should this commence, and why?

7.10.7 Mattresses

Approximately 1.8 million mattresses are discarded every year in Australia. Of these, 40% go straight to landfill and up to as much as 60% of the rest also ends up in landfill. In addition to creating a risk of subsidence and taking up a lot of space, disposing of mattresses to landfill results in valuable resources being lost from the economy. Mattresses contain plastics (synthetic fibres), textiles, polymers (such as foams), steel and some contain timber. Currently mattress recyclers are able to recover around 75% of these materials. As a result, mattresses have been included on the Federal Minister's 2022–23 Priority List for product stewardship (DCCEEW, 2022b). The Minister has warned that the Australian Government will move to regulate if industry participation in the voluntary Australian Bedding Stewardship Scheme does not increase (DCCEEW, 2022d).

The Australian Bedding Stewardship Scheme is an industry led stewardship scheme which aims to reduce the number of end-of-life mattresses going to landfill (Australian Bedding Stewardship Council, 2024). Supporting the scheme by banning mattresses being disposed to landfill can assist by requiring an end-of-life solution other than landfill. Capacity for recycling of mattresses exists in SA and can be easily scaled up in response to additional demand arising from a ban to landfill.

The Australian Capital Territory (ACT) has banned mattresses from landfill since 2010, and Queensland is considering the same. Banning these from landfill in SA, alongside a requirement for recovery of a minimum percentage of materials (e.g., 50%), would ensure that recyclable materials are recovered to the fullest extent possible.

QUESTIONS

7.10.7 Prohibited landfill waste | Mattresses

1 Should mattresses be prohibited (banned) from disposal to landfill in SA?

2 Should there be a minimum level requirement for resource recovery for mattress recycling, and if so, what should that be?

3 If mattresses were to be prohibited from disposal to landfill, when should this commence?

7.10.8 Child car seats

It is estimated that 200,000 child car seats are disposed of each year in Australia. While they are an essential safety requirement, they have a relatively short lifespan. However, up to 80% of child car safety seat components can be recycled (DCCEEW, 2022e).

Child car seats were first included on the Minister's Priority List in 2022–23 which called for industry to "establish a stewardship scheme to manage the disposal, collection and recycling of unwanted child car seats and improve design consistent with circular economy principles" (DCCEEW, 2022f). Since then, trials have confirmed the recyclability of car seats and identified changes in materials used to manufacture seats. An industry-led voluntary national stewardship scheme for these products is being considered.

If a national stewardship scheme for child car seats is established, this could be supported at the state level by banning these products from being disposed to landfill.

QUESTIONS

7.10.8 Prohibited landfill waste | Child car seats

1 Should child car seats be prohibited from disposal to landfill in SA?

2 What are the opportunities arising from prohibiting child car seats from being disposed to landfill in SA?

3 What are the potential risks associated with prohibiting child car seats from being disposed to landfill?

4 If child car seats were to be prohibited from disposal to landfill, when should this commence?

7.10.9 What else

QUESTIONS

7.10.9 Prohibited landfill waste | What else

1 Are there any other priority products or materials that should be prohibited from disposal to landfill? Please outline what these are, the rationale and a suitable timeframe.

Key area 5: Protecting the environment and human health from waste pollution

When people fail to dispose of waste in the correct manner or in the correct place, it can cause harm to our environment and to human health. It is for these reasons, as well as the imperative to recover valuable resources, that waste disposal is tightly regulated.

7.11 Unlawful disposal of waste

Under the W2R EPP (clause 10) only a limited range of options are acceptable for the disposal of waste. In all other cases, disposal is unlawful, and penalties apply.

The W2R EPP does allow, under clause 10(1)(f) and 10(3), for a person to dispose of waste to land that they own or occupy, or to the land of another with consent of the owner or occupier, provided it does not cause:

- environmental harm affecting water
- site contamination
- environmental nuisance
- unstable geotechnical conditions
- an infestation of vermin, rodents, or pests
- a fire hazard
- is not into a sinkhole in a karst environment.

This is intended to be consistent with, but narrower than, the defence against polluting one's own land under section 84(1)(c) of the EP Act.

Enforcement

There are several aspects of the current provisions which, in practice, are difficult to enforce.

1 Clause 10(1)(f) of the W2R EPP allows disposal of waste "to land owned or occupied by the person". The occupier of the land may be quite distinct from the owner of the land, who may take umbrage with ultimately being left with the liability of waste disposed to their land.

2 Establishing that the owner or occupier gave consent for the disposal can be a matter of debate in terms of what was permitted for disposal and to what extent.

3 Establishing what has been disposed of after the fact and whether it poses harm to waters, a risk of site contamination, or geotechnical stability generally requires expensive excavation and/or testing.

Often, construction and demolition waste is disposed of under this clause for the purposes of filling land. The *Standard for the production and use of Waste Derived Fill* (WDF Standard) outlines information and processes required by the EPA to support the reuse of wastes as fill, including construction and demolition waste. Typically, the EPA requires licensees to comply with the WDF Standard when filling land, however unlicensed sites are not required to comply with it by virtue of clause 10 of the W2R EPP.

Licensing

Clause 10(1)(f) of the W2R EPP does not affect environmental, licensing or other requirements under the EP Act. Therefore, the landowner or occupier could still be guilty of conducting a waste depot without a licence (under section 36 of the EP Act). The EP Act prescribes 'waste disposal' as an activity of environmental significance, which includes "the conduct of a landfill depot, being a depot, facility or works for the disposal of

waste to land". Whether disposal to land in fact constitutes a 'depot, facility or works' can be difficult to establish in practice. Even taking money for the disposal of waste to land (particularly in the case where it is being used to fill land) does not necessarily deem the activity as the operation of a depot.

Since 2010 the waste levy (and hence waste depot gate fees) has increased substantially from $26 per tonne to $161 per tonne (for 2024–25). As a result, the financial incentive to receive and dispose of waste without a licence can be significant. This undermines legitimate waste management operators and efforts to establish a circular economy in SA.

Policy options being considered

There are a range of possible amendments which could be considered to address these matters:

1 Removing clause 10(1)(f) of the W2R EPP altogether, noting that section 84(1)(c) of the EP Act provides a defence against polluting your own land.

2 Amending clause 10(1)(f) of the W2R EPP to:

   1. only allow disposal of waste generated on your own land,
   2. provide a quantitative threshold for the amount of waste which can be received, and/or
   3. specify the types of waste that are allowable.

3 Linking the offence for disposal to own land to the person having accepted the waste for a fee or reward.

4 Only allowing disposal to land with permission of the landowner (not the occupier). This may include defining that permission must be in writing and must define that waste type and amount to which it relates.

5 Explicitly excluding certain waste types from disposal to a person's own land, such as waste banned from disposal to landfill.

QUESTIONS

7.11 Unlawful disposal of waste

1 In what circumstances is it appropriate for a person to dispose of waste to their own land without a licence?

2 In what circumstances is it appropriate for a person to dispose of waste to land with permission of the landowner and without a licence?

3 Are there specific types of waste that should always be allowed to dispose to your own land? If so, please list and explain the reasons.

4 Are there specific types of waste that should never be allowed to dispose to your own land? If so, please list and explain the reasons.

5 Given the existence of standards, such as the WDF Standard which define when material ceases to be waste, is it still necessary or appropriate for unlicensed sites to receive and dispose of waste to land?

7.12 Contaminants and chemicals of concern

While materials and products that are not readily or safely able to be recirculated within the economy are still being produced, there will continue to be a need for these wastes to be managed safely and effectively.

Clause 19 of the W2R EPP prescribes that the EPA must have regard to the respective national environmental management plans (NEMP) for hexachlorobenzenes (HCBs), organochlorine pesticides (OCPs) and polychlorinated biphenyls (PCBs) prepared under the *National Strategy for the Management of Scheduled Waste* when determining matters in relation to environmental authorisations and development authorisations.

In 2018 (and updated in 2019), Environment Ministers endorsed a NEMP for perfluoroalkyl and polyfluoroalkyl substances (PFAS). The PFAS NEMP establishes a practical basis for nationally consistent environmental guidance and standards for managing PFAS contamination. The plan has been developed by all jurisdictions and recognises the need for implementation of best practice regulation through individual jurisdictional mechanisms. It represents a how-to guide for the investigation and management of PFAS contamination and waste management.

As part of implementing the PFAS NEMP, the EPA published the *PFAS in waste soils interim guideline*.

Why action is needed

Consideration should be given to how the W2R EPP can address emerging contaminants and chemicals of concern in a timely manner. There are significant delays and resource implications to addressing each new contaminant or chemical of concern as they emerge.

Policy options being considered

There may be opportunity for the W2R EPP to be amended to address chemicals of concern as they are added to national or international agreements, such as the *Stockholm Convention* or the *National Strategy for the Management of Scheduled Wastes*.

QUESTIONS

7.12 Contaminants and chemicals of concern

1 Are there aspects of the PFAS NEMP which could be useful to incorporate explicitly into the EPP?

2 Would it be appropriate for the EPP to incorporate emerging chemicals as they are added to national or international agreements, such as the Stockholm Convention or the National Strategy for the Management of Scheduled Wastes?

7.13 Greenhouse gas emissions from landfill

Degradation of putrescible waste in a landfill generates methane, carbon dioxide and other trace gases that pose potential hazards to site safety, human health, and the environment. Generation of landfill gas can continue for tens of years after placement of the waste and is intricately linked to leachate management.

Landfill emissions are approximately 50% carbon dioxide and 50% methane. Methane has 21 times the effect of carbon dioxide on the greenhouse effect and related climate change. Approximately 704 kilotonnes of CO_2 equivalent was emitted from South Australian waste disposal sites in 2022 (DCCEEW 2023g). The installation of landfill gas management systems offers the potential to capture and burn landfill gases, reducing greenhouse gas emissions to the atmosphere.

Currently, the *Environment Protection Regulations 2023* allow for the environment management component of a landfill's licence fee to be reduced where the licensee satisfies the EPA of the existence of a leachate and landfill gas management system that complies with the EPA guideline *Environmental management of landfill facilities*. For landfills receiving over 100,000 tonnes, this is a reduction of 30 fee units per annum ($25,980 for 2023–24 financial year), a substantial component of a landfill's licence fee.

This guideline outlines the EPA's expectations for the control and management of landfill gas in order for licensees to meet their general environmental duty under section 25 of the EP Act. Site-specific requirements are then imposed via licence condition, which may include a requirement for active landfill gas capture rather than passive gas collection (refer to the guideline for explanation of the difference). While licensees must have landfill gas management strategies in place, it is not standard practice to require licensees to capture landfill gas.

It is recognised that SA is in a unique position with low waste volumes, vast regional areas, and a dry climate in comparison to other Australian jurisdictions. As a result, currently operational sites may never have sufficient gas volumes or flow of gas to warrant active extraction or energy production investments.

It is noted that the Emissions Reduction Fund enables credits to be claimed for landfills gas capture. The fund has a regulatory additionality requirement, and credits cannot be claimed for activities which are required by law (such as requirement via licence condition).

Why action is needed

Greenhouse gas emissions from landfills can be reduced through the installation of active landfill gas capture systems on capped cells.

Policy options being considered

In order to incentivise landfill gas capture, consideration is be given to providing further or differential reductions in licence fees for waste depots that capture emissions produced in landfill. This could include a higher fee reduction for active gas collection systems and a lesser reduction for passive gas collection systems.

Another option would be to provide a reduction or rebate on the solid waste levy for waste depots that capture emissions produced in landfill.

QUESTIONS

7.13 Greenhouse gas emissions from landfill

1 Does the current reduced licence fee for landfill gas capture offer a sufficient incentive?

2 Are there other factors acting as a disincentive for final capping and installation of landfill gas capture systems?

3 Would a waste levy reduction or rebate be an appropriate tool to incentivise landfill gas capture? How should this be applied?

It should be noted that an EPP to address climate change is also being developed and that policy options raised here may ultimately be included in that EPP rather than in a new circular economy and waste EPP.

7.14 Medical waste

Clauses 16, 17 and 18 of the W2R EPP set out the requirements for the management of medical waste. This includes:

- Providing that medical waste produced in the course of a prescribed activity must, as soon as reasonably practicable, be placed in a prescribed container, collected and transported appropriately.
- Setting out expectations for the collection, storage, and disposal of medical waste by councils, hospitals and pharmacies.
- Prohibiting the disposal of medical sharps through kerbside waste collection.

This review provides an opportunity to consider whether these provisions require updating or amending in order to ensure that medical wastes in managed and disposed of safely and that human health is protected.

Policy options being considered

No policy changes have been identified at this time. Stakeholders are invited to raise any issues for consideration.

QUESTIONS

7.14 Medical waste

1 Are there any clauses in Division 2 relating to the management of medical waste that are problematic?

2 Are there any additional matters that the EPP might address relating to the management of medical waste?

Key area 6: Circular economy metrics, reporting and transparency

It is said that 'you can't manage what you don't measure'. While measurements of the linear economy are well established, we now need a framework that enables us to measure and track our progress as SA transitions to a circular economy. Measuring where we are now, identifying where we want to be within a defined timeline, and tracking progress towards this, can help show the areas that are progressing well, as well as the areas where attention is required in terms of policy reform, investment, behaviour change or other. Data is key to the successful transition to a circular economy and knowing how we are tracking can help accelerate our progress.

Ideally, a circular economy measurement framework would be developed, adopted, and coordinated nationally, across all levels of government and jurisdictions, so that data is harmonised and can be compared across states and territories, as well as across reporting periods within jurisdictions. At this point there is no agreed national framework.

Why action is needed

While the South Australian government already collects particular circular economy data, it is largely focused on materials at their end-of-life using traditional waste management indicators such as diversion from landfill and resource recovery rates[11]. This data alone is not sufficient to measure progress towards circularity. Circular economy indicators for higher level activities in the waste management hierarchy (e.g., rates of repair, reuse, and re-manufacturing) are not yet being measured or reported. Also, more detailed data could be collected about waste generation, resource recovery, and the end point of materials, to track material flows at a more granular level.

While a holistic circular economy measurement framework goes beyond the Objects of the EP Act, and beyond the scope of an EPP, this review provides an opportunity to consider what additional indicators or metrics would contribute towards tracking the state's progress in the areas of waste generation, waste avoidance, resource recovery and material flow. This additional information will help inform the development of future policy and regulatory measures so that they are targeted effectively. It will also enable us to better track performance and progress towards circularity and the targets in current and future SA waste strategies.

Policy options being considered

7.15 Circular economic metrics

To keep products and materials in use at their highest utility and value and for the longest possible duration, we need to track how materials are circulating and where they are being lost from the economy. To track material flow through the economy, we need to improve the monitoring, measurement and reporting of waste and resource recovery across all sectors from the point of generation through to the final destination point of reuse or recycling.

QUESTIONS

7.15 Circular economy metrics

1 What additional metrics would help measure the state's progress in the areas of waste avoidance, resource recovery and material flow?

[11] The EPA collects mass balance reporting data from waste depots and GISA collects data relating to the Circular Economy Resource Recovery Report (see Key Area 3 for more information)

7.16 Waste depot reporting

Public reporting

To improve transparency for users of waste and recycling services, in order that they can know how their waste and recyclables are managed, the EPA is considering requiring waste recovery facilities, waste reprocessing facilities, and waste disposal facilities to publicly report, at a facility level, on certain information. This could include information on materials accepted and processed, recovery and recycling rates, diversion outcomes and end fates of materials. This would allow users of these services to consider performance outcomes when selecting their preferred waste contractors and resource recovery facilities, enabling informed decisions as businesses adopt more circular business practices.

The public reporting could be done via the waste depot's own website and in accordance with an EPA-issued standard (to ensure consistency of data across reporting entities). While annual auditing of this data could be done in-house in the first instance, it may be appropriate for the EPA to have the authority to require the waste depot operator to verify this data through independent auditing, where necessary, to ensure accuracy.

Reporting on the waste depot's own website would enable waste depot operators to explain what the information means and the context for the performance outcomes. Consideration can be given to how to achieve this reporting outcome while recognising that some business information may be commercially sensitive. Feedback on this matter is sought.

Since 2021, waste depots that receive over 20,000 tonnes of waste per annum have been required to report mass balance data to the EPA. Mass balance reporting monitors the movement of waste (material flows) to and from waste depots throughout the state, and tracks stockpiling of materials.

Regulation 68 of the *Environment Protection Regulation 2023* provides detail on the "sharing of information with other persons or bodies" related to mass balance reporting data. This regulation enables the EPA to share mass balance reporting data with Green Industries SA or any State or Commonwealth agency. Mass balance reporting data as provided by the EPA is used in Green Industries SA's annual Circular Economy and Recycling Report (CERR report). Regulation 68 also permits the EPA to share "statistical or other data that is not of a commercially sensitive nature or that could not reasonably be expected to lead to the identification of any person to whom it relates".

Noting that mass balance reporting data is included in the CERR report, and the confidentiality provisions under section 121 of the EP Act, feedback is sought on whether the EPA should publicly publish any mass balance reporting data on its website and how often such data should be reported.

End fates of waste or materials

Mass balance reporting data is essential to our understanding of what is happening with waste generation, material flows, stockpiling and rates of diversion from landfill within our state. However, there are some data gaps, that if addressed would provide a fuller picture and help inform regulatory policy and programs to support a circular economy.

Currently, mass balance reporters are required to report monthly on material stream (i.e., C&I, C&D, MSW) and types:

- received at the site
- transported from the site
- remaining stockpiled on site

- used on site
- disposed on site (landfill facilities only)

In relation to material received, reporters must also specify whether the material was received from within the Adelaide metropolitan region (metro), or from outside the Adelaide metropolitan region (non-metro), in alignment with metro and non-metro waste levy rates. When material is transferred out of the waste depot, reporters must specify:

- if it is material recovered as a result of resource recovery processes (resource recovery), or is being transported to another waste depot for further treatment (transferred)
- whether it is to be transported to a place within the State, interstate or overseas.

Since there is currently no requirement to report on the precise location material has been received from or transferred to, there is no requirement for reporting on where materials are received from or being sent to (other than that the material has been transferred or has been sent for resource recovery). This can lead to double counting of waste when looking at the data at a statewide level, particularly where material is transferred between waste depots undertaking mass balance reporting.

Requiring an extra level of information on where the materials have been received from and where the materials are sent once they leave the facility, will help remove double counting, enable better tracking of material flow, and provide data on the end fates of materials (e.g., sent for recycling or reprocessing at certain facilities). As an example, this could include reporting the licence number for materials sent to another licensed site, or an ABN for a business that is not licensed by the EPA.

Additionally, for waste or materials being received from or being sent overseas, there is no requirement currently to specify the country that the materials are sent to. This additional information would assist in providing a greater understanding of material flows at the international level.

Consideration is being given to requiring additional information for mass balance reporting data and feedback is invited on which information would be readily available or easily able to be included, in order to provide a fuller picture of our growing circular economy.

Mass balance reporting

While mass balance data captures only 15% of EPA-licensed waste depots, it represents 77% of total tonnages of the material flows across SA.

Under the Environment Protection Regulations, mass balance reporting applies to any waste depot receiving over 20,000 tonnes of waste per annum. However, the EPA can direct any facility receiving between 5,000 and 20,000 tonnes per annum to participate in mass balance reporting. The EPA can also prescribe material types in the Standard which anyone receiving must provide mass balance reporting data on.

Feedback is sought on reducing the current minimum mass balance reporting threshold to enable a greater number of facilities to be included into mass balance reporting and offer the state valuable data to support policy reforms and grants programs. Alternatively, feedback in sought on whether there are particular materials or types of waste depot which represent a key aspect of understanding material flows in the circular economy and should be included in mass balance reporting.

Waste tracking – Lithium-ion batteries

Under the *Environment Protection (Movement of Controlled Waste) Policy 2014* (MCW EPP), certain high-risk wastes are required to be tracked when transported into, within or out of SA. The waste consignor (producer), transporter and receiving facility all have obligations to ensure these wastes are properly tracked.

The MCW EPP implements requirements of the National Environment Protection (Movement of Controlled Waste between State and Territories) Measures (NEPM) in South Australia. The NEPM regulates the tracking requirements for hazardous waste transported between South Australia and other states and territories. As Li-ion batteries are not listed in Schedule A (List 1) of the NEPM, nor are lithium or lithium compounds, they are not required to be tracked. Rather, only a consignment authorisation is required to be completed to transport Li-ion batteries interstate.

Other high risk battery types, such as lead-acid batteries and nickel-cadmium batteries are included in waste tracking requirements. Mandating the tracking of Li-ion batteries will enable the state to monitor the material flows of these batteries and implement regulatory measures for their proper end-of-life management. Feedback is sought on whether Li-ion batteries should be tracked given that they can exhibit characteristics that are listed in Schedule A (List 2) of the NEPM.

It is noted that interjurisdictional agreement would be required to implement this policy change across jurisdictions.

Landfill depots

Like the data gaps in mass balance reporting, there is also a data gap with the current requirements for waste levy reporting. Currently the EPA receives data on total tonnages that are disposed to landfill, but this is not broken down by waste stream or types. While the particular waste stream or type may be able to be ascertained through mass balance reporting data, where available, this can be very difficult for complex landfill depot sites.

Understanding the waste streams and types being disposed of would assist in identifying further opportunities for resource recovery, which could be targeted by future policy reforms and grants programs, as well as enable more accurate auditing of reporting for waste levy liability purposes.

This review provides an opportunity to explore whether this gap in our knowledge can and should be addressed by an amendment to waste levy reporting requirements.

QUESTIONS

7.16 Waste depot reporting

1. Should waste depots be required to report certain information on a public facing website, to enable users of their services to consider performance outcomes when selecting their preferred waste contractors and resource recovery facilities?

a Should this include all waste recovery facilities, waste reprocessing facilities, and waste disposal facilities? Please explain your reasons.

b What information should be reported publicly for each of the waste depot types:

- waste recovery facilities
- waste reprocessing facilities
- waste disposal facilities

c Should this information be reported annually or more frequently?

d Should this information require independent auditing?

e What are the barriers (e.g., commercially sensitive information), to this policy measure and how might these barriers be addressed?

2. Noting the confidentiality provisions in Section 121 of the *Environment Protection Act 1993* and that mass balance reporting data is currently included in the CERR report, should the EPA publish any of this data on its website in order to increase transparency? Why, or why not?

a How often should this data be reported?

3. Is the current mass balance reporting threshold of 20,000 tonnes per annum the right threshold required for providing mass balance reporting data? Please explain your reasons.

4. Are there particular materials or types of waste depots currently not captured in mass balance reporting that should be included? Please specify.

5. Should mass balance reporting be extended to include reporting on where materials are coming from, and being sent to, including end fates of wastes and materials, to provide a fuller picture of material flows in SA and nationally?

6. What specific information should be included in the reports to clarify the end fates of recyclables and organics?

7. What mechanisms should SA implement to create more transparency around the end fates of recyclables and organics? What challenges or barriers are there?

8. Should lithium-ion batteries be included in intra and inter-state waste tracking requirements?

9. Should waste levy reporting be extended to include detail on waste streams and material types being disposed to landfill?

7.17 Reporting by local government

7.17.1 Reporting on kerbside waste collection performance

Currently, all SA councils report to the Local Government Grants Commission (LGGC) annually on certain information relating to kerbside collection services. This data is then provided back to councils by the LGGC, but there is a delay of up to 12 months before it's compiled and available for others to use. This same information is also provided to GISA.

In addition, metropolitan Adelaide councils voluntarily provide data directly to GISA annually. However, there are delays in GISA receiving data for non-metropolitan councils, leading to the data being up to two years old when it is received. These delays lead to difficulties in accurately determining the effectiveness of the GISA programs that are aimed at improving waste avoidance and resource recovery, especially when combined with the evolving nature of kerbside collection systems. Being provided with up-to-date and timely data will assist GISA in making informed decisions to target its programs and support most effectively.

To achieve this, a requirement for reporting by local government on household waste generation and resource recovery performance is being considered. This data will provide an accurate and timely circular economy metric for local, state and federal governments. Currently councils only receive information on diversion or resource recovery rates from their contracted MRFs if it is required under their contract. Receiving this data will assist councils to communicate with their residents about kerbside system performance and enable conversations about how to reduce household waste generation, reduce contamination and improve recycling rates.

In addition to providing local communities with data about their own waste, this reporting will enable benchmarking across councils. Benchmarking has potential to help councils identify gaps in their kerbside system performance and uncover opportunities to improve by learning from their peers. It will also provide up-to-date reporting on kerbside collections for the National Waste Report.

The information required to be reported could include:

- tonnes per kerbside bin stream
- landfill diversion rates
- contamination rates by bin type
- waste and recycling service cost per household
- changes to waste service contracts/arrangements for all waste and resource recovery services
- receipt of and stockpiling of problematic items or materials (e.g., CCA treated posts)
- end fates of materials (unless this is already provided through additional mass balance reporting as outlined in section 7.15)
- kerbside waste collection bin audit findings.

QUESTIONS

7.17.1 Reporting by local government | Kerbside waste collection performance

1 Should local government be required to report on household waste generation and resource recovery performance, in order to provide an accurate and timely circular economy metric for all levels of government?

   a What information should be required to report and why?

   b How frequently should local government be required to report, i.e., monthly, or quarterly?

2 Should local government be benchmarked or ranked publicly on the basis of their kerbside performance? Why or why not?

7.17.2 Standardising kerbside waste collection bin audits

To add to the policy proposal above, consideration is being given to establishing a standardised audit methodology for kerbside waste collection bin audits.

Kerbside waste collection bin audits are important for understanding the composition of waste and resources in kerbside bins. This information assists local government and state government to understand household waste management behaviour and practices and develop targeted programs and policies to improve kerbside resource recovery outcomes.

Most metropolitan and regional councils conduct kerbside waste collection bin audits on a regular basis, ranging between every two to four years. However, there is a lack of consistency with audit methodologies adopted across councils, and consequently, audit results are difficult to compare across councils. A requirement for local governments to conduct audits using consistent audit methodology and frequency will help to standardise practices, ensure quality data provision, and enable comparison of results across councils.

QUESTIONS

7.17.2 Reporting by local government | Standardising kerbside waste collection bin audits

1 Should kerbside waste collection bin audit methodologies be standardised to ensure consistency and enable comparison of results across councils? What are the opportunities and barriers to this policy option?

2 For councils undertaking kerbside waste collection bin audits:

   a what audit methodologies are currently used and what range of waste types are covered? Do they measure and reflect householder behaviour and if so, how?

   b should any other measures be reported through kerbside collection waste bin audits, e.g., bin placement at kerbside, number and relative fullness of the bins presented for collection? What are the impacts of including additional measures in the audits?

3 How frequent should a kerbside waste collection bin audit be undertaken and why?

7.17.3 Publishing waste management plans and performance outcomes

Consideration is being given to requiring local governments to publish their waste management plans and strategies and to report on kerbside waste collection performance and related circular economy outcomes on their websites. This information will assist households to better understand what is happening in their local council area and support education initiatives.

7.17.4 Publishing waste contract tendering information publicly

A proposal to make waste contract tendering information public is also being considered, and feedback is being sought on whether councils should take the environmental, social and governance (ESG) principle into account when awarding waste contracts in order to enhance reporting on kerbside system performance.

QUESTIONS

7.17.3 Reporting by local government | Waste management plans and performance outcomes

1 Should local governments be required to publish their waste management plans and strategies on their websites? Please explain your reasons.

2 Should local governments be required to publish kerbside waste collection performance outcomes and related circular economy outcomes on their websites? Please explain your reasons.

   a what information should be included in this online reporting?

   b should this information include results of kerbside waste bin audits?

   c when and how often should this information be updated?

3 Should the tendering of local government waste contracts be required to be public information in SA? What are the benefits and/or potential barriers of making this information accessible to the public?

4 What specific details of the tender should be made public (e.g., criteria for selection, contract terms etc)? In what format should this information be presented to ensure clarity and accessibility for the general public?

5 What are the challenges associated with integrating ESG into waste contracts? How can these challenges be addressed?

7.18 Transparency in waste levy component of service fees and charges

In addition to there being a lack of transparency about what happens to recyclable materials after they are collected, there is also a lack of transparency in the information provided by the waste and resource recovery industry to their customers about the waste levy component of fees and charges. This is reflected in the fact that customer invoices for waste services generally do not set out the amount of the invoice that directly relates to the solid waste levy fee that is incurred in providing that service.

In order to increase transparency for users of these services, the EPA is seeking views on whether landfill depots should disclose the component of fees and charges on their invoices that specifically relate to the payment or incurring of a solid waste levy expense.

QUESTIONS

7.18.1 Transparency in waste levy component of service fees and charges

1 Should operators of landfill depots be required to disclose the waste levy component of fees and charges on customer invoices? Please explain your reasons.

2 Should a requirement to disclose the waste levy component of fees and charges on customer invoices extend to other waste and resource recovery operators? If so, who should it apply to and why?

8 Additional questions

QUESTIONS

1 Are you impacted by the current W2R EPP? Please describe how you are impacted and what effect this has.

2 Do you have any feedback on the current South Australian regulatory framework for resource recovery and waste management?

3 Are there any other policy measures that would help increase waste avoidance, improve resource recovery, and support a circular economy?

4 Are there any other comments you would like to make in response to the discussion paper?

9 Next steps

Following consultation on this discussion paper, the EPA will consider the submissions and publish a consultation summary and response.

The feedback received will then inform the preparation of a new draft EPP. As required by section 28 of the EP Act, the draft EPP will be released, along with detailed explanatory information, for further public consultation. The process for that stage is depicted in Figure 15.

Figure 15 Steps to develop environment protection policies

Glossary

Alternative fuels	Any combustible material which is not a traditional fossil fuel such as coal, gas, diesel or petroleum coke. This includes refuse derived fuel.
Aluminium-lined liquid paperboard containers	Containers manufactured from paperboard with layers of plastic and an additional layer of aluminium foil which are used for long-life products such as long-life milk.
Beneficial use or reuse	The outcome of the use or reuse of a product or material being a net environmental benefit, i.e., contributing to environmental sustainability and resource efficiency.
Biodegradable	Capable of being decomposed by the action of biological processes.
Biogas	A renewable gas created by the anaerobic digestion of organic matter (or materials).
CCA treated timber	Copper chrome arsenate treated timber - timber that has been treated by a chemical preservative containing compounds of copper, chromium and arsenic.
Circular economy	A circular economy is an economic model designed to prioritise sustainability, resource efficiency, and waste reduction. It aims to move away from the traditional linear economic model of 'take-make-dispose' and instead seeks to create a closed loop system where resources are kept in use for as long as possible, with their value preserved and waste minimised. It is based on three principles: design out waste and pollution; keep products and materials in use (ideally at their highest and best value); and regenerate natural systems.
Circular procurement	An approach to purchasing works, goods and services that accelerate the transition to a more circular economy by prioritising the purchase of products and services with circular attributes.
Climate change mitigation	Limiting, reducing or preventing greenhouse gas emissions.
Closed loop recycling	Material from a product system is recycled in the same product system and is of the same quality and functionality as the original material.
Construction and demolition (C&D) waste	Solid waste arising from the construction, demolition or refurbishment of buildings or infrastructure, but does not contain municipal solid waste, commercial and industrial waste, listed waste, hazardous waste or radioactive waste.
Commercial and industrial (C&I) waste	Solid waste arising from commercial, industrial, government, public or domestic premises (other than municipal solid waste), but does not contain listed waste, hazardous waste or radioactive waste.

Co-mingled recycling kerbside bins	Yellow lidded kerbside bins for co-mingled recyclables collected by council.
Compost	Pasteurised material resulting from the controlled microbiological transformation of compostable organic waste under aerobic and thermophilic conditions for not less than six weeks.
Compostable organic waste	The biodegradable component of the waste stream that is of biological origin but does not contain any listed waste, radioactive waste or hazardous waste.
Composting	The controlled process whereby compostable organic wastes are pasteurised and microbiologically transformed under aerobic and thermophilic conditions for a period not less than six weeks, including the pasteurisation phase.
Container deposit scheme	A litter control and waste management system for beverage containers through a regulatory scheme for the protection of the environment, which prohibits the sale or supply of beverages in certain containers in the state unless approved by the EPA and are returnable to retailers and collection depots for a refund.
Contaminants/contamination	Waste that ends up in streams where it does not belong and affects the processing and recycling of that material.
Design standard	A requirement or requirements for the design of items prescribed for environmental, human health or economic reasons.
Disposal	Final stage in the management of waste, which includes: • treatment of waste prior to disposal • incineration of waste, with or without energy recovery • deposit of waste to land or water • discharge of liquid waste to sewer • permanent, indefinite or long-term storage of waste.
Dispose	To dispose of waste, including the deposit of waste and causing or allowing waste to be disposed or deposited.
Diversion	Diverting waste from landfill for other uses.
Downcycling	Downcycling is the process of breaking down material to make something new but of a lower quality and functionality than the original product. This can be due to contamination or natural degradation over time.
Energy recovery	Processes through which wastes are collected, sorted and processed to recover energy in usable form, for example process heat, steam or in electricity generation.
Environment Ministers Meeting	Comprises the Commonwealth Minister for the Environment and the Environment Minister from each Australian state and territory.

Environment protection policy (EPP)	A legislative tool provided for under the *Environment Protection Act 1993*. EPPs can be made for any purpose directed towards securing Objects of the Act. This may include setting out requirements or mandatory provisions that will be enforceable under the Act.
E-waste	Waste electrical and electronic equipment which is dependent on electric currents or electromagnetic fields in order to function (including all components, subassemblies and consumables which are part of the original equipment at the time of discarding).
Feedstock	Raw material used to manufacture products. Material varies depending on what is being produced.
Food organics and garden organics (FOGO)	Combined food organics and garden organics collections.
Food organics/food waste	Food that does not reach the consumer or reaches the consumer but is thrown away. Food waste can be generated by households or industry, and includes food processing waste, out of date or off specification food, meat, fruit and vegetable scraps.
Garden organics / garden waste	Organics derived from garden sources such as grass clippings and tree prunings. Also known as green organics or green waste.
Generator (of waste materials)	A C&I or C&D generator of waste materials to either landfill or recovery fates.
Green organics kerbside bins	Green lidded kerbside bins for food organics and garden organics collected by council.
Green waste	The vegetative portion of the waste stream arising from various sources including waste from domestic and commercial premises and municipal operations.
Greenhouse gases	Gases, including carbon dioxide and methane, that trap heat in the earth's atmosphere, affecting weather and climate patterns.
Hazardous waste	Listed waste having a characteristic described in schedule A list 2 of the *National Environment Protection (Movement of controlled waste between States and Territories) Measure*.
Highest value use/reuse	The highest achievable outcome for the use or reuse of products or materials, according to the waste management hierarchy and the second principle of a circular economy (to keep products and materials in use at their highest value). This relates to material resource efficiency and also the greenhouse gas emissions impact of the intended use or reuse of that product or material. An example of highest value reuse is a glass bottle being recovered for reuse as another glass bottle.
Incineration	The thermal destruction of waste for the primary purpose of disposal, with or without recovery of energy.

Kerbside collection general waste	The segregated portion of municipal solid waste – kerbside bin collection consisting of the residual waste after source separation from organic waste and recyclable waste.
Kerbside collected recyclable waste	The segregated portion of municipal solid waste – kerbside bin collection consisting of dry recyclable materials including beverage containers, paper, cardboard, plastics, glass and metals.
Kerbside waste collection	Waste collected by local councils from residential properties, including rubbish, mixed recyclables, food organics and garden organics, and glass, but excluding hard waste.
Landfill	A waste disposal site used for the controlled deposit of solid waste onto or into land.
Mass balance reporting	Mass balance reporting monitors the movement of waste (material flows) to and from waste depots throughout the state, and tracks stockpiling of materials. Waste depots receiving over 20,000 tonnes of solid waste per annum (or otherwise directed by the EPA) are required to report monthly to the EPA on quantities of waste or other matter: • received at the site • transported from the site • remaining stockpiled on site • used on site • disposed on site (e.g., by landfill or incineration).
Material flows	The way materials pass through production, distribution and use processes in an economy.
Materials recovery facility	A facility that receives waste or matter for sorting, aggregating, compacting, baling or packing prior to its transfer elsewhere for lawful reuse.
Methane	A colourless, odourless, flammable gas CH_4. Methane has 28 times the effect of carbon dioxide on the greenhouse effect and related climate change.
Metropolitan Adelaide	The part of the South Australia within the boundary of Metropolitan Adelaide as defined in the *Development Act 1993*.
Microplastics	Pieces of manufactured plastic (less than 5mm in diameter) that are used in products for a variety of reasons, often for their abrasive or exfoliant properties.
Municipal solid waste (MSW)	Solid waste arising from mainly domestic but also commercial, industrial, government and public premises including waste from council operations, services and facilities that is collected by or on behalf of the council via kerbside collection, but does not contain commercial and industrial waste, listed waste, hazardous waste or radioactive waste.

Non-circular	Activities that are a pathway to end-of-life for products or materials as opposed to keeping them circulating in the economy.
Organic waste	Wastes derived from material that was once living, excluding petroleum-based materials.
PFAS	Per- and poly-fluoroalkyl substances.
Photovoltaic solar panels	Devices which are used to absorb the sun's rays and convert them into electricity.
Product	An article, material or substance that is manufactured or refined for sale.
Product stewardship	A concept and set of approaches based on the idea that those involved in designing, manufacturing and selling products should accept responsibility for ensuring they do not have adverse impacts on the health of humans and environments. This includes impacts across the lifecycle of the products, from the extraction of materials, the way products are used, and how they are managed at end-of-life.
Product stewardship program/scheme	Product stewardship schemes support the environmentally sound management of products and materials over their life. This includes at the end of their useful life. These arrangements may be voluntary, mandatory, or co–regulatory (arrangements between government and industry).
Prohibited landfill waste	Schedule 4 of the W2R EPP lists all prohibited landfill wastes in SA. These wastes are prohibited from being disposed to landfill on the basis that there are established resource recovery options for these materials or that they pose a risk of environmental harm if disposed of directly to landfill.
Public place recycling	Recycling facilities found in public areas, such as parks, reserves, transport hubs, shopping centres and sport and entertainment venues that allow the community to recycle when away from home.
Raw materials	Materials sourced through primary resource extraction that have not previously been processed or used in the creation of products.
Recovered materials	Waste materials separated, sorted or processed for the purposes of waste reuse, recycling or energy recovery.
Recovery	A process that extracts materials or energy from the waste stream.
Recycle/recycling	To treat materials so that new products can be made from them. A set of processes (including biological) for converting recovered materials that would otherwise be disposed of as wastes into useful materials and or products. The following definitions apply: a Closed loop recycling: recycling process in which the reclaimed output is used as an input to the same product system. b Open loop recycling: recycling process in which the reclaimed output is used as an input to another product system.

Recycled materials	Material that has been reprocessed from recovered (reclaimed) material by means of a manufacturing process and made into a final product or into a component for incorporation into a product.
Recycling stream	The component of the waste stream that is separated from waste intended for disposal, which is then sorted and recycled.
Refuse derived fuel	A fuel material produced from specific wastes that are otherwise destined to landfill and which will not cause harm to the environment or human health when used to beneficially replace or supplement a fossil or other standard commercial fuel in an industrial process. Refuse derived fuel is required to be produced to meet an approved standard as issued by the EPA. See Refuse derived fuel standard.
Repair	Altering a product or material to correct damage or fault, maintaining its use.
Reprocessing	Processing of recovered materials to make raw materials for use in making new products or direct use.
Residual waste	Residual material that remains after any source separation or reprocessing activities of recyclable materials or garden organics.
Resource recovery	Activities through which wastes are collected, sorted, processed (including through composting), and/or converted into raw materials for use in a production system. For data reporting purposes, the quantity of waste allocated to the fate 'resource recovery' is the sum of the quantities allocated to waste reuse, recycling and energy recovery.
Resource recovery rate	The quantity of waste that is prevented from going to the landfill for use in another way, divided by the quantity of waste generated.
Resource recovery treatment	Treatment for resource recovery as defined in clause 3 of the *Environmental Protection (Waste to Resources) Policy 2010*.
Reuse	Reallocation of products or materials to a new owner or purpose without reprocessing or remanufacture, (but may include repair, maintenance or cleaning).
Single use	Designed to be used once and then disposed of.
Source separation	Physical sorting of the waste at the point of generation into specific components suitable for resource recovery from the residual component.
Three-bin system	A council kerbside bin collection system which provides three bins for: 1. general waste, 2. co-mingled recyclables and 3. food and garden organics.
Transfer station	A depot for the reception and aggregation of waste streams prior to their transport to another depot or location for further sorting, resource recovery or disposal.

Virgin materials	Raw materials that have not previously been processed or used in the creation of products.
Waste	Waste is defined in section 4 of the EP Act as: 'any discarded, dumped, rejected, abandoned, unwanted or surplus matter, whether or not intended for sale or for purification or resource recovery by a separate operation from that which produced the matter, whether or not of value'.
Waste and resource recovery industry	This is inclusive of business and organisations involved in collecting, sorting, processing, trading, transporting and disposing of waste.
Waste avoidance	Preventing waste generation, including through design of products and changing consumer behaviour to preference durable, reusable and reparable products. Also referred to as waste prevention or waste minimisation.
Waste depot	Any depot, facility or works as described in Schedule 1 Part A clause 3 of the EP Act. This includes waste disposal depot, material recovery facility, transfer station, waste reprocessing facility or composting depot.
Waste generation	The process of producing waste. For data and reporting purposes, waste generation is the sum of the quantities of waste taken to waste management facilities or added to on-site stockpiles. Measures of the total amount of waste generated include the waste we recycle as well as the waste we send to landfill.
Waste management hierarchy	Reference to an order of priority for the management of waste in which avoidance, minimisation, reuse, recycling, recovery of energy and other resources, treatment of waste to reduce potentially degrading impacts, and disposal of waste in an environmentally sound manner are pursued in that order.
Waste levy	A waste levy is payable to the EPA on solid or liquid waste disposed of by landfilling, incineration or via liquid waste depot (i.e., disposal at licensed waste disposal depots under the EP Act).
Waste prevention	Any deliberate action taken that stops an item, component or material from entering a waste management facility or system.
Waste streams	The flow system for the cycle of waste from its source to the recovery, recycling, or ultimate disposal of the waste.
Waste treatment	The treatment of waste in some way as described below- a to recover material from the waste that may be reused or recycled; or b to recover energy or other resources from the waste; or c to prepare the waste for further treatment to recover material from the waste that may be reused or recycled or to recover energy or other resources from the waste; and includes, but is not limited to, sorting, shredding, crushing, compacting or packaging the waste.

Abbreviations

ACT	Australian Capital Territory
As	arsenic
BESS	battery energy storage systems
C&D	construction and demolition
C&I	commercial and industrial
CCA	copper chromium arsenic
CERR Report	Circular Economy Resource Recovery Report
CO_2	carbon dioxide
CO_2-e	carbon dioxide equivalent
Cr	chromium
Cth	Commonwealth
Cu	copper
EoL	end-of-life
EPA	South Australian Environment Protection Authority
EP Act	*Environment Protection Act 1993*
EMM	Environment Ministers' Meeting
EPP	environment protection policy
ESG	environmental, social, and governance
E-waste	electronic waste (discarded electrical and electronic devices)
FOGO	food organics and garden organics
GHG	greenhouse gas
GISA	Green Industries SA
HCBs	hexachlorobenzenes
kg	kilogram
kW	kilowatt
LGA	Local Government Association of South Australia

Li-ion	lithium-ion
mm	millimetres
MRF	materials recovery facility
MSW	municipal solid waste
MUDs	multi-unit dwellings
NEMP	National Environmental Management Plan
NSW	New South Wales
OCPs	organochlorine pesticides
PCBs	polychlorinated biphenyls
PFAS	perfluoroalkyl and polyfluoroalkyl substances
PV	photovoltaic
SA	South Australia
SDGs	Sustainable Development Goals
W2R EPP	*Environment Protection (Waste to Resources) Policy 2010*
WDF Standard	Standard for the production and use of Waste Derived Fill

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ENVIRONMENT PROTECTION AUTHORITY
GPO Box 2607 Adelaide SA 5001
Phone: 08 8204 2004 | Fax: 08 8124 4670
Email: epainfo@sa.gov.au
Web: epa.sa.gov.au

8 Reports for Noting - Nil

9 Workshop / Presentation Items - Nil

10 Other Business

11 Meeting Closure

The meeting shall conclude on or before 9.30pm unless there is a specific motion adopted at the meeting to continue beyond that time.