



MINUTES

CERTIFICATION OF CONFIRMATION OF TECHNICAL ADVISORY COMMITTEE MINUTES

7 MARCH 2019

I, Cr Jai Wilson hereby certify that the minutes from the Technical Advisory Committee Meeting held on 7 March 2019 pages (1) to (78) were confirmed at the Ordinary meeting of Council held on 3 December 2020.

A handwritten signature in black ink, appearing to read "Jai Wilson", is written over a horizontal line. The signature is stylized and somewhat cursive.

Signature

Cr Jai Wilson
Person presiding at Meeting

TECHNICAL ADVISORY COMMITTEE

MINUTES

7 March 2019

(REF: D2019/02921)

A meeting of the Technical Advisory Committee was held at the EMRC Administration Office, 1st Floor, 226 Great Eastern Highway, BELMONT WA 6104 on **Thursday, 7 March 2019**. The meeting commenced at **4:30pm**.

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1 DECLARATION OF OPENING AND ANNOUNCEMENT OF VISITORS

The Acting Chief Executive Officer (CEO) opened the meeting at 4:30pm, welcomed those in attendance and acknowledged the traditional custodians of the land on which the meeting was held and paid respects to the elders past, present and future.

2 ATTENDANCE, APOLOGIES AND LEAVE OF ABSENCE (PREVIOUSLY APPROVED)

Committee Members

Mr Simon Stewert-Dawkins	Director Operational Services	Town of Bassendean
Mr Michael Worthington (Deputising for Mr Pearson)	Manager Environmental Health	City of Bayswater
Mr Alan Sheridan	Director Infrastructure Services	City of Belmont
Mr Brett Jackson	Director Asset Services	City of Kalamunda
Mr Shane Purdy	Director Infrastructure Services	Shire of Mundaring
Mr Jim Coten	Executive Manager Operations	City of Swan
Mrs Wendy Harris	Acting Chief Executive Officer	EMRC

Apologies

Mr Doug Pearson	Director Technical Services	City of Bayswater
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EMRC Officers

Mr Stephen Fitzpatrick	Director Waste Services
Mr Hua Jer Liew	Director Corporate Services
Mr Dave Beresford	Manager Resource Recovery
Mr Stephen Conway	Manager Engineering & Waste Services
Ms Annette Rakich	Administration Officer (Minutes)

Observer(s)

Mr Chris Thompson	Manager Asset & Waste Operations	City of Kalamunda
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The Acting CEO advised that, in accordance with section 3.3 of the EMRC Standing Orders and section 5.6(3) of the *Local Government Act 1995*, members are to choose someone present to preside at the meeting.

The Acting CEO called for nominations for the appointment of a member to preside at the meeting.

Mr Purdy nominated Mr Coten and Mr Coten accepted the nomination and assumed the role of the Presiding Member at 4:35pm.

3 DISCLOSURE OF INTERESTS

Nil

4 ANNOUNCEMENTS BY THE CHAIRMAN OR PRESIDING MEMBER WITHOUT DISCUSSION

Nil

5 PETITIONS, DEPUTATIONS AND PRESENTATIONS

Nil



6 CONFIRMATION OF MINUTES OF PREVIOUS MEETINGS

6.1 MINUTES OF THE TECHNICAL ADVISORY COMMITTEE MEETING HELD ON 7 FEBRUARY 2019

That the Minutes of the Technical Advisory Committee meeting held on 7 February 2019 which have been distributed, be confirmed.

TAC RESOLUTION(S)

MOVED MR PURDY

SECONDED MR STEWERT-DAWKINS

THAT THE MINUTES OF THE TECHNICAL ADVISORY COMMITTEE MEETING HELD ON 7 FEBRUARY 2019 WHICH HAVE BEEN DISTRIBUTED, BE CONFIRMED.

CARRIED UNANIMOUSLY

7 QUESTIONS BY MEMBERS OF WHICH DUE NOTICE HAS BEEN GIVEN

Nil

8 QUESTIONS BY MEMBERS WITHOUT NOTICE

Nil

9 ANNOUNCEMENT OF CONFIDENTIAL MATTERS FOR WHICH MEETINGS MAY BE CLOSED TO THE PUBLIC

Nil

10 BUSINESS NOT DEALT WITH FROM A PREVIOUS MEETING

Nil



11 REPORTS OF EMPLOYEES

11.1 TENDER 2018-012 - PROVISION OF GREEN WASTE SHREDDING AND TRANSPORT SERVICES

REFERENCE: D2019/02197

PURPOSE OF REPORT

The purpose of this report is to advise Council of the results of Tender 2018-012 for the Provision of Green Waste Shredding and Transport Services and recommend acceptance of the Tender from Craneswest (WA) Pty Ltd.

KEY POINTS AND RECOMMENDATION(S)

- Approximately 5,000 tonnes of green waste is received at the Red Hill Waste Management Facility (Red Hill) per annum and is required to be shredded prior to composting.
- To create a quality mulch that meets specification, shredding must be undertaken to a tight specification.
- The tender for Provision of Green Waste Shredding and Transport Services closed on 22 January 2019 and one (1) submission was received.
- This tender provides for the shredding and transport of shredded greenwaste from Red Hill and other designated sites as required.
- The submission has been assessed and is recommended for acceptance.

Recommendation(s)

That:

1. Council award Tender 2018-012 for the Provision of Green Waste Shredding and Transport Services to Craneswest (WA) Pty Ltd trading as Western Tree Recyclers for a three (3) year period commencing 1 April 2019, with an option to extend for two (2) one (1) year extensions subject to satisfactory performance, as per the attached schedule of rates.
2. Council authorise the CEO to enter into a contract, on behalf of the EMRC, with Craneswest (WA) Pty Ltd in accordance with the Tender submitted, and the attached schedule of rates, subject to any minor variations that may be agreed between the CEO and Craneswest (WA) Pty Ltd.
3. The contract rates for Tender 2018-012 are adjusted annually at the anniversary of the contract using the Consumer Price Index for Perth over the previous twelve months.

SOURCE OF REPORT

Director Waste Services

BACKGROUND

The performance of the green waste shredding contractor is a critical component in the EMRC producing high quality composted mulch that is saleable to the public, member Councils and businesses. In producing saleable mulch the EMRC is minimising landfill, creating a positive revenue stream and minimising costs to member Councils.



Item 11.1 continued

REPORT

Tender 2018-012 specifications included:

- Green waste shredding location sites and transport destination sites that may include the Principal's site as well as other locations;
- Transport of the shredded greenwaste (Product) from any of the designated sites from Monday to Friday;
- Use of a horizontal high speed shredder capable of handling green waste to 300mm diameter;
- Capability of producing small, medium and coarse grades of green waste;
- Requirement to form windrows from shredded green waste; and
- Transport of the shredded greenwaste (Product) from Red Hill or other nominated sites, when and as required.

The tender was assessed against compliance criteria as follows:

Description of Compliance Criteria	Yes/No
(a) Compliance and completeness in completing Part 4, in particular the Offer Form in section 4.1, Qualitative Criteria in section 4.3.2 and Price Information in section 4.4 contained in this RFT.	Yes/No
(b) Compliance with the Conditions of Tendering for this Request.	Yes/No
(c) Compliance with the RFT closing date.	Yes/No
(d) Compliance with and completion of the Price Schedule.	Yes/No

The tender was assessed against qualitative criteria as follows:

Description of Qualitative Criteria	Weighting
(a) Technical capabilities and capacity to provide service	20%
(b) Tenderer's demonstrated experience in providing similar service	20%
(c) Service execution methodology	10%
(d) OH&S Management.	10%
(e) Environmental Management	10%



Item 11.1 continued

Price was weighted as follows:

Criteria	Weighting
Tendered price	30%

Only one (1) tender submission was received from the following company:

- Craneswest (WA) Pty Ltd trading as Western Tree Recyclers.

The schedule of rates submitted by Craneswest is attached (Attachment 1). A tender clarification was received from Craneswest confirming that the price per unit was per tonne for each distance band and not tonne – km per distance band.

The evaluation process was completed independently by five (5) EMRC officers who found that Craneswest had demonstrated the required experience, machinery capability and OH&S standards to deliver a high quality service and that they offer a value for money tender.

Craneswest (WA) Pty Ltd is therefore recommended as the preferred tenderer at the pricing schedule supplied.

STRATEGIC/POLICY IMPLICATIONS

Key Result Area 1 – Environmental Sustainability

- 1.1 To provide sustainable waste disposal operations
- 1.2 To improve regional waste management
- 1.3 To provide resource recovery and recycling solutions in partnership with member Councils
- 1.4 To investigate leading edge waste management practices

FINANCIAL IMPLICATIONS

The new pricing schedule from Craneswest will give the EMRC lower unit costs for both the shredding of the greenwaste and transport of the product. Based on budget estimates the contract is estimated to be worth \$918,132 (ex. GST) over 3 years. If the two one (1) year extensions are exercised, this would add another \$631,375 (ex. GST) to the value of the contract.

SUSTAINABILITY IMPLICATIONS

Green waste shredding is a cornerstone activity in the processing of green waste at the Red Hill Waste Management Facility. It facilitates the recycling of a waste product (green waste), avoids landfill and creates a natural environment enhancing product that further minimises the use of water, man-made fertilisers and by implication the consumption of finite fossil fuels and the production of carbon dioxide.



Item 11.1 continued

MEMBER COUNCIL IMPLICATIONS

Member Council	Implication Details
Town of Bassendean	} Nil
City of Bayswater	
City of Belmont	
City of Kalamunda	
Shire of Mundaring	
City of Swan	

ATTACHMENT(S)

Schedule of Rates - Craneswest (WA) Pty Ltd (Ref: D2019/03349)

VOTING REQUIREMENT

Simple Majority

RECOMMENDATION(S)

That:

1. Council award Tender 2018-012 for the Provision of Green Waste Shredding and Transport Services to Craneswest (WA) Pty Ltd trading as Western Tree Recyclers for a three (3) year period commencing 1 April 2019, with an option to extend for two (2) one (1) year extensions subject to satisfactory performance, as per the attached schedule of rates.
2. Council authorise the CEO to enter into a contract, on behalf of the EMRC, with Craneswest (WA) Pty Ltd in accordance with the Tender submitted, and the attached schedule of rates, subject to any minor variations that may be agreed between the CEO and Craneswest (WA) Pty Ltd.
3. The contract rates for Tender 2018-012 are adjusted annually at the anniversary of the contract using the Consumer Price Index for Perth over the previous twelve months.

Discussion ensued

The Director Waste Services provided a brief overview of the item.

As indicated in the recommendation report, the price tendered is a 7% reduction on the current tender and a 28% reduction on the current transport cost. By combining the shredding and transport, it is a cheaper outcome for the EMRC. The current contract expires on 30 June 2019 and the contractor has agreed to terminate the contract early. The EMRC have an opportunity soon to offer this service to the Shire of Mundaring for 10,000T greenwaste collected at their transfer stations.

Mr Jackson queried why we only received one (1) tender. The Director Waste Services advised that a number of companies viewed the tender but only one submitted. When this was followed up, we found that two (2) companies were only interested in the shredded greenwaste and one (1) other contractor did not have the correct equipment as specified in the tender.



Item 11.1 continued

TAC RECOMMENDATION(S)

MOVED MR SHERIDAN

SECONDED MR STEWERT-DAWKINS

That:

1. Council award Tender 2018-012 for the Provision of Green Waste Shredding and Transport Services to Craneswest (WA) Pty Ltd trading as Western Tree Recyclers for a three (3) year period commencing 1 April 2019, with an option to extend for two (2) one (1) year extensions subject to satisfactory performance, as per the attached schedule of rates.
2. Council authorise the CEO to enter into a contract, on behalf of the EMRC, with Craneswest (WA) Pty Ltd in accordance with the Tender submitted, and the attached schedule of rates, subject to any minor variations that may be agreed between the CEO and Craneswest (WA) Pty Ltd.
3. The contract rates for Tender 2018-012 are adjusted annually at the anniversary of the contract using the Consumer Price Index for Perth over the previous twelve months..

CARRIED 6/1

Price Schedule for RFT2018-012

Shredding

Item No.	Description	Unit	Price Per Unit - Ex GST (\$)	GST Amount	Total Price incl GST
1	Mobilisation / demobilisation within metro-Perth (please see the illustration below)	per event	\$1,250.00 (6x movements)	\$ 125.00	\$ 1,375.00
2	Shred greenwaste (according to Scope of Supply SOW2018-012)	m ³	\$ 7.80	\$ 0.78	\$ 8.58

Attachment 18 - Price Schedule
Transport

Item No.	Description	Distance	Unit	Price Per Unit - Ex GST (\$)	GST Amount	Total Price incl GST
3	Load & Bulk Transport of Processed Material	Up to 20km	tonne - km	\$ 6.50	\$ 0.65	\$ 7.15
4	Load & Bulk Transport of Processed Material	Up to 40km	tonne - km	\$ 7.50	\$ 0.75	\$ 8.15
5	Load & Bulk Transport of Processed Material	Up to 60km	tonne - km	\$ 8.50	\$ 0.85	\$ 9.15
6	Load & Bulk Transport of Processed Material	Up to 80km	tonne - km	\$ 13.00	\$ 1.30	\$ 14.30
7	Load & Bulk Transport of Processed Material	Up to 100km	tonne - km	\$ 15.00	\$ 1.50	\$ 16.50



11.2 WASTE AVOIDANCE AND RESOURCE RECOVERY STRATEGY 2030

REFERENCE: D2019/03164

PURPOSE OF REPORT

The purpose of this report is to present to Council the Western Australian Waste Avoidance and Resource Recovery Strategy 2030 and to align EMRC practices where possible.

KEY POINTS AND RECOMMENDATION(S)

- The State Government released the Western Australian Waste Avoidance and Resource Recovery Strategy 2030 and Action Plan in February 2019.
- The EMRC is reviewing how its operations can align with the State Waste Strategy and Action Plan where possible.

Recommendation(s)

That Council note the release of the Western Australian Waste Avoidance and Resource Recovery Strategy 2030 and Action Plan and commits to aligning the EMRC waste practices where possible.

SOURCE OF REPORT

Director Waste Services

BACKGROUND

Under the *Waste Avoidance and Resource Recovery Act 2007* (WARR Act), the Waste Authority is required, at least every five (5) years, to review the waste strategy and, where necessary, prepare a draft revised waste strategy for the Minister for Environment's consideration following a period of public consultation led by the Authority. The EMRC reviewed the Consultation Paper and lodged its submission on 1 March 2018.

REPORT

The State Government has released the Western Australian Waste Avoidance and Resource Recovery Strategy 2030 and Action Plan (Attachments 1 and 2) following the submissions process which commenced in December 2017.

The Strategy has a vision statement, objectives around Avoid, Recover and Protect, targets for 2020, 2025 and 2030 and headline strategies and focus materials as follows:

Vision

Western Australia will become a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste.



Item 11.2 continued

The Action Plan has eight (8) headline strategies as follows:

1. A consistent three bin kerbside collection system, which includes separation of food organics and garden organics from other waste categories, to be provided by all local governments in the Perth and Peel region by 2025 and supported by State Government through the application of financial mechanisms.
2. Implement local government waste plans, which align local government waste planning processes with the Waste Avoidance and Resource Recovery Strategy 2030.
3. Implement sustainable government procurement practices that encourage greater use of recycled products and support local market development.
4. Provide funding to promote the recovery of more value and resources from waste with an emphasis on focus materials.
5. Review the scope and application of the waste levy to ensure it meets the objectives of Waste Avoidance and Resource Recovery Strategy 2030 and establish a schedule of future waste levy rates with the initial schedule providing a minimum five year horizon.
6. Develop state-wide communications to support consistent messaging on waste avoidance, resource recovery and appropriate waste disposal behaviours.
7. Review and update data collection and reporting systems to allow waste generation, recovery and disposal performance to be assessed in a timely manner.
8. Undertake a strategic review of Western Australia's waste infrastructure (including landfills) by 2020 to guide future infrastructure development.

The Strategy identifies eight (8) focus materials as follows:

- Construction and demolition waste
- Organics: food organics and garden organics
- Metals: steel, non-ferrous metals, packaging and containers
- Paper and cardboard: office paper, newspaper and magazines
- Glass: packaging and containers
- Plastics: packaging and containers
- Textiles: clothing and other fabric-based materials
- Hazardous waste

Officer Comment

The implementation of a third bin for the collection of FOGO waste is a matter for the member Councils to achieve to align with the State Waste Strategy by 2025. Participating member Councils also need to have regard for their HZI Waste Supply Agreement obligations which are likely to be effective in 2022/2023.

A report has been prepared for the Resource Recovery Committee's March 2019 meeting on the processing of FOGO waste to manage the expected FOGO waste from the Town of Bassendean and the City of Bayswater in the short term, with the development of a larger facility longer term.

The EMRC Waste Education Strategy is also being updated to address the new State Waste Strategy and in particular how the EMRC can work with the member Councils and the community on waste avoidance which is one of the key planks of the State Waste Strategy. A concentrated effort into having a "One Voice for One Region" advertising/marketing campaign is being investigated.

A separate report has been prepared for the Resource Recovery Committee on the status of the Container Deposit Scheme (CDS) implementation and any impacts on the potential for Hazelmere and Red Hill as collection points.

The EMRC has met with the Chairman of the Waste Authority to consider how the EMRC can access funding for the implementation of a FOGO waste processing pilot trial and also to look at regional branding for messaging to promote waste reduction and resource recovery.



Item 11.2 continued

STRATEGIC/POLICY IMPLICATIONS

Key Result Area 1 – Environmental Sustainability

- 1.1 To provide sustainable waste disposal operations
- 1.2 To improve regional waste management

Key Result Area 3 - Good Governance

- 3.1 To provide advice and advocacy on issues affecting Perth's Eastern Region

FINANCIAL IMPLICATIONS

Nil

SUSTAINABILITY IMPLICATIONS

The State Waste Strategy 2030 is a long term strategy for continuous improvement in waste services, waste avoidance and resource recovery. It sets targets for waste reduction, resource recovery and the diversion of waste from landfill.

MEMBER COUNCIL IMPLICATIONS

Member Council	Implication Details
Town of Bassendean	} Nil
City of Bayswater	
City of Belmont	
City of Kalamunda	
Shire of Mundaring	
City of Swan	

ATTACHMENT(S)

1. Waste Avoidance and Resource Recovery Strategy 2030 (D2019/03302)
2. Waste Avoidance and Resource Recovery Strategy Action Plan 2030 (D2019/03303)

VOTING REQUIREMENT

Simple Majority

RECOMMENDATION(S)

That Council note the release of the Western Australian Waste Avoidance and Resource Recovery Strategy 2030 and Action Plan and commits to aligning the EMRC waste practices where possible.



Item 11.2 continued

Discussion ensued

The Director Waste Services advised of the implications of adopting a FOGO waste collection system on the contract with HZI and also the process for updating the Waste Education Strategy to reflect the new State Waste Strategy 2030. There was interest in the EMRC's strategy for processing FOGO waste and when there would be a clear map for this and members were reminded of the report on FOGO to the Resource Recovery Committee meeting.

TAC RECOMMENDATION(S)

MOVED MR PURDY

SECONDED MR STEWERT-DAWKINS

That Council note the release of the Western Australian Waste Avoidance and Resource Recovery Strategy 2030 and Action Plan and commits to aligning the EMRC waste practices where possible.

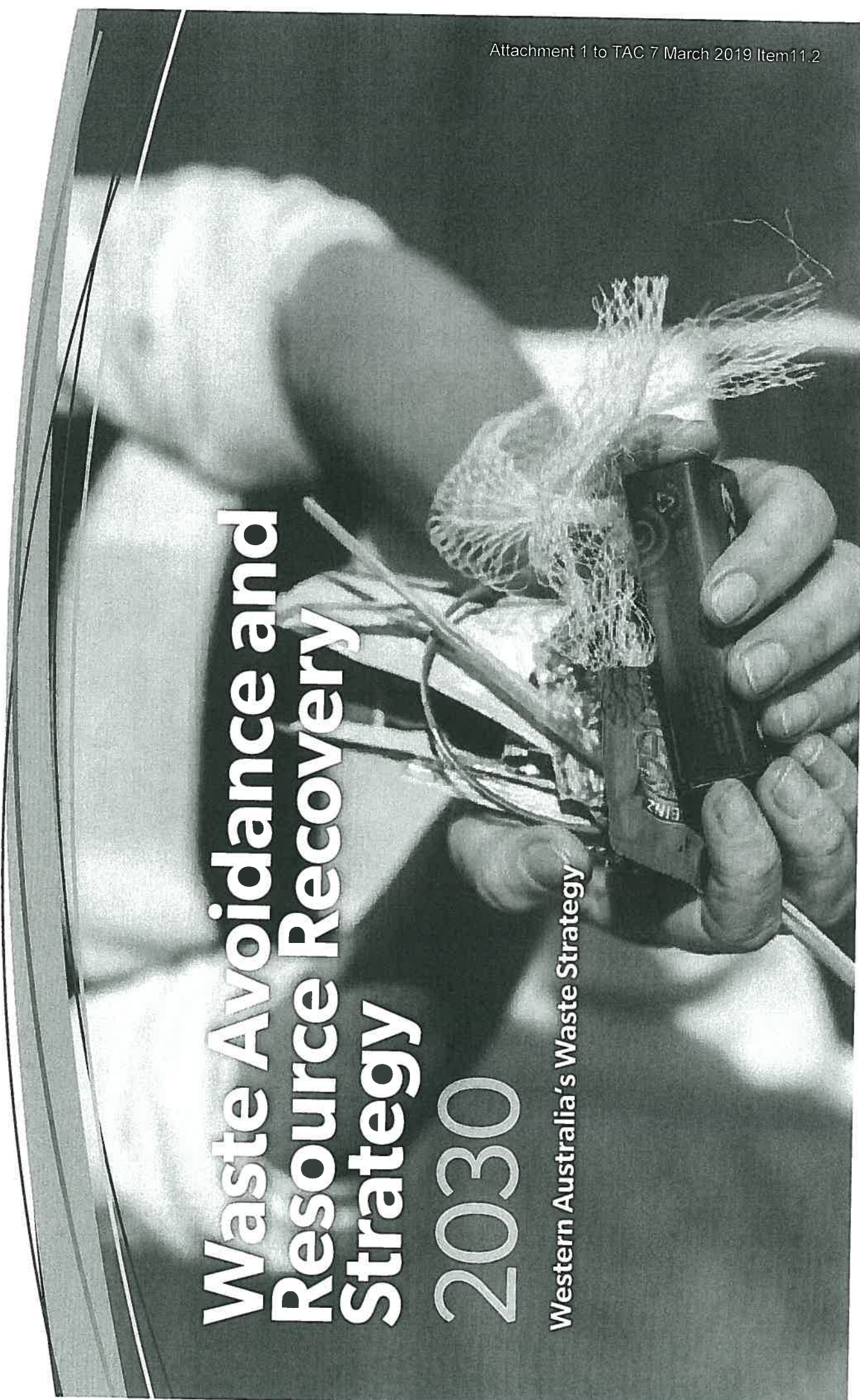
CARRIED UNANIMOUSLY



Waste Authority

Waste Avoidance and Resource Recovery Strategy 2030

Western Australia's Waste Strategy



Waste Authority
C/O Department of Water and Environmental Regulation
Department of Water and Environmental Regulation
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Acknowledgements

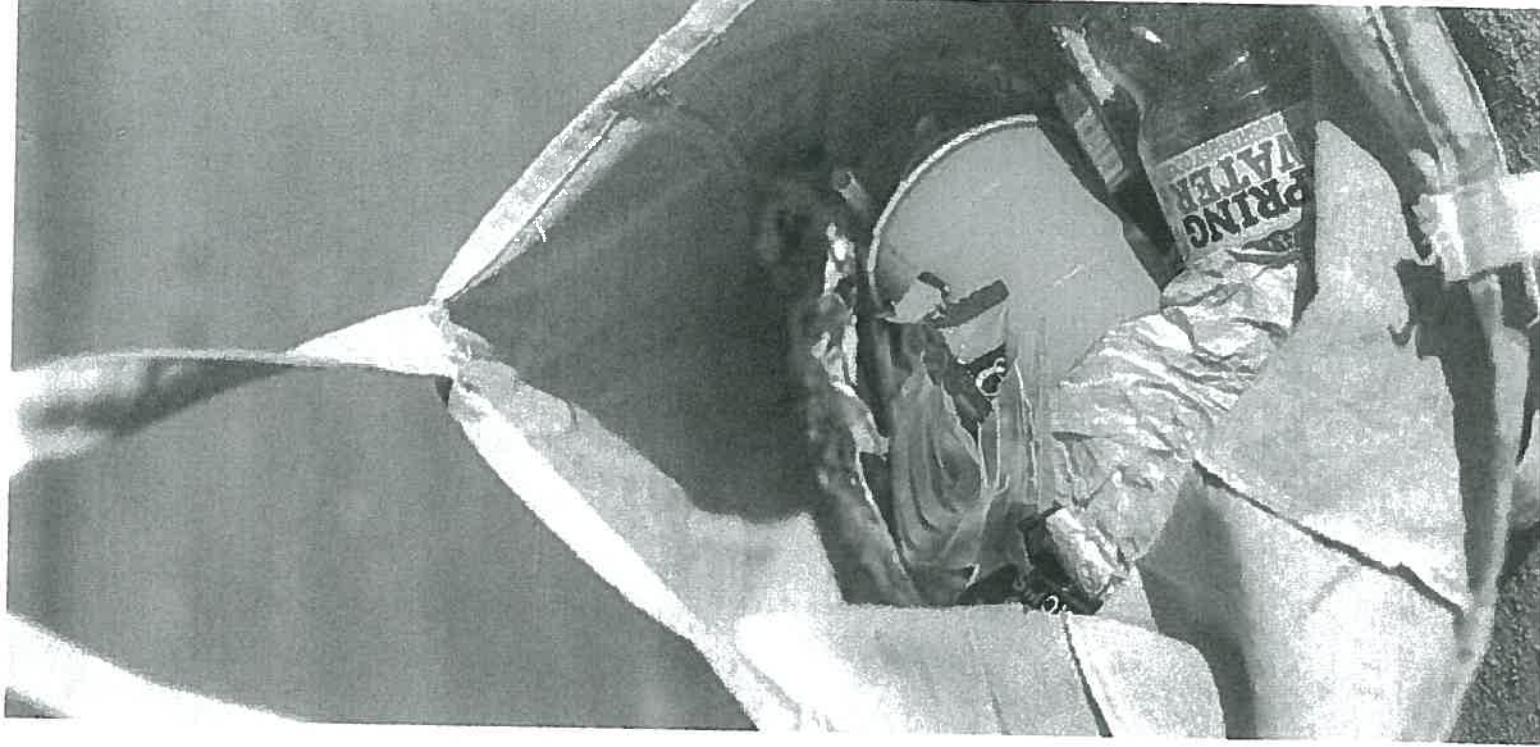
The Waste Authority would like to acknowledge the contribution of Department of Water and Environmental Regulation staff to the development of this document.

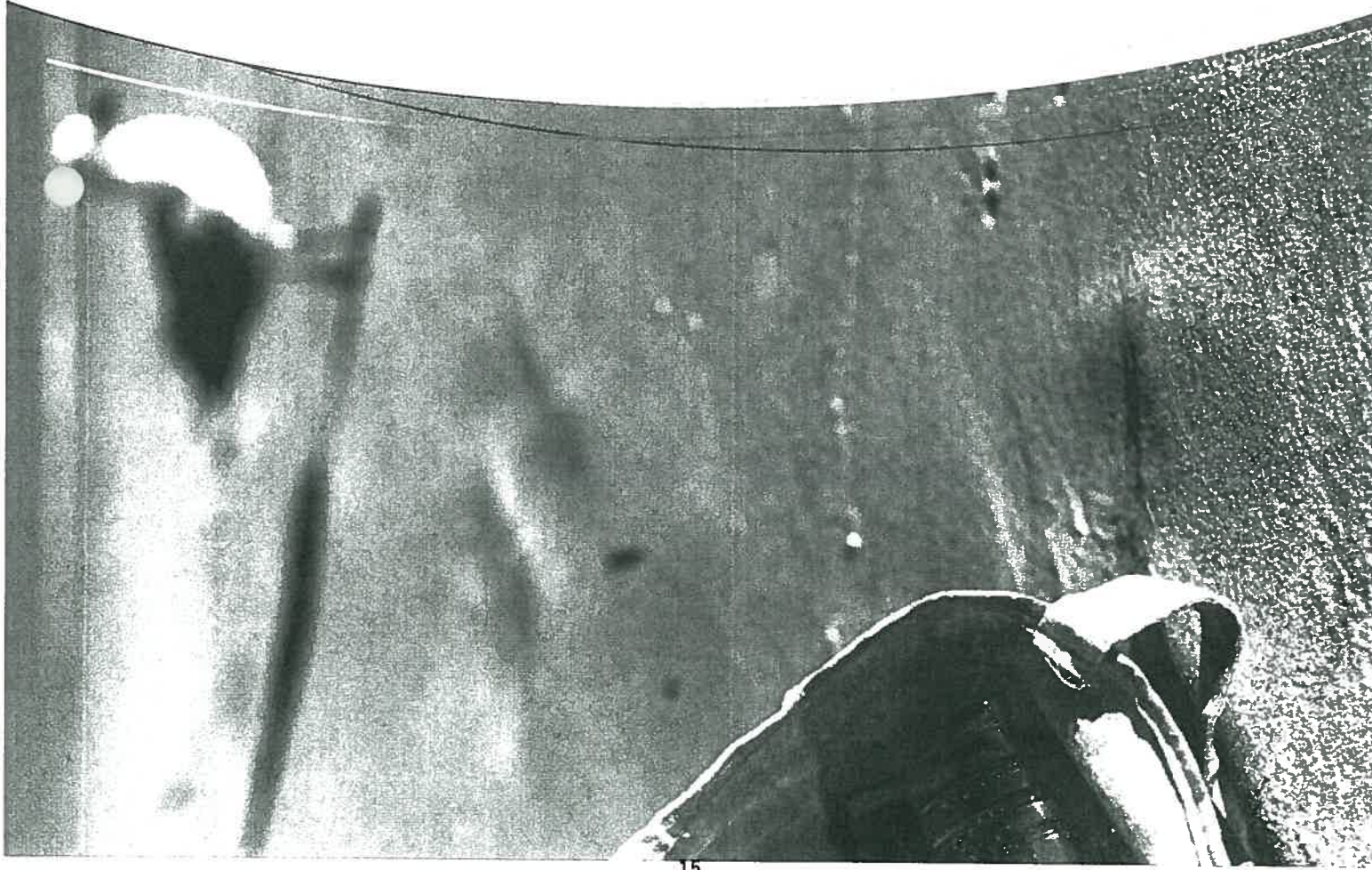
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Statutory context

The Waste Authority is charged with promoting better waste management practices in Western Australia under the *Waste Avoidance and Resources Recovery Act 2007*. One of the Authority's functions under the Act is to draft, for the Minister for Environment's approval, a long term waste strategy for the whole of the State for continuous improvement of waste services, waste avoidance and resource recovery, benchmarked against best practice and targets for waste reduction, resource recovery and the diversion of waste from landfill disposal. This strategy takes a ten year and beyond view and must be reviewed at least every five years. This Strategy was approved by the Minister for Environment and replaces Western Australia's inaugural waste strategy, *Creating the Right Environment*, approved and published in 2012.





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Invitation from the Minister



Western Australia is a spectacularly beautiful place with a vibrant and growing population.

It's because of this that we all have a significant opportunity in terms of how we live our lives and the impact we have on our environment.

We can make a significant impact by acting on the waste we generate and how we manage resources from extraction through to manufacturing, use and disposal.

Right now, Western Australia is close to leading the "wrong lists". National figures from 2014-15 (the latest available as at September 2018) show Western Australia had the highest rate of waste generation *per capita* in the nation, and the equal second lowest rate of resource recovery – 13 percentage points below the national rate.

We have an obligation to our current community and generations to come to generate less waste, extract more from our valuable resources and to better manage the disposal of our waste.

Waste Avoidance and Resource Recovery Strategy 2030 rises to address that challenge and the opportunities that better choices and better waste management present.

We will have to work hard to meet the ambitious targets set out in this Strategy and deliver against long-standing issues in the waste community. We won't, for example, be able to meet our 2025 recovery targets without all metropolitan local governments adopting a three-bin FOGO system, and I will work with those local governments to achieve this.

I acknowledge that with this comes significant environmental, social, cultural and economic impacts and opportunities associated with improved waste management.

Across Australia, the waste sector contributes more than \$10 billion a year to the economy. At the same time, materials worth hundreds of millions of dollars are lost to landfill each year (ABS, 2014).

High-performing waste and recycling systems which see materials recovered, reused and recycled can and do reduce this impact. The creation of a circular economy has the potential to harness the economic value of these materials that would otherwise be lost, and drive investment in infrastructure and jobs.

Reducing the amount of waste disposed of to landfill can also generate significant economic opportunities for the Western Australian community. It is estimated that for each 10,000 tonnes of waste recycled, 9.2 full-time equivalent jobs are created (Access Economics, 2009).

With an increasing population and our current waste management performance, maintaining the status quo is not an option.

But there is an upside; we can make waste work for us – and enjoy the environmental, social, cultural and economic benefits improved waste management can deliver.

Waste is everyone's business – individuals, households, neighbourhoods, community groups, schools, small and big businesses, local governments, waste managers, the State Government and the media.

There's a big challenge ahead of us all and this strategy is about finding a united way forward.

The McGowan Government will continue to show leadership in the waste arena for the benefit of all Western Australians now and into the future.

As WA's Environment Minister, I encourage everyone to act on waste and own your impact – whether it's in your role as a consumer, producer, waste manager or regulator.

We've made good progress in recent years and there's great momentum building.

Let's harness that commitment and energy in the years ahead and work towards a cleaner future for all Western Australians.

Hon Stephen Dawson MLC
Minister for Environment

¹ Dr Joe Pickin and Paul Randell, *Australian National Waste Report 2016*, Department of the Environment and Energy, Energy and Blue Environment Pty Ltd. Figures exclude fly-ash (a by-product of coal-fired power stations)

Introduction by the Chair



Western Australians are consciously reusing, reprocessing, recycling and avoiding waste at an increasing rate. We are generating less waste and recycling more. However, to protect our unique environment from the impacts of waste and litter, and to maximise the benefits of good waste management, more work needs to be done.

Building on and updating the first *Western Australian Waste Strategy: Creating the Right Environment* published in 2012, this strategy introduces significant transformations aimed at Western Australia (WA) becoming a circular economy, with a greater focus on avoidance as well as moving to targets for material recovery and environmental protection in addition to landfill diversion.

A circular economy means transitioning from the current take-make-use and dispose system to a material efficiency approach which aims to keep products, components and materials at their highest utility and value for as long as possible.

In 2014-15, WA's recycling rate was 48 per cent, which is lower than other mainland states.

Waste collection and processing arrangements vary considerably across WA. Long-term planning for waste processing and recycling facilities and local recovery options would benefit resource recovery and promote the most efficient use of resources assisted by economic incentives, modern regulations, compliance and enforcement.

Community engagement, acceptance and awareness is as important as the provision of physical infrastructure and collection systems. Consistency of messaging across homes, workplaces and public areas is a key *fundamental* that needs to be tailored to local recovery infrastructure and systems.

The waste management sector is in a transitional phase and will require clear direction and guidance going forward that may include more directive approaches over voluntary ones. This could be aligned with careful reinvestment of waste levy funds into programs and alternative delivery methods to support implementation of our waste strategy.

There needs to be commitment by all stakeholders of adopting best practice management and engagement and ensuring transition and waste plans are implemented in a timely manner.

The approach taken in this strategy is founded on working collaboratively across all levels of government, industry, the social enterprise sector and the community, supported by government leading by example in areas such as sustainable procurement, minimum levels of recycled content and underpinned by targets and action plans.

The focus of this strategy, including priorities and targets, is on solid waste. However, the principles and approaches in this strategy apply to waste management across WA, regardless of the type, form or source of waste.

Minimising waste and protecting our environment is important to all West Australians and with this renewed focus I am confident we will move towards a more sustainable, low-waste, circular economy.

I look forward to sharing this journey with you.

Marcus Geisler
Waste Authority Chairman

Key strategy elements

VISION	Western Australia will become a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste.			
OBJECTIVES	Avoid Western Australians generate less waste.	Recover Western Australians recover more value and resources from waste.	Protect Western Australians protect the environment by managing waste responsibly.	Supporting documents Other documents which align with or support this strategy Waste Avoidance and Resource Recovery Strategy 2030 include the:
TARGETS	<ul style="list-style-type: none"> ⦿ 2025 – 10% reduction in waste generation per capita ⦿ 2030 – 20% reduction in waste generation per capita 	<ul style="list-style-type: none"> ⦿ 2025 – Increase material recovery to 70% ⦿ 2030 – Increase material recovery to 75% ⦿ From 2020 – Recover energy only from residual waste 	<ul style="list-style-type: none"> ⦿ 2030 – No more than 15% of waste generated in Perth and Peel regions is landfilled. ⦿ 2030 – All waste is managed and/or disposed to better practice facilities 	<ol style="list-style-type: none"> 1. Waste Avoidance and Resource Recovery Strategy 2030 Action Plan 2. Waste Authority position and guidance statements 3. State Waste Infrastructure Plan 4. Annual Business Plan 5. Waste Data Strategy
HEADLINE STRATEGIES	<ul style="list-style-type: none"> • A consistent three bin kerbside collection system, which includes separation of food organics and garden organics from other waste categories, to be provided by all local governments in the Perth and Peel region by 2025 and supported by State Government through the application of financial mechanisms. • Implement local government waste plans, which align local government waste planning processes with the Waste Avoidance and Resource Recovery Strategy 2030. • Implement sustainable government procurement practices that encourage greater use of recycled products and support local market development. • Provide funding to promote the recovery of more value and resources from waste with an emphasis on focus materials. • Review the scope and application of the waste levy to ensure it meets the objectives of Waste Avoidance and Resource Recovery Strategy 2030 and establish a schedule of future waste levy rates with the initial schedule providing a minimum five year horizon. • Develop state-wide communications to support consistent messaging on waste avoidance, resource recovery and appropriate waste disposal behaviours. • Review and update data collection and reporting systems to allow waste generation, recovery and disposal performance to be assessed in a timely manner. • Undertake a strategic review of Western Australia's waste infrastructure (including landfills) by 2020 to guide future infrastructure development. 			

Setting the direction

Waste is Australia's most rapidly increasing environmental and economic metric, according to the Australian Bureau of Statistics².

Western Australian's per capita waste generation rates are higher compared to other jurisdictions, while our recovery rates are lower. This poor performance partly reflects some of the unique characteristics of WA such as our geographical size, isolation from markets, vast regional and remote areas, and a heavy reliance on mineral and resource industries. Despite this, there are significant opportunities to improve our waste and recycling practices and performance.

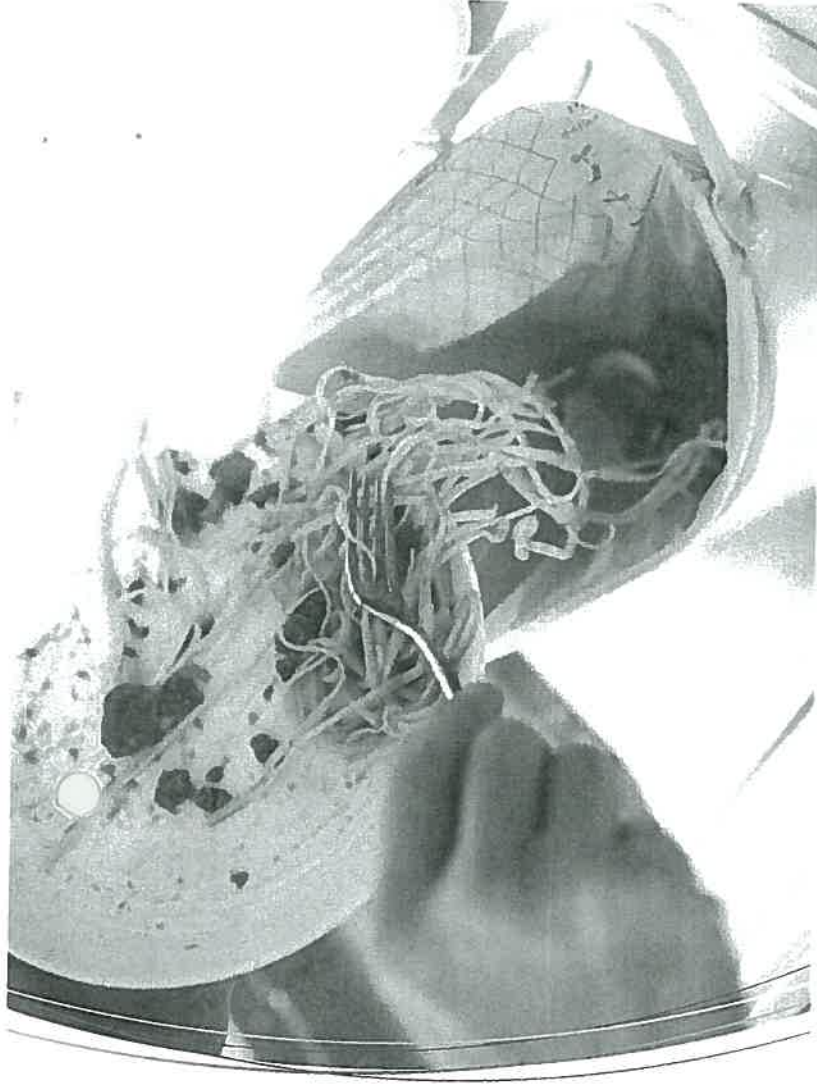
The Australian waste sector contributes over \$10 billion a year to the economy. Materials worth hundreds of millions of dollars are lost to landfill each year (ABS, 2014). High performing waste and recycling systems in which materials are recovered, reused and recycled can reduce this impact. The creation of a circular economy has the potential to harness the economic value of materials and drive investment in infrastructure and jobs.

Reducing the amount of waste disposed of to landfill can generate significant economic opportunities for the WA community. It is estimated that for each 10,000 tonnes of waste recycled, 9.2 full time equivalent jobs are created compared to only 2.8 jobs for landfill (Access Economics, 2009).

Most importantly, waste can have a significant impact on the environment and public health through greenhouse gas emissions, pollution, biodiversity loss and resource depletion (Environmental Protection Authority, 2015). Reducing the volume of waste generated is the best way to manage those risks. It is also critical that where waste cannot be recovered it is safely disposed.

The *Waste Avoidance and Resource Recovery Act 2007* requires the development of a long-term waste strategy for the state to drive continuous improvement in waste services, waste avoidance and resource recovery; and set targets for waste reduction, resource recovery and the diversion of waste from landfill.

This new waste strategy sets a direction to guide such decisions and builds on the state's previous *Western Australian Waste Strategy: Creating the Right Environment*. It has been developed in



consultation with the WA community, industry and government and builds on the *Western Australian Waste Avoidance and Resource Recovery Strategy consultation paper*. Stakeholder feedback confirmed an overall desire for WA to do more and improve its waste management performance relative to other Australian jurisdictions.

Given this need, this waste strategy has been developed to set the direction for all Western Australians and guide their decisions with regards to waste. To do this, the waste strategy includes a vision for Western Australians to strive for, which is supported by principles, objectives,

targets, priorities and strategies to provide stakeholders with clear guidance on how to align their decision making with the intent of the waste strategy's vision.

The waste strategy will also be supported by an action plan that will outline specific actions to be implemented to achieve the objectives of the strategy. The action plan will be prepared by the Waste Authority in consultation with relevant State Government agencies, for consideration by the Minister for Environment. The waste strategy will be reviewed in five years, while the action plan will be reviewed on a more regular basis.

Our starting point

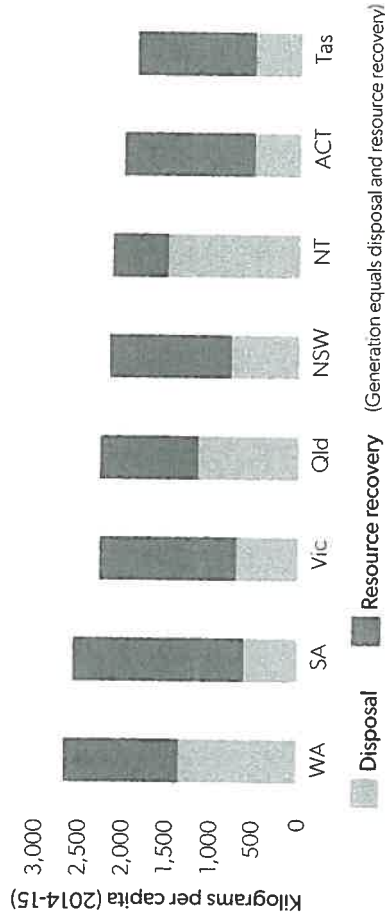
This strategy builds on Western Australia's previous waste strategy *Creating the Right Environment*, which was introduced in 2012 and achieved significant improvements in recycling, reducing waste generation, diverting construction and demolition waste, and better managing commercial and industrial waste.

The achievements were encouraging, but not enough.

In 2014-15 Western Australians:

- generated more waste than people in other Australian states and territories (2,623 kilograms per capita per annum, all waste excluding fly ash);
- disposed of the second highest amount of waste to landfill (1,358 kilograms per capita per annum, all waste excluding fly ash); and
- had the equal second lowest rate of resource recovery (48 per cent)³.

Figure 1: Waste disposal and resource recovery by state (Pickin and Randell, 2017)



Western Australia has some challenging features when it comes to waste management but these cannot be an excuse. Our state is vast and located a considerable distance from waste end-markets, which can impact investment in waste and recycling infrastructure and overall recycling rates. This vastness also means it can be difficult to prevent environmental impacts from waste, through activities such as illegal dumping.

However, we have encouraging waste management results and momentum on which to build. In the nine years to 2014-15, total waste generation in Western Australia increased by about 20 per cent – or an average of 2.1 per cent per year³. However, our population also increased over that time and, on a per capita basis, waste generation actually decreased marginally by 0.3 per cent per year.

In terms of waste recovery over the same period, the state's overall picture also improved – waste to landfill declined and resource recovery rose. In particular:

- resource recovery rate increased from 34 per cent to 48 per cent;
- recycling tonnages rose an average of 6.8 per cent;
- the amount of waste disposed of declined by 6 per cent, by tonnage, or an average fall of 0.7 per cent per year; and
- waste disposal in WA dropped by 24 per cent on a per capita basis, or 3 per cent per year on average, which was the nation's largest fall in waste disposal per capita over the period⁴.

³ Pickin and Randell, 2017

⁴ ASK Waste Management, 2017

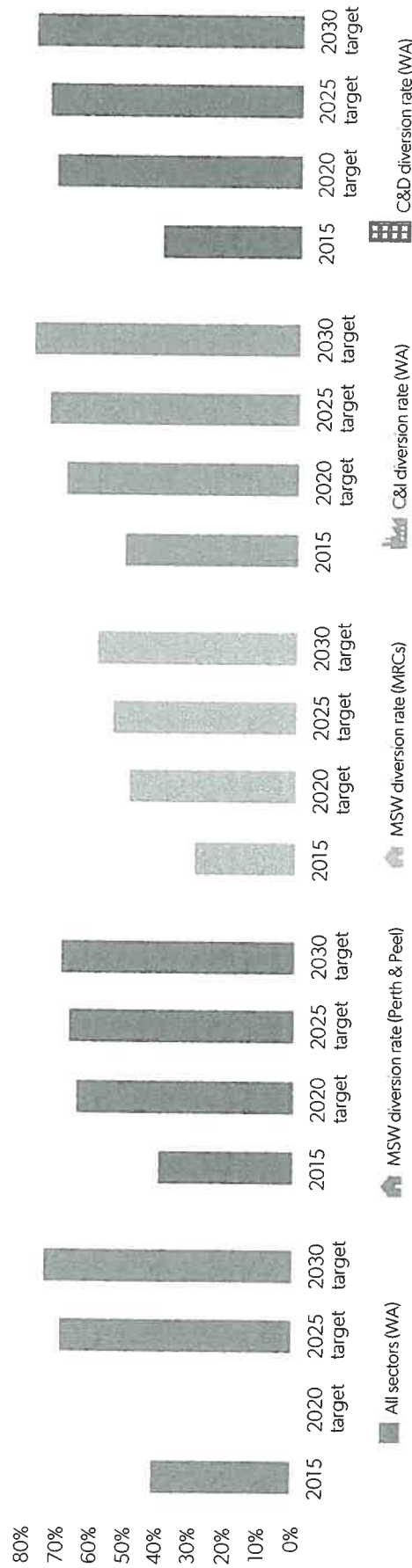
Table 1: Changes in waste generation and landfill in Western Australia, 2010–11 and 2014–15 (Hyder, 2013 & ASK Waste Management, 2017)

	2010–11	2014–15	Percentage change
Generation – total	6.53 million tonnes	6.23 million tonnes	↓ 5%
Generation – per capita	2,764 kilograms	2,437 kilograms	↓ 12%
Waste to landfill	4.49 million tonnes	3.61 million tonnes	↓ 20%
Resource recovery	2.04 million tonnes	2.62 million tonnes	↑ 28%

The 2017 Recycling Activity Review commissioned by the Waste Authority reported generally encouraging trends in waste management in Western Australia between 2010–11 and 2014–15. Note: National and State data differ due to hazardous waste being included in national data sets and some overlap in data collection and attribution.

The journey to becoming a circular economy will not be easy and, as shown in Figure 2, there is a substantial gap between our current performance and the performance required to achieve our waste generation and material recovery targets.

Figure 2: Material recovery performance in 2015–16 and waste strategy targets for 2020, 2025 and 2030 (ASK Waste Management 2017)



Vision

Western Australia will become a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste.

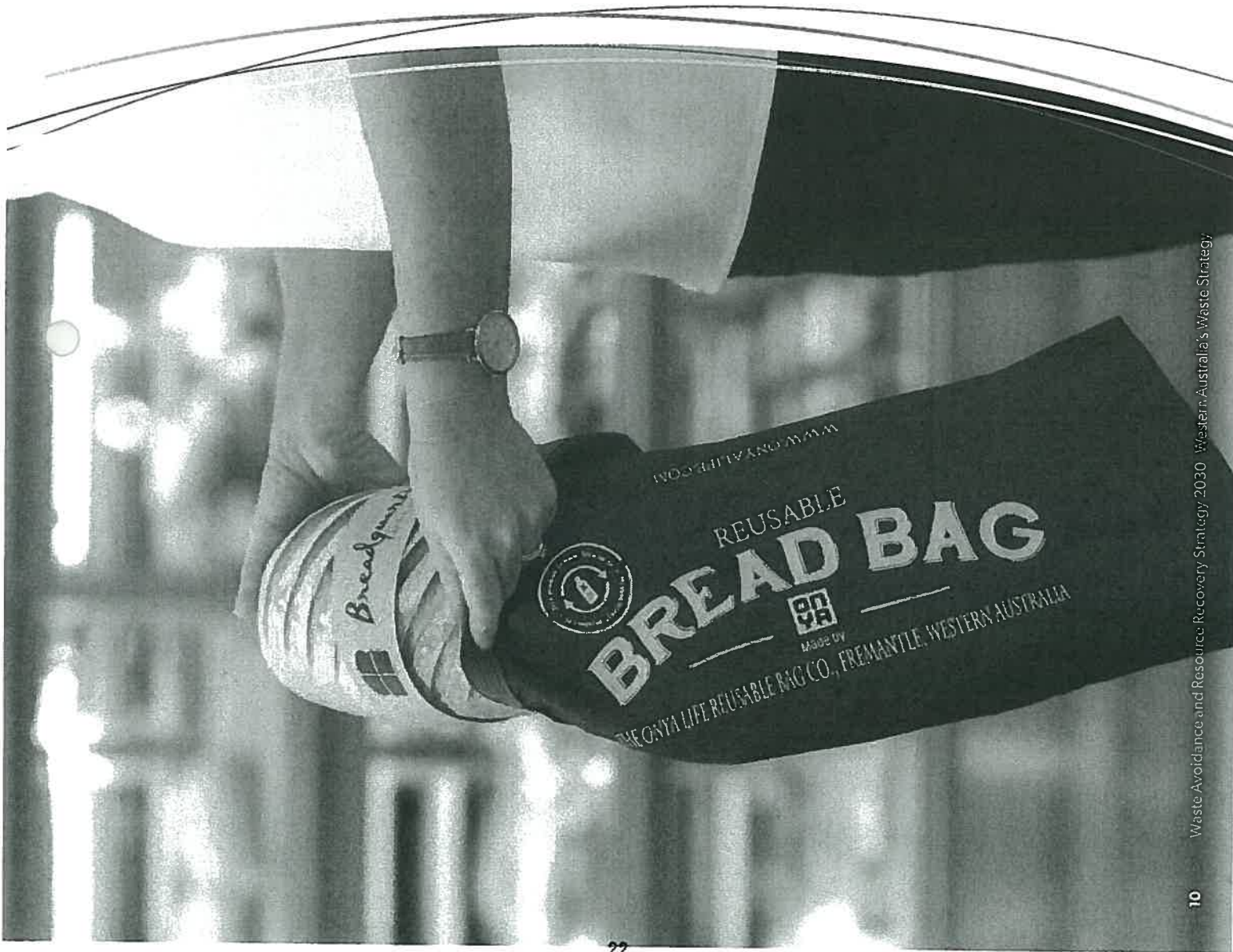
As Western Australians, we live in a unique environment and we recognise its value and importance. We share a desire to be environmentally sustainable.

To be sustainable means to be a low-waste society. Waste avoidance is a priority, which means we strive to avoid the unnecessary generation of waste.

This waste strategy recognises that some level of waste generation is unavoidable and so encourages a circular economy approach, where any waste that is generated is valued as a resource that can be reused or recycled for the benefit of the Western Australian economy.

A sustainable, circular economy also means we manage waste to protect the environment. Such management needs to occur through the entire life cycle – from design and manufacture, through to use and then disposal options consistent with the waste hierarchy.

Waste Avoidance and Resource Recovery Strategy 2030 recognises that individuals, governments and industry all generate waste and can play an important role in avoiding waste, recycling and disposing of waste correctly to protect the environment. The waste industry has an important role to play in terms of maximising the recovery of resources and then managing the disposal of residual waste, or waste that cannot be practically recovered.



Objectives

This strategy includes three objectives to guide the Western Australian community and enable the development of a sustainable, low-waste and circular economy.

These objectives frame the priorities and strategies that will contribute to delivering on the vision:

Objective 1

Avoid

Western Australians generate less waste.

Objective 2

Recover

Western Australians recover more value and resources from waste.

Objective 3

Protect

Western Australians protect the environment by managing waste responsibly.



Targets

Waste Avoidance and Resource Recovery Strategy 2030 provides a long-term strategy for the State for continuous improvement of waste management benchmarked against best practice.

It includes targets for waste avoidance, resource recovery and environmental protection, including the diversion of waste disposed to landfill.

Under each objective, high-level targets have been set for the state that are Specific, Measurable, Achievable, Relevant and Time-bound (SMART).

Targets have been set with reference to performance in other jurisdictions and knowledge about local performance and barriers.

These targets will support our move towards becoming a sustainable, low-waste and circular economy and allow progress to be monitored.

Establishing baseline data is an ongoing challenge in waste management and ensuring data is provided by key sources is an important focus of this strategy.

Improved data collection and analysis will better enable the measurement and evaluation of waste management programs and initiatives. In turn, we will

be able to ensure funding and other resources are directed where they are most needed and can be most effective.

For the purpose of this strategy, targets have been set using 2014–15 national data. This data was the latest available during the consultation and development of the strategy. More recent waste data, which became available in the *National Waste Report* in November 2018, is less accurate than the 2014–15 data, due most significantly to waste stockpiling.

Data improvement to address accuracy issues is a headline strategy in this waste strategy, and will be addressed as a priority.

Overall objectives and state targets

Avoid	Recover	Protect
<p><i>Western Australians generate less waste.</i></p> <ul style="list-style-type: none"> 2025 – 10% reduction in waste generation per capita 2030 – 20% reduction in waste generation per capita 	<p><i>Western Australians recover more value and resources from waste.</i></p> <ul style="list-style-type: none"> 2025 – Increase material recovery to 70% 2030 – Increase material recovery to 75% From 2020 – Recover energy only from residual waste 	<p><i>Western Australians protect the environment by managing waste responsibly.</i></p> <ul style="list-style-type: none"> 2030 – No more than 15% of waste generated in Perth and Peel regions is landfilled 2030 – All waste is managed and/or disposed to better practice facilities



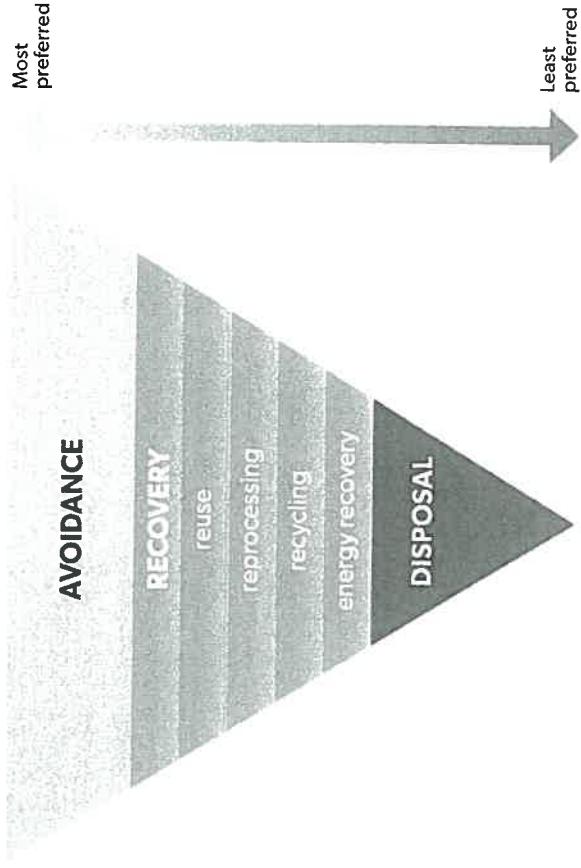
Guiding concepts

Waste hierarchy

Waste Avoidance and Resource Recovery Strategy 2030 applies the waste hierarchy, which is a widely accepted decision making tool which is set out in the Waste Avoidance and Resource Recovery Act 2007. The waste hierarchy ranks waste management options in order of their general environmental desirability. The waste hierarchy is used alongside other tools (including economic, social and environmental assessment tools) to inform decision making.

Waste avoidance is the most preferred option in the hierarchy.

Figure 3: Waste hierarchy



Resource recovery options recover value from materials, thereby offsetting the environmental impacts of extracting and processing raw materials. Energy recovery is the least preferred recovery option.

Disposal is the least preferred option. Disposal generally recovers the least value from materials and delivers the least environmental benefit.





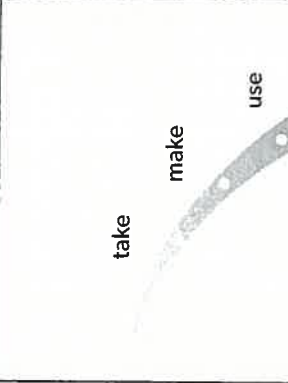
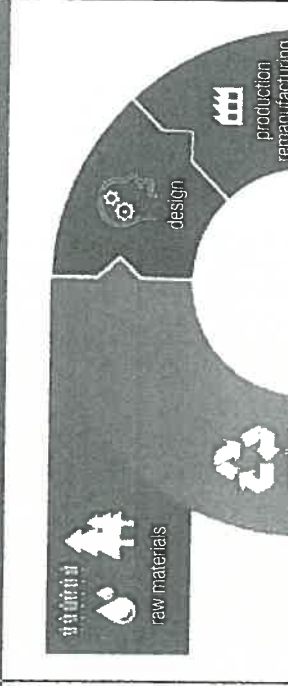
Circular economy

A circular economy builds on long-standing sustainability concepts, including life cycle thinking and resource efficiency, and it complements the waste hierarchy. A circular economy refers to the flow of both materials and energy – it moves away from the linear ‘take, make, use and dispose’ model to one which keeps materials and energy circulating in the economy for as long as possible.

A circular economy presents opportunities for increased local recycling activity. Local solutions create local jobs, and minimise the costs and impacts of unnecessary transport.

Local solutions are particularly important in a state as large as WA where access to markets is limited, and transport costs and impacts are high. WA has an opportunity to benefit from greater local recycling activity. If local recycling options are not available, solutions within Australia will be preferred.

Figure 4: Current waste approach versus circular economy

Current approach	Circular economy
	
Linear flow of materials – ‘take, make, use and dispose’ model.	Circular flow of materials – materials sorted and retained in the economy for as long as possible.
Limited use of renewable materials and energy.	Preference for renewable materials and energy.
Significant volumes of materials disposed of and lost to the economy. Loss of embodied materials, energy and water.	Materials recovered as high up the waste hierarchy as possible. Embodied materials, energy and water retained in the economy. Organic materials re-enter and regenerate the environment safely (for example, as compost).
Materials managed locally and globally.	Preference to manage materials locally to reduce the costs and impacts of transport, and to provide local employment and investment opportunities.
Economic value of materials, employment and investment not fully accounted for.	Economic value of materials, employment and investment accounted for.
Limited focus on life cycle thinking.	Products designed and manufactured to minimise environmental impact through whole of life.

Behaviour change – knowledge, enabling infrastructure, incentives

Building on the Western Australian Waste Strategy: *Creating the Right Environment* (2012), *Waste Avoidance and Resource Recovery Strategy 2030* aims to change behaviour through a combination of strategies grouped around knowledge, enabling infrastructure and incentives.

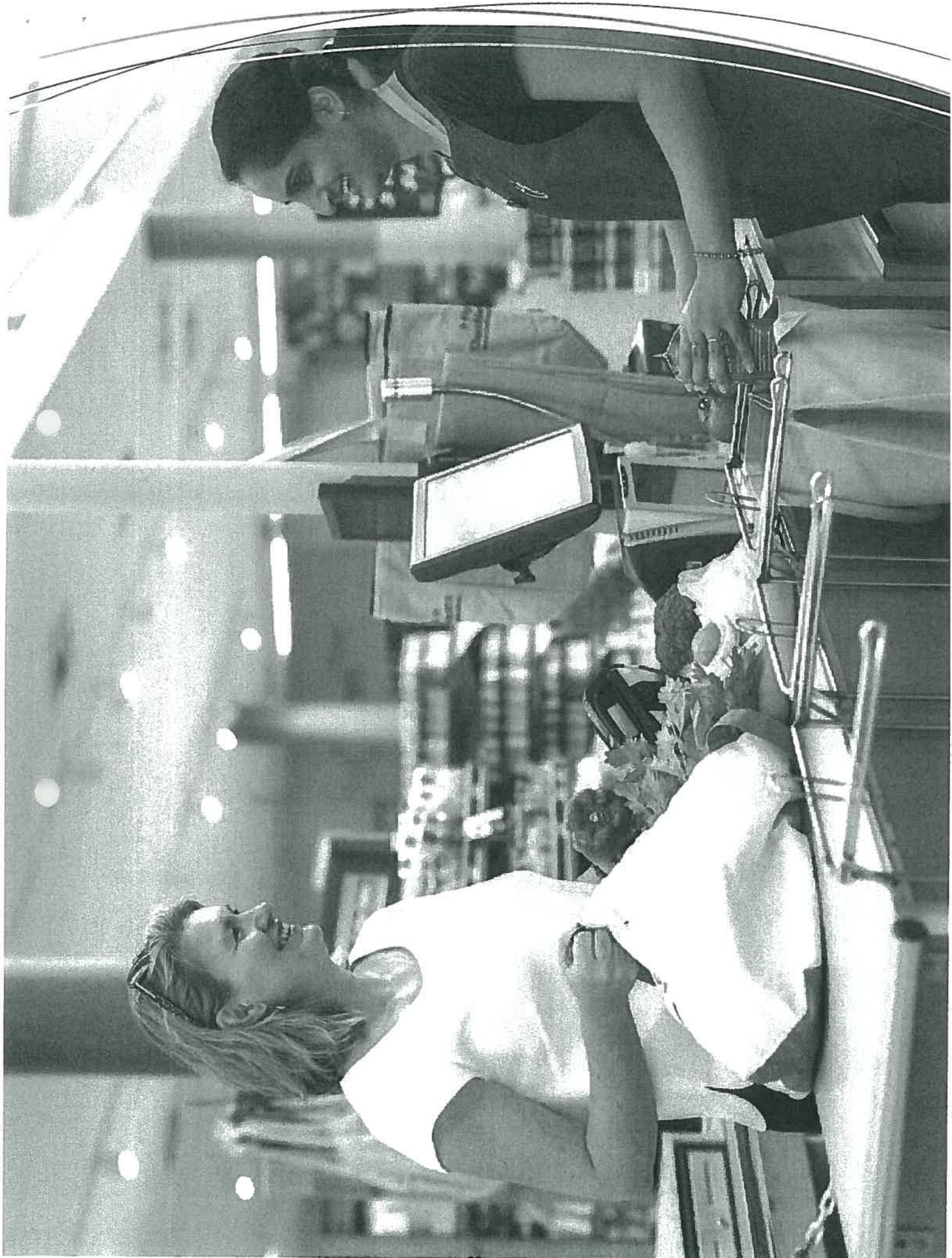
Knowledge plays an important role in getting individuals and organisations started on behaviour change, but it is only a start. Knowledge needs to be complemented with the incentives and practical support individuals and organisations need to act on their decision to change behaviours.

Access to appropriate enabling infrastructure is critical in allowing individuals and organisations to engage with waste management options to improve their effectiveness and efficiency.

Enabling infrastructure includes the physical facilities necessary to manage waste, as well as the organisational structures of government and legislation applying to individuals and organisations.

Appropriate knowledge and enabling infrastructure can assist in removing barriers to behaviour change, and incentives can provide a driving force for change. Incentives can be positive, such as funding, or negative, such as penalties and compliance actions.





Our principles

Five key principles, aligned with legislation, guide the thinking behind *Waste Avoidance and Resource Recovery Strategy 2030* and will drive future decision making.

Shared responsibility and partnership – owning your impact

The state's environmental resources belong to all Western Australians and we all have a role to play in protecting them. The State Government will lead by example by working collaboratively with the community, industry and governments to improve waste management outcomes.

We will support product stewardship and extended producer responsibility as part of our approach to shared responsibility.

Innovation and growth

Western Australia will encourage, embrace and celebrate innovation in all forms that enables and expands our waste management capacity and know-how.

Better practice

Western Australians will pursue better practice approaches in waste management that takes into account the full costs, benefits and impacts of waste management decisions.

This strategy will inform priorities for developing better practice approaches to waste and recycling services.

Better practice will be outcome-focused, evidence-based, informed by performance achieved in other jurisdictions, developed in consultation with key stakeholders, and set out in guidelines that are framed to reflect the varying resources and capacities of the users of those guidelines. We will stay abreast of national and international best practice and responsibly measure, evaluate and benchmark our own performance against it.

Better practice guidelines will inform stakeholders, such as waste managers and local governments, about preferred systems to achieve the targets in

Waste Avoidance and Resource Recovery Strategy 2030. Local government waste plans will have regard to better practice guidelines published or referenced by the Waste Authority.

When better practice waste management is promoted by State Government, stakeholders will adjust practices to meet or exceed this new benchmark.

Waste as a resource

Western Australians will adopt and implement the waste hierarchy, avoiding the generation of waste where possible, maximising the recovery of waste that is generated, and protecting the environment from the impacts of disposal.

Intergenerational equity

Western Australians will make waste management decisions which ensure the health, diversity and productivity of our environment is maintained or enhanced for the benefit of future generations.



Our approach

Using your influence – owning your impact

As individuals, we make decisions in different roles and have different spheres of influence when avoiding and recovering waste and also when protecting the environment from the impacts of disposal.

In our different spheres of influence we can have a greater or lesser impact on what resources or materials are used, how long they stay in circulation, what waste is generated, what resources are recovered and, ultimately, the method of disposal and the impact that has on our environment.

An individual or single household can make positive choices to contribute to the circular economy. For example, being informed about how to source separate recyclables and purchasing recycled products for use in the home. When individuals act collectively, in our neighbourhoods, schools and community groups, there is an even greater potential to make a difference.

As manufacturers, industry can make significant contributions to the circular economy through shifts to more sustainable design and manufacturing methods, and enabling greater resource recovery. As waste managers, the sector can innovate to improve waste management outcomes and better protect the environment.

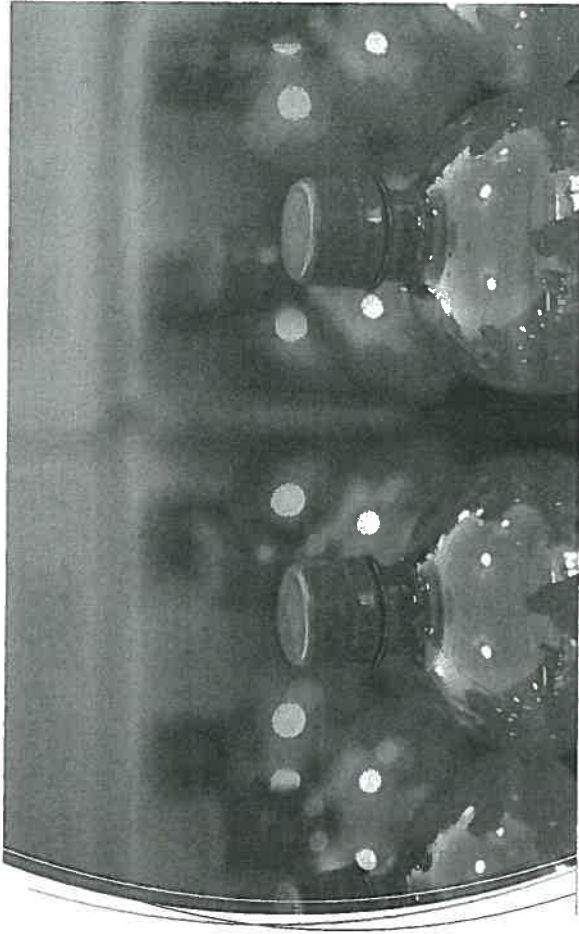
Local, State and Commonwealth governments can influence, educate and inform – and can also be significant consumers whose purchasing decisions and procurement policies can have very positive impacts and influence. They have important legislative and regulatory roles and develop and implement strategies. Australia is also part of global action on waste management.

Local solutions and markets

Waste Avoidance and Resource Recovery Strategy 2030 places a focus on identifying and prioritising local market solutions for those recyclable materials traditionally exported from the state. Local markets for large volume wastes, such as construction and demolition waste and organic waste lend themselves to being managed close to the source of generation for economic and environmental reasons. This is an example of the circular economy approach in action, supporting local innovation and local jobs.



Good Samm
Employment changes the world



For other priority materials such as plastics, it is not as straightforward to identify local reuse options across the state that make sense locally. This strategy places an increased focus on promoting procurement decisions that preference local markets and play a role in supporting the development of a remanufacturing industry within Western Australia, along with the employment and investment it can bring to the state.

Attracting investment into local reuse options requires a degree of certainty which has not been present under standard market conditions in Western Australia. This will rely on procurement decisions recognising the benefits that local reprocessing, and the use of products made locally from recycled materials, can offer compared to national or international export options.

Waste generators and waste managers

Waste Avoidance and Resource Recovery Strategy 2030 recognises the roles that different individuals and organisations have in generating and managing waste. This strategy recognises entities that are primarily generators of waste (community, local and state government, and industry), and entities that are primarily managers of waste (the waste industry, including private industry and local government).

This approach allows individual strategies to better target certain groups to help avoid, recover and protect the environment from the impacts of waste. For example, community members can make better purchasing decisions with more knowledge and information, and can influence industry in its packaging and production decisions with the choices they make; industry can make decisions about more circular design and production of goods; while waste managers can embrace technology and innovation to achieve improved waste management practices.

This waste strategy recognises circumstances where resources and capacities will be limited. The action plan and supporting better practice guidance documents will be framed to reflect this.

Waste streams

Consistent with other jurisdictions, solid waste will continue to be categorised for the purpose of measurement and comparison against targets in the following three streams:

- **Municipal solid waste (MSW):** primarily waste collected from households and local governments through waste and recycling collections.
- **Commercial and industrial (C&I) waste:** waste that is produced by

institutions and businesses. It includes waste from schools, restaurants, offices, retail and wholesale businesses and industries, including manufacturing.

- **Construction and demolition (C&D) waste:** waste produced by demolition and building activities, including road and rail construction and maintenance, and excavation of land associated with construction activities.

These waste stream descriptions are consistent with the previous Western Australian Waste Strategy (2012), and are consistent with the way Australian jurisdictions categorise and report on waste and recycling performance. The stream descriptions are carried forward to *Waste Avoidance and Resource Recovery Strategy 2030* from the previous strategy to maintain continuity and enable waste

and recycling data to be effectively benchmarked against other jurisdictions.

National context

Western Australia contributes to national strategies aimed at increasing the recovery of materials from waste, including:

- The *National Waste Policy: Less waste, more resources, 2018* and the *Product Stewardship Act 2017* support national approaches to problem wastes such as televisions, computers, paint, tyres and packaging.
- The Australian Packaging Covenant and the Environment Protection (Used Packaging Material) Measure are national programs aimed at reducing generation and encouraging the reuse and recycling of used packaging materials.

Our roles and responsibilities

Collective responsibility – waste is everybody’s business

All Western Australians generate waste, and while there are some businesses that manage our waste for us, we can all take a bit more responsibility for better managing the impacts of our own waste. Whether large or small, waste is generated by households, schools, workplaces, local government authorities, government departments, businesses and industry in large cities and remote towns around our vast state.

As a collective issue, waste demands a collective solution. To achieve this strategy’s objectives and targets, a model of collective, shared responsibility and action must be adopted.

State Government will work collaboratively with all stakeholders to guide and develop collective policies and solutions. These solutions will be founded in behavioural change campaigns and leading industry policy and practices – starting from within, through leadership in government activities that minimise waste, such as procurement policies and disposal processes.

For local governments and industry, the collective partnership approach will mean adopting best practice approaches to waste minimisation, resource recovery and appropriate waste management.

For businesses, it may mean expanding recycling programs or reviewing outdated practices and policies to reduce waste impacts. For waste managers, it will mean embracing innovation, new technologies and best practice performance in waste management. For the Western Australian community, it will mean being informed about the impact different decisions can make on waste contributions and adopting positive waste behaviours.

As every individual and group contributes to the waste problem, everybody will contribute to the solution in a range of different roles and ways:

- **Commonwealth Government** can help influence outcomes through national waste legislation, strategies and policy frameworks that fulfil obligations under international agreements. The Commonwealth Government will continue to manage and monitor compliance with international conventions, administer the *Product Stewardship Act 2011* and related schemes, and work with jurisdictions to identify and address issues that warrant nationally consistent approaches. It will also establish forums for cross jurisdictional collaboration to improve national waste policy outcomes.

- **State Government** can influence outcomes through its policies and programs, but also generates waste through its operations. As the “system steward” State Government will provide waste management leadership. It will influence waste behaviours through legislation, regulation, policies and programs that align with national approaches. Through engagement and collaboration, the government will create an environment that encourages community to adopt positive behaviour change and businesses to invest and innovate in the waste and recycling sector to move Western Australia towards becoming a circular economy. Agencies will also lead by example by committing to actions and targets in this strategy and reporting on their performance to contribute to its delivery.

- **Waste Authority** can influence outcomes through its programs. Established under the *Waste Avoidance and Resource Recovery Act 2007*, the authority will provide waste management advice to Government and waste management leadership to the community. It will lead the delivery of this strategy by coordinating stakeholder commitment and collaboration on strategies,

administering the Waste Avoidance and Resource Recovery Account (fund), publishing position statements, and preparing annual business plan objectives, priorities and programs that align with this waste strategy.

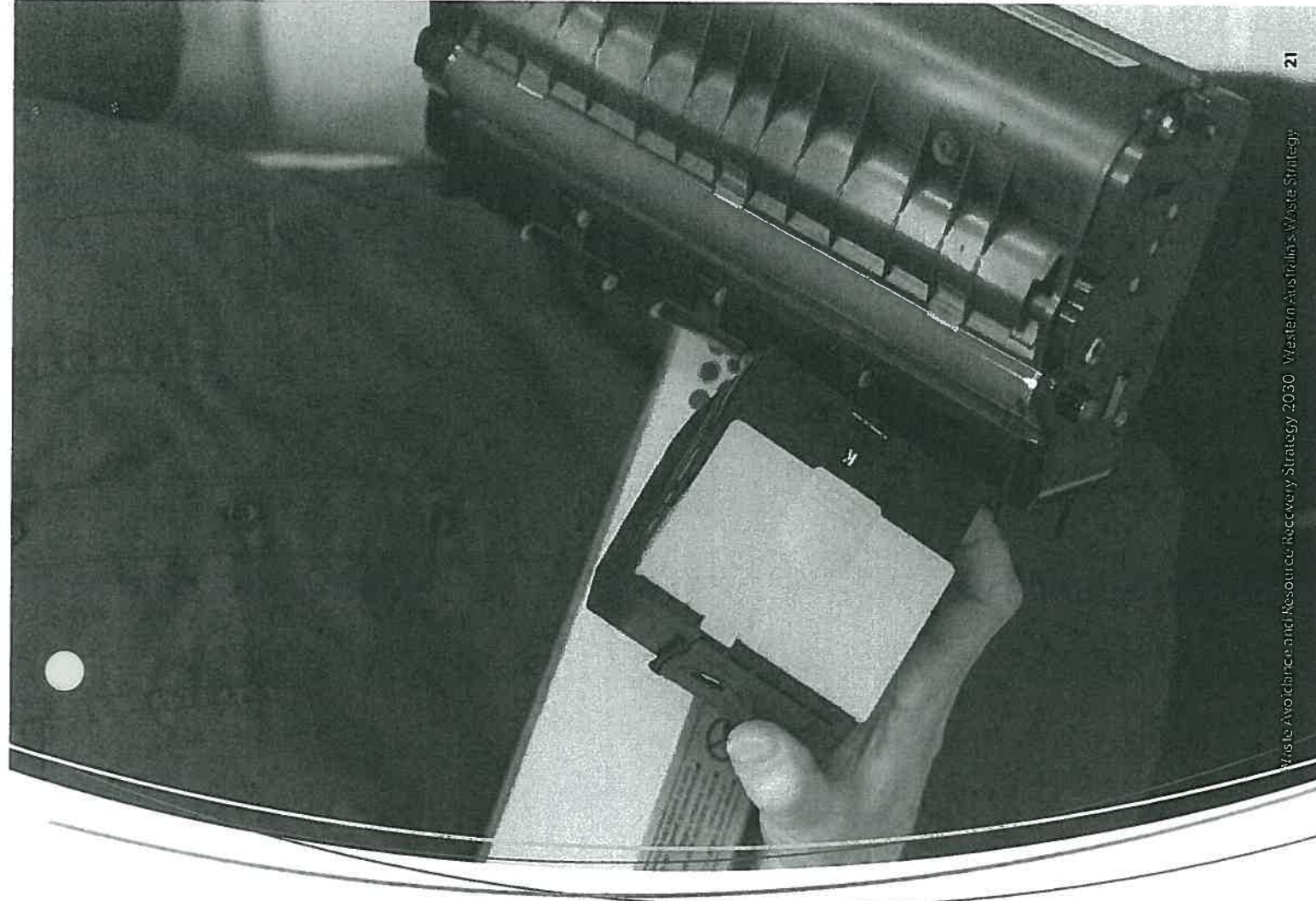
- **Local governments and regional councils** are primarily waste managers that provide household waste collection and recycling services, manage and operate landfill sites, and deliver education and awareness programs. Local governments and regional councils will provide information, infrastructure and incentives that encourage behaviour change and they will plan for the management of waste within their districts. The issues faced by local governments vary, particularly between metropolitan and regional areas, so there will be a need to identify local, fit-for purpose solutions that reflect better practice, align with this strategy and support a move towards becoming a circular economy. Local governments also generate waste resulting from the range of services provided to the community and can influence purchasing and practices to increase avoidance and recovery and maximise protection of the environment.

One of the headline strategies of this waste strategy is the implementation of local government waste plans. Waste plans will bring together the many different aspects of local government waste management, and provide local governments with a mechanism that aligns their waste services and contracts with the waste strategy and better practice. Waste plan requirements will be developed by the Department of Water and Environmental Regulation in collaboration with the Department of Local Government, Sport and Cultural Industries and the Western Australia Local Government Association. Guidance and templates will be provided to assist local governments in developing and reporting on their waste plans. Waste plan requirements and guidance will be developed in consultation with local governments and designed to reflect the varying resources, capacities and issues faced by local governments.

- **Business and industry** are primarily waste generators that can make decisions to reduce the generation of waste (e.g. by using reduced packaging) and increase recyclability. The business community often deals with large volumes of waste, as well as harmful types of waste, which requires responsible management.

- **Waste industry** is primarily the manager of waste and is responsible for waste management services including collection, sorting, processing (i.e. reuse or safe disposal). Waste managers can also play a key role in providing information to the community. The waste industry will be relied on to make informed infrastructure and technology investment decisions that meet waste and recycling market needs and move the state toward becoming a circular economy.

- **Community, individuals and households** are primarily waste generators who make decisions about purchasing and waste disposal. The community has a key role to play to avoid waste and then properly recover and manage waste once it is generated. Decisions by these individuals and groups regarding the purchasing of products or services can have a significant influence on the behaviour of many other entities.



Opportunities and focus materials

Opportunities to avoid and recover waste and protect the environment through its responsible management exist for all materials and arise in many different situations. Even the smallest changes in behaviour at a personal level contribute to overall improvements in waste outcomes.

This strategy also identifies focus materials, which will be the focus of actions and measurement under this waste strategy. Significant improvements will need to be made for each of these focus materials if we are to meet the targets in *Waste Avoidance and Resource Recovery Strategy 2030*.

Construction and demolition waste

Construction and demolition (C&D) waste makes up around half of Western Australia's waste stream and represents around 45 per cent of material recovered for recycling. C&D waste represents a significant opportunity for waste

avoidance and material recovery. As a waste generator, the construction industry can play a role in avoiding the amount of waste generated – for example through more efficient building processes – while waste managers can maximise recovery of waste that is generated.

Organics: food organics and garden organics

Organic material, including food waste, represents nearly 20 per cent of material recovered for recycling. The National Food Waste Strategy estimates that over 5.3 million tonnes of food that is intended

for human consumption is wasted from households and the commercial and industrial sectors each year. Food waste disposed to landfill generates greenhouse gases, reduces landfill capacity, and represents a loss of valuable organic material which could otherwise be recovered for productive use.

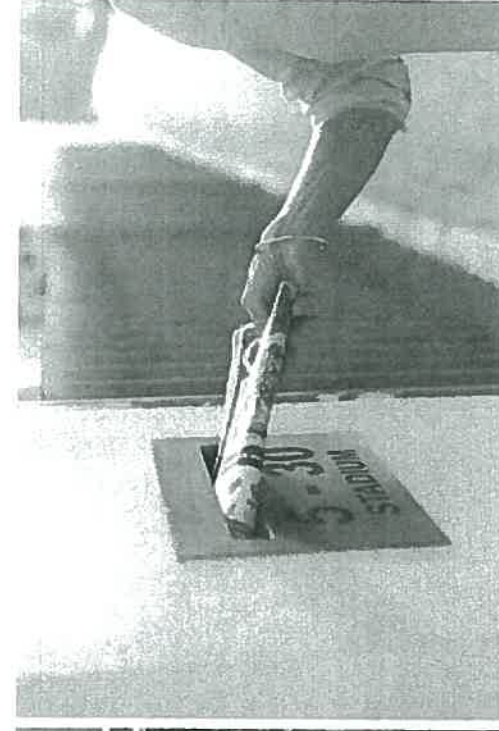
Metals: steel, non-ferrous metals, packaging and containers

Metals represent around 20 per cent of material recovered for recycling by weight. Metals are a high value commodity with significant embodied energy. While recovery rates are relatively

high compared to other materials, it is important to ensure these materials are only used where necessary and that as much value and embodied energy as possible is recovered from them.

Paper and cardboard: office paper, newspaper and magazines

Paper and cardboard represent around 10 per cent of material recovered for recycling. Paper and cardboard is a high value commodity. When disposed to landfill, paper and cardboard generates greenhouse emissions and represents a loss of economic value.



Glass: packaging and containers

Glass packaging and containers contain significant embodied energy which is lost if disposed to landfill. Glass that is inappropriately disposed (littered or dumped) can also present direct risks and impacts to the environment and human health.

Plastics: packaging and containers

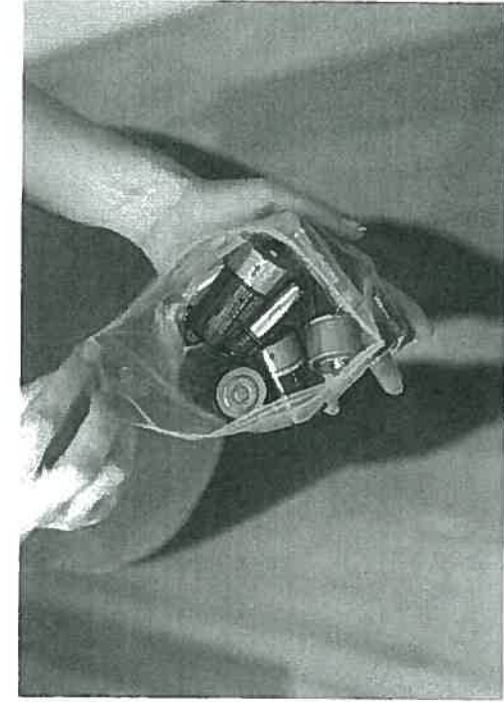
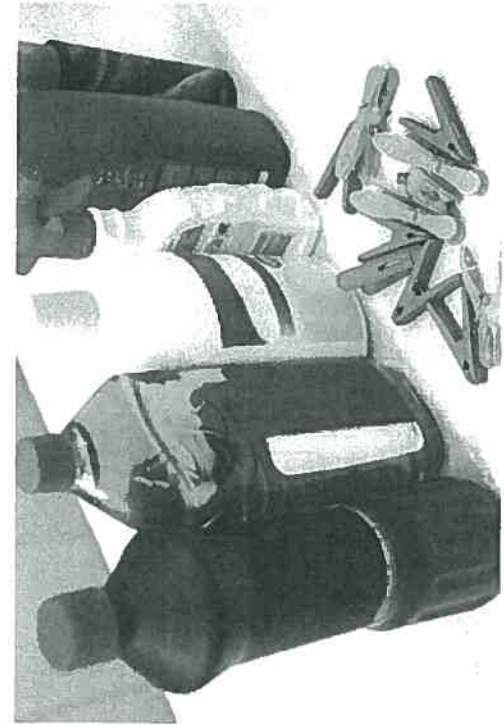
Plastic makes up a significant proportion of packaging materials in our waste stream. There are significant opportunities to avoid plastics, and in particular, single use plastics. Plastic is a high value commodity, particularly where contamination rates are low. Disposal to landfill represents an economic loss, and inappropriate disposal into the environment (litter and dumping) can result in significant harm to the environment and wildlife.

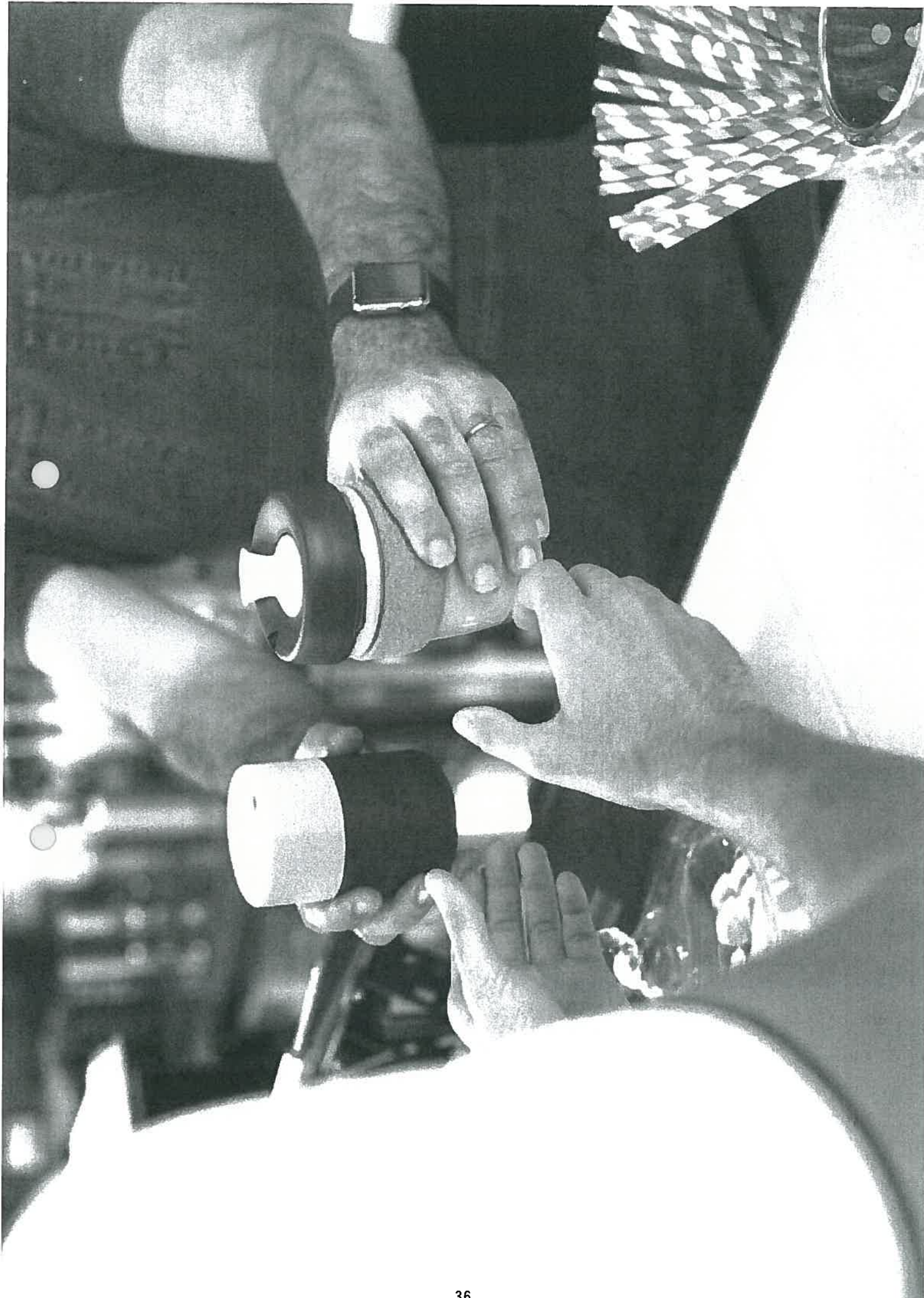
Textiles: clothing and other fabric-based materials

Textiles contain valuable materials and significant embodied energy. When disposed to landfill or illegally dumped, textiles represent a loss of resources and can negatively impact the environment.

Hazardous waste

Hazardous waste is described as unwanted products that are corrosive, flammable, toxic or reactive and present a potential risk to human health and the environment. Hazardous waste represents only a small percentage of the total waste stream, however it presents significant risks if not well managed. Opportunities exist to avoid hazardous waste through consumer purchasing decisions, and collect hazardous waste for recovery or safe disposal using best practice service infrastructure.





Our objectives, targets and strategies

Objective 1: Avoid Western Australians generate less waste

The waste hierarchy places waste avoidance at the forefront of approaches for managing waste. This waste strategy reflects that priority and recognises that reducing the amount of waste generated in our state requires significant and sustained behaviour change by government, industry and households if this objective is to be achieved.

National data for 2014–15 indicate that Western Australians generate more waste per capita than the national average and that generation per capita has remained static between 2010–11 and 2014–15*. This is in spite of past efforts to reduce waste generation and it suggests that reducing our generation rate will be very challenging.

This waste strategy first aims to close the gap between our current generation rate and the national average. Given our unique characteristics relative to other jurisdictions (particularly in relation to our geography and economy), reducing our generation of waste to this level will be challenging, but is achievable. Once achieved, our per capita generation rates can then be benchmarked against the nation's best performing jurisdictions.

Waste avoidance is driven in a large part by purchasing behaviour; it relies on high levels of awareness and motivation by consumers, both individuals and organisations, about how to reduce the impacts of purchasing decisions.

Education and incentives are critical to increase awareness of waste avoidance and to support waste avoidance behaviours.

Waste avoidance can also be pursued through the product design and manufacturing phase. Industry has an opportunity to reduce the amount of material used in products to avoid generating waste, often in response to consumer demand. For example, there are significant opportunities across the packaging sector to avoid some wastes altogether or to minimise their use.

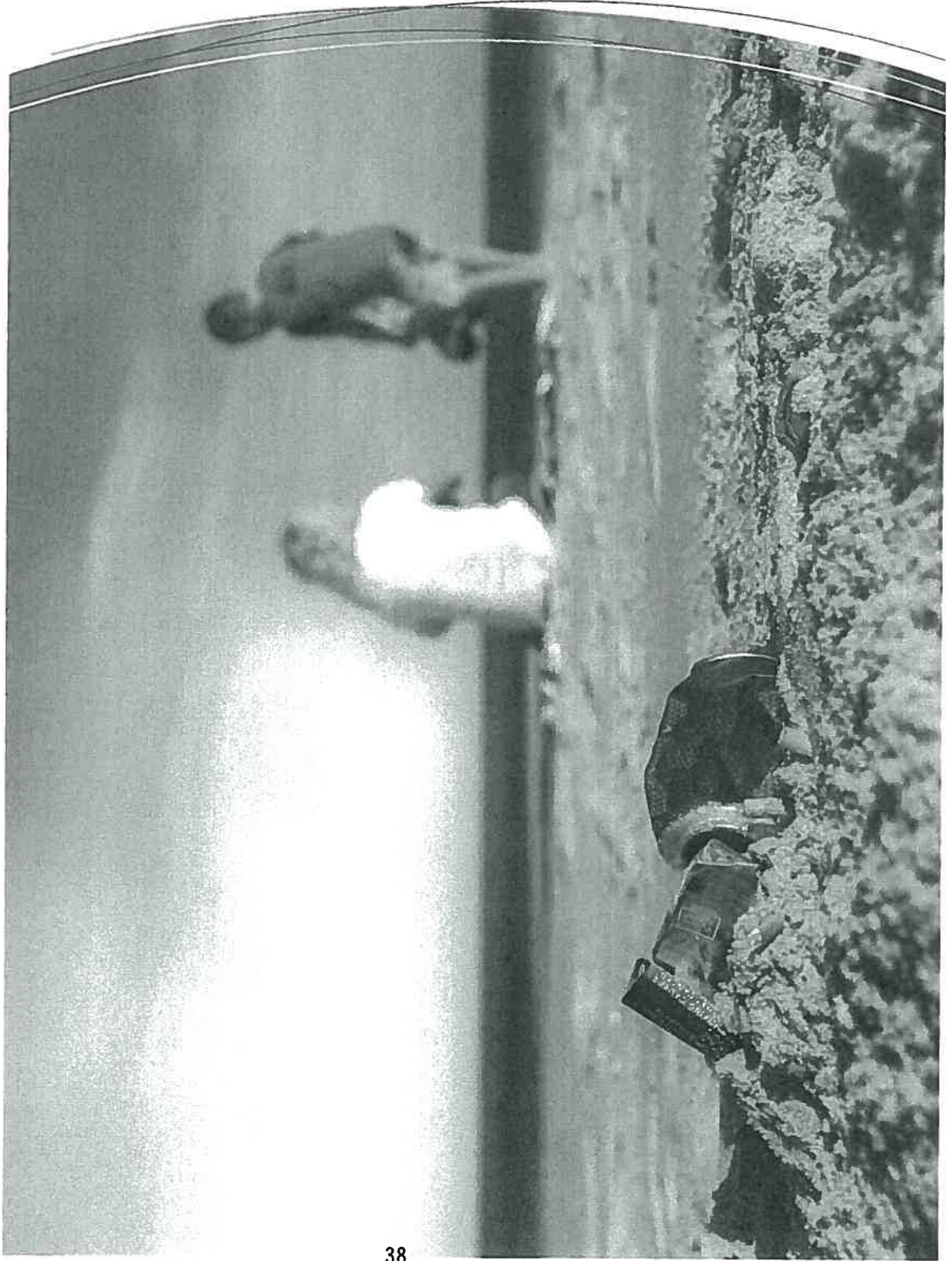
AVOID TARGETS

- ⊙ 2025 – Reduction in waste generation per capita by 10% (from 2014/15 generation rate)
- ⊙ 2030 – Reduction in waste generation per capita by 20% (from 2014/15 generation rate)

Waste generators		Waste managers**
Community	<ul style="list-style-type: none"> ⊙ 2025 – Reduction in MSW generation per capita by 5% ⊙ 2030 – Reduction in MSW generation per capita by 10% 	Waste industry
Government and industry	<ul style="list-style-type: none"> ⊙ Reduction in C&D waste generation per capita by 15% by 2025, 30% by 2030 ⊙ Reduction in C&I waste generation per capita by 5% by 2025, 10% by 2030 	<ul style="list-style-type: none"> ⊙ 2030 – All waste is managed and/or disposed using better practice approaches

* 2016–17 national data has not been used in this strategy. WA reportedly has significant waste stockpiling that is not reflected in the 2016–17 data but accurate assessment of this stockpiling is not yet available. Data improvement to address accuracy issues is a headline strategy in this waste strategy and will be addressed as a priority.

** Includes local government, private industry and state entities.



Focus materials

Achieving the avoidance targets will require an emphasis on the waste materials that, by weight, currently make up more than 90 per cent of the waste Western Australian's generate:

- **Construction and demolition materials:** concrete, asphalt, rubble, bricks, sand and clean fill
- **Organics:** food organics and garden organics
- **Metals:** steel, non-ferrous metals, packaging and containers
- **Paper and cardboard:** office paper, newspaper and magazines
- **Glass:** packaging and containers
- **Plastics:** packaging and containers
- **Textiles:** clothing and other fabric-based materials

Table 2: Avoid strategies

		Strategy application						
		Waste generators				Waste managers*		
		Community	Local government	State Government	Industry	Waste industry	#	
Strategy description	Lead stakeholder							
KNOWLEDGE	Coordinate consistent state-wide communication, engagement and education on waste avoidance behaviours with an emphasis on focus materials.	State Government	✓	✓	✓	✓	1	
	Investigate, develop and publish, in collaboration with stakeholders, locally relevant actions for reducing waste generation with an emphasis on focus materials.	Waste Authority	✓		✓		2	
	Lead collaboration between State Government agencies on actions that reduce the waste generation with an emphasis on focus materials.	State Government	✓		✓		3	
	Coordinate communications and education that leads to food organics and garden organics waste reduction behaviour change.	Waste Authority	✓	✓	✓	✓	4	
	Collaborate with decision-makers and opinion leaders to explore opportunities arising from circular economy approaches and communicate them publicly.	Waste Authority	✓	✓	✓	✓	5	
ENABLING INFRASTRUCTURE	Develop mechanisms and platforms that enable the community to adopt avoidance behaviours, and explore reuse and low-waste alternatives.	State Government	✓	✓			6	
INCENTIVES	Provide support to community, government and industry initiatives that lead to waste avoidance and contribute to waste strategy targets with an emphasis on focus materials.	State Government	✓	✓	✓	✓	7	
	Introduce regulations to prevent unnecessary waste generation.	State Government	✓	✓	✓		8	

*Includes local government, private industry and state entities.



**Objective 2:
Recover
Western Australians
recover more value and
resources from waste**

Where waste generation is unavoidable, efforts should be made to recover more value and resources from waste. Consistent with the waste hierarchy and circular economy approaches, material recovery is preferred over energy recovery. Energy recovery is preferable to landfill disposal but should only be applied to residual waste once better practice source separation approaches have been exhausted.

Waste Avoidance and Resource Recovery Strategy 2030 supports the recovery of more valuable resources from the waste stream by applying a combination of strategies relating to knowledge, enabling infrastructure and incentives to encourage behaviour change by waste generators and waste managers.

The Waste Authority will produce better practice guidelines and encourage the sector to implement better practice

through mechanisms such as local government waste plans. Implementation of food organics and garden organics (FOGO) systems are a priority in this strategy, which will increase the recovery of material collected through kerbside services. Implementation of FOGO systems will be supported by State Government through the application of financial mechanisms to make it a cost competitive option for local governments.

RECOVER TARGETS		
<ul style="list-style-type: none"> ⦿ 2025 – Increase material recovery to 70% ⦿ 2025 – All local governments in the Perth and Peel region provide consistent three bin kerbside collection systems that include separation of FOGO from other waste categories ⦿ 2030 – Increase material recovery to 75% ⦿ From 2020 – Recover energy only from residual waste 		
Waste generators		
<p>Community</p> <ul style="list-style-type: none"> ⦿ 2020 – Increase MSW material recovery to 65% in the Perth and Peel regions, 50% in major regional centres ⦿ 2025 – Increase MSW material recovery to 67% in the Perth and Peel regions, 55% in major regional centres ⦿ 2030 – Increase MSW material recovery to 70% in the Perth and Peel regions, 60% in major regional centres 	<p>Government and industry</p> <ul style="list-style-type: none"> ⦿ C&I sector – Increase material recovery to 70% by 2020, 75% by 2025, 80% by 2030 ⦿ C&D sector – Increase material recovery to 75% by 2020, 77% by 2025, 80% by 2030 	<p>Waste managers*</p> <p>Waste industry</p> <ul style="list-style-type: none"> ⦿ 2030 – All waste facilities adopt resource recovery better practice

* Includes local government, private industry and state entities.



to households in urbanised areas is an example of where consistent systems, including three bin food organics and garden organics (FOGO) systems, can improve messaging to the community about how to recycle effectively and lead to better practice outcomes across large urbanised populations. Consistent collections also provide opportunities for service providers to establish processing options for clean and consistent streams of materials, which can reduce costs and improve product quality and therefore access to markets.

Energy recovery

Resource recovery includes the recovery of energy from waste. However, energy recovery is considered to be the least preferred of all resource recovery options in the waste hierarchy as it merely releases embodied energy but does not preserve the material for reuse. For this reason, the waste strategy identifies that only residual waste (waste which remains following the application of better practice source separation and recycling systems) is to be used for energy recovery. Where better practice guidance is not available, an entity's material recovery performance will need to meet or exceed the relevant stream target (depending on its source - MSW, C&I or C&D) for the remaining non-recovered materials to be considered residual waste under this waste strategy.

Focus materials

In working towards these targets, this strategy focuses on the reuse, reprocessing and recycling of the following materials that present the greatest potential for increased recovery:

- **Construction and demolition materials:** concrete, asphalt, rubble, bricks, sand and clean fill
- **Organics:** food organics and garden organics (FOGO)

- **Metals:** steel, non-ferrous metals, packaging and containers
- **Paper and cardboard:** office paper, newspaper and magazines
- **Plastics:** packaging and containers

These focus materials reflect overall state priorities, however, it will be appropriate to consider local circumstances to increase recovery in different parts of Western Australia, and particularly between metropolitan and non-metropolitan areas. Local circumstances include factors such as

access to processing infrastructure and access to markets for recycled products. *Waste Avoidance and Resource Recovery Strategy 2030* encourages the adoption of solutions that reflect local circumstances and contribute to the overarching targets.

Just as local approaches based on local circumstances can lead to unique solutions, consistent services where similar conditions exist can lead to more efficient service delivery. Consistency in the provision of kerbside services

Table 3: Recover strategies

	Strategy description	Lead stakeholder	Strategy application					#
			Waste generators				Waste managers*	
			Community	Local government	State Government	Industry		
KNOWLEDGE	Investigate options to recover and promote related local markets through State Government procurement actions with an emphasis on focus materials.	State Government		✓			9	
	Develop and publish better practice guidance and standards for waste-derived products to build confidence in recycled products and ensure protection of the environment.	Waste Authority	✓	✓	✓	✓	10	
	Maintain a communications toolkit for local government on consistent messaging for better practice kerbside service delivery.	Waste Authority	✓	✓		✓	11	
	Develop education and engagement resources to communicate the benefits of resource recovery and the use of recycled products, and to minimise contamination in collection systems.	Waste Authority	✓	✓	✓	✓	12	
	Develop and publish better practice guidance to support increases in recovery with an emphasis on focus materials.	Waste Authority	✓	✓	✓	✓	13	
	Identify and implement options for collaboration between industry and the State Government to support market development and recovery with an emphasis on focus materials.	Waste Authority			✓	✓	14	
	Investigate and improve reporting on material that is reused (as distinct from recycled) to better monitor the state's move toward becoming a circular economy.	State Government	✓	✓	✓	✓	15	
ENABLING INFRASTRUCTURE	Establish mechanisms, including funding approaches to support investments in local infrastructure for recovery with an emphasis on focus materials.	State Government				✓	16	
	Develop and support measures to establish and maintain product stewardship schemes aligned with the State's waste priorities, commencing with a container deposit scheme.	State Government	✓	✓		✓	17	

* Includes local government, private industry and state entities.

Table 3: Recover strategies continued

	Strategy description	Lead stakeholder	Strategy application					#
			Waste generators				Waste managers*	
			Community	Local government	State Government	Industry		
INCENTIVES	Provide funding to local governments to introduce better practice services and extend the Better Bins program to include FOGO (food organics and garden organics services).	Waste Authority	✓	✓			✓	18
	Provide funding to promote the use of priority recycled products and support the establishment of local markets with an emphasis on focus materials.	State Government		✓	✓		✓	19
	Support community, government and industry initiatives that promote resource recovery in the Perth and Peel regions, major regional centres and remote areas through grant programs.	State Government	✓	✓	✓	✓	✓	20
	Develop a legislative framework to encourage the use of waste derived materials, including product specifications, to build confidence in recycled products, increase their demand and develop relevant markets while protecting the environment.	State Government		✓	✓	✓	✓	21
	Implement sustainable government procurement practices that encourage greater use of recyclable and recycled products and support local market development.	State Government		✓	✓	✓		22

* Includes local government, private industry and state entities.

**Objective 3:
Protect**

**Western Australians
protect the environment
by managing waste
responsibly**

The transport, storage, processing and disposal of waste all have the potential to directly impact the environment.

Certain wastes, such as hazardous materials or materials that are commonly littered or dumped, can also pose significant risks to public health and the environment. Poorly managed waste infrastructure (including landfills and recycling facilities) and services, as well as adverse waste behaviours, all increase the risk of negative impacts on public health and the Western Australian environment.

In the event waste cannot be avoided, it is important that waste management systems – including recycling and disposal (landfill) facilities – protect the environment from the negative impacts of waste by adopting better practice.

Waste managers face different waste management challenges and have varying capacities to address these challenges. For example, better practice approaches in remote areas are likely to vary substantially to those in metropolitan areas, due to differences in populations,

infrastructure, resources and market access. Better practice guidance developed under this strategy will reflect these differences.

Litter and illegal dumping can significantly damage our environment. It is important that waste enters the correct waste management system so that it can be properly managed by better practice facilities, and is not littered or dumped in the environment.

PROTECT TARGETS

- ⊙ 2030 – No more than 15% of Perth and Peel regions' waste is disposed to landfill
- ⊙ 2030 – All waste is managed by and/or disposed to better practice facilities

Waste generators

Community

- ⊙ 2030 – Move towards zero illegal dumping
- ⊙ 2030 – Move towards zero littering

Government and industry

- ⊙ 2030 – Move towards zero illegal dumping

Waste managers*

Waste industry

- ⊙ 2030 – No more than 15% of Perth and Peel regions' waste is disposed to landfill
- ⊙ 2030 – All waste facilities adopt environmental protection better practice

* Includes local government, private industry and state entities.



Priority areas

In working towards achieving these targets, Western Australia should focus on behaviours and materials that provide the greatest potential to protect the environment including:

- the transport, storage, processing and disposal of waste;
- problem wastes, including hazardous materials;
- poorly managed waste infrastructure, including landfills, recycling facilities and services;
- taking action early in a waste material's life cycle; and
- giving priority to reflect the risk posed by a waste material.

National priorities

The management of some types of waste require an international approach. Initiatives that are the responsibility of the Commonwealth Government and to which WA contributes include the Basel Convention, an international treaty to reduce the movement of hazardous waste between countries with a view to protecting public health and the environment, and the Minamata Convention on Mercury, a global treaty to protect public health and the environment from the adverse effects of mercury.

Table 4: Protect strategies

	Strategy description	Lead stakeholder	Strategy application						#
			Waste generators				Waste managers*		
			Community	Local government	State Government	Industry	Waste industry	Waste industry	
KNOWLEDGE	Identify the data that is required to quantify and measure illegal dumping activity, collect the identified data on an ongoing basis and use the collected data to better target illegal dumping monitoring and enforcement activities.	State Government	✓	✓	✓			✓	23
	Deliver a community engagement and education campaign to raise awareness of illegal dumping and its impacts.	State Government	✓	✓	✓				24
	Investigate, document and publish options for avoiding waste plastic.	Waste Authority	✓	✓	✓				25
	Review and report on approaches to the management of hazardous waste including controlled and liquid waste.	State Government				✓		✓	26
	Assess existing recovery facility and landfill siting and management practices and publish information to guide achievement of better practice approaches.	Waste Authority						✓	27
	Work with land owners and managers to build their capacity to tackle illegal dumping.	State Government	✓	✓	✓				28
ENABLING INFRASTRUCTURE	Investigate and report on the role of funding approaches to drive the uptake of better practice approaches at waste management facilities.	Waste Authority	✓	✓				✓	29
	Support local governments to safely collect and manage hazardous materials generated by households that present a significant risk to public health and the environment.	State Government	✓					✓	30
INCENTIVES	Provide relevant funding and guidance to prevent the illegal dumping of waste at charitable recycler waste collection sites.	State Government						✓	31

* Includes local government, private industry and state entities.

Table 4: Protect strategies continued

	Strategy description	Lead stakeholder	Strategy application					#
			Waste generators				Waste industry	
			Community	Local government	State Government	Industry		
INCENTIVES	Implement the litter prevention strategy to reduce littering and manage its impacts.	Keep Australia Beautiful Council	✓	✓	✓	✓	32	
	Detect, investigate and prosecute illegal dumping.	State Government	✓	✓	✓		33	
	Review and update the regulatory framework for waste to ensure it is appropriate and reduces the environmental impacts and risks from waste management.	State Government				✓	34	
	Revise and publish waste classifications and definitions to reflect current knowledge to ensure waste materials are managed according to their risk and are treated and/or disposed of appropriately.	State Government			✓	✓	35	
	Develop and revise legislative frameworks to encourage the use of waste derived materials and build confidence in recycled products.	State Government	✓	✓	✓	✓	36	

* Includes local government, private industry and state entities.

Foundation strategies that apply to multiple objectives

Waste Avoidance and Resource Recovery Strategy 2030 includes strategies which support multiple objectives and underpin the delivery of this waste strategy. These are referred to as foundation strategies.

Foundation strategies include:

- information and data – to provide high quality information to the community, government and industry to inform decision making.
- regulation and policy – to provide a level playing field and deliver efficient and effective waste management outcomes.

- education – to underpin behaviour change approaches for avoid, recover and protect, for waste generators and waste managers.
- planning – to provide support and guidance for waste services planning as well as infrastructure and land use planning.

support the waste strategy. Reflecting this, a key foundation strategy is for the scope and application of the waste levy to be reviewed to ensure it meets the objectives of *Waste Avoidance and Resource Recovery Strategy 2030*, and to establish a schedule of future waste levy rates.

The waste levy will continue to play a key role by providing a disincentive to dispose of waste, and by generating revenue to fund programs which

The range of strategies, both new and ongoing, that will allow Western Australians to achieve outcomes against all three objectives of the waste strategy are presented below.

Table 5: Foundation strategies

INFORMATION AND DATA	Strategy description	Lead stakeholder	Strategy application					#
			Waste generators				Waste managers*	
			Community	Local government	State Government	Industry		
Review and update data collection and reporting systems to allow waste generation, recovery and disposal performance to be assessed in a timely manner.	State Government	✓	✓	✓	✓	✓	37	
Collaborate with industry to develop a data strategy that includes actions to improve waste data collection, management and reporting, and guides their implementation.	State Government Waste Authority	✓	✓	✓	✓	✓	38	
Investigate and report on the application of the circular economy in WA, including opportunities and barriers implementation.	Waste Authority	✓	✓	✓	✓	✓	39	

* Includes local government, private industry and state entities.

Table 5: Foundation strategies continued

	Strategy description	Lead stakeholder	Strategy application					#
			Waste generators			Waste managers*		
			Community	Local government	State Government	Industry	Waste industry	
INFORMATION AND DATA	Collaborate with the Commonwealth Government to develop local approaches to implementing the National Food Waste Strategy.	State Government	✓	✓	✓	✓	✓	40
	Provide support to local governments, recyclers and landfill operators for reporting under amendments to the Waste Avoidance and Resource Recovery Regulations 2008.	State Government	✓	✓			✓	41
	Develop state-wide waste communications to support consistent messaging on waste avoidance, resource recovery and appropriate waste disposal behaviours.	State Government	✓	✓	✓	✓		42
ENGAGEMENT AND EDUCATION	Recognise and reward the adoption of positive behaviours, practices and innovation that contribute to reduced waste generation, increased resource recovery and protection of the environment.	Waste Authority	✓	✓	✓	✓	✓	43
	Investigate options for developing a 'needs based' approach to the approval of new landfills and other waste infrastructure.	State Government					✓	44
REGULATION AND POLICY	Contribute to national waste policy and programs aimed at waste avoidance, resource recovery and environmental protection.	State Government	✓	✓	✓	✓	✓	45
	Review the scope and application of the waste levy to ensure it meets the objectives of Waste Avoidance and Resource Recovery Strategy 2030 and establish a schedule of future waste levy rates with the initial schedule providing a minimum five year horizon.	State Government	✓	✓	✓	✓	✓	46

* Includes local government, private industry and state entities.

Table 5: Foundation strategies continued

	Strategy description	Lead stakeholder	Strategy application					#
			Waste generators				Waste managers*	
			Community	Local government	State Government	Industry		
REGULATION AND POLICY	Review and revise regulations and policies to achieve a level playing field for industry which ensures entities that are compliant and apply best practice are not disadvantaged. Implement local government waste plans which align local government waste planning processes with the waste strategy.	State Government	✓	✓	✓	✓	47	
	Lead and support initiatives that bring together agencies, local governments, industry and community to assist knowledge exchange and strategic waste planning.	Waste Authority	✓	✓	✓	✓	49	
PLANNING	Undertake a strategic review of Western Australia's waste infrastructure (including landfills) by 2020 to guide future infrastructure development.	State Government	✓	✓	✓	✓	50	

* Includes local government, private industry and state entities.

Next steps

Supporting documents

Waste Avoidance and Resource Recovery Strategy 2030 Action Plan

This strategy is supported by an action plan which outlines specific actions to be implemented to achieve the objectives of the strategy.

The initial action plan has been prepared by the Waste Authority in consultation with relevant State Government agencies, and was approved by the Minister for Environment. Stakeholder consultation will be undertaken in the preparation of subsequent action plans.

Waste Authority Position and Guidance Statements

The Waste Authority publishes position statements from time to time. Position statements formalise the views of the Waste Authority and may be used to inform decisions relevant to the Waste Authority's role in implementing the strategy.

Better Practice Guidance

The Waste Authority recognises the importance of developing better practice guidelines, measures and reporting frameworks and supporting their adoption. The Waste Authority will publish better practice guidance from time to time, which sets out high-performing systems and outcomes benchmarked against comparable jurisdictions.

State Waste Infrastructure Plan

A state waste infrastructure plan will be developed together with key stakeholders to guide the planning and decision making for the establishment and maintenance of critical infrastructure. This will include the type and capacity of additional infrastructure that will be needed to meet the targets in this strategy, the areas in which infrastructure may be best located and forecast dates for when it is needed.

Annual Business Plan

The *Waste Avoidance and Resource Recovery Act 2007* (WARR Act) requires the Waste Authority to prepare a draft business plan to be submitted to the Minister each year. The business plan sets out objectives and priorities for government funding for the next five financial years, and must be consistent with this strategy.

Waste Data Strategy

A waste data strategy will guide the ongoing development of data definitions, collection mechanisms, management and reporting requirements to ensure progress on *Waste Avoidance and Resource Recovery Strategy 2030* can be monitored appropriately and that any revision of approach is based on sound information.

Measuring progress

The Waste Authority will be responsible for evaluating *Waste Avoidance and Resource Recovery Strategy 2030*, including progress towards objectives and targets. The Waste Authority will publish annual reports against its business plan, and coordinate reports on behalf of the Minister against the outcomes of the action plan.

Strategy updates

As Western Australia implements this waste strategy, new opportunities and priorities may be identified which may warrant a review of the scope and focus of the strategy. The WARR Act requires that the waste strategy be reviewed for currency at least every five years, including a full public consultation process. Minor amendments to the waste strategy can be made by the Waste Authority subject to the approval of the Minister.

Glossary

Term	Definition
Better practice	Better practice refers to practices and approaches that are considered by the Waste Authority to be outcomes-focused, effective and high performing, which have been identified based on evidence and benchmarking against comparable jurisdictions. Better practice will be supported by the Waste Authority through the development of better practice guidelines, measures and reporting frameworks, which will be developed to reflect the different capacities and challenges faced by waste generators and managers. Better practice is synonymous with the term best practice, but captures the dynamic nature of best practice.
Circular economy	An alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible – extracting the maximum value from them while in use, then recovering and reusing products and materials. Three core principles underpin a circular economy – design out waste and pollution; keep products and materials in use; and regenerate natural systems.
Commercial and industrial (C&I) waste	Waste produced by institutions and businesses, including schools, restaurants, offices, retail and wholesale businesses and industries, including manufacturing.
Construction and demolition (C&D) waste	Waste produced by demolition and building activities, including road and rail construction and maintenance, and excavation of land associated with construction activities.
Drop-off facility	Site where residents can bring their waste or recyclables for disposal.
Embodied energy	Embodied energy is the energy used to produce a material substance (such as processed metals or building materials), taking into account energy used at the manufacturing facility, energy used in producing the materials that are used in the manufacturing facility, and so on.
Food organics and garden organics (FOGO)	Food organics include waste food, inedible food, and parts of food that are not consumed and/or are considered undesirable (such as seeds, bones, coffee grounds, skins and peels). Garden organics include organic wastes that arise from gardening and maintenance activities, such as lawn clippings, leaves, cuttings and branches. FOGO can also include other organic wastes that may be compatible with FOGO collections and can include items such as paper and cardboard.

Term	Definition
Household hazardous waste	Products used in and around the home that have at least one hazardous characteristic (flammable, toxic, explosive or corrosive).
Hazardous waste	Waste that, by its characteristics, poses a threat or risk to public health, safety or the environment.
Illegal dumping	Premeditated littering where people go out of their way to dump waste in public places illegally, typically for commercial benefit or to avoid disposal fees.
Kerbside collection	A regular containerised service that collects waste from a residents' kerbside.
Litter	Waste that is left in public places and not deposited into a bin.
Litter Prevention Strategy	Litter Prevention Strategy for Western Australia 2015–2020.
Liquid waste	Wastes that are not solid or gaseous. May refer to sludges and slurries, or other liquids discharged to sewer. May also refer to waste water.
Major Regional Centre	Major Regional Centres: The cities of Albany, Busselton, Bunbury, Greater Geraldton and Kalgoorlie-Boulder, which are local governments outside the Perth and Peel region that have both a relatively large population and reasonable access to markets. Other major regional centres may be identified by the Waste Authority during the life of the waste strategy.
Municipal solid waste (MSW)	Waste primarily collected from households and local governments through waste and recycling collections.
Organic waste	Waste materials from plant or animal sources, including garden waste, food waste, paper and cardboard.
Perth and Peel region	The Perth region, or Perth metropolitan region, is the area defined by the Metropolitan Region Scheme. The Peel region is the area defined by the Peel Region Scheme. Municipal solid waste targets are set for the Perth and Peel region to reflect current urbanisation trends and to align with waste infrastructure servicing and planning needs.

References

Term	Definition
Product stewardship	Product stewardship is an approach to managing the impacts of different products and materials. It acknowledges that those involved in producing, selling, using and disposing of products have a shared responsibility to ensure that those products or materials are managed in a way that reduces their impact, throughout their life cycle, on the environment and on public health and safety.
Residual waste	Waste that remains after the application of a better practice source separation process and recycling system, consistent with the waste hierarchy as described in section 5 of the <i>Waste Avoidance and Resource Recovery Act 2007</i> (WARR Act). Where better practice guidance is not available, an entity's material recovery performance will need to meet or exceed the relevant stream target (depending on its source - MSW, C&I or C&D) for the remaining non-recovered materials to be considered residual waste under this waste strategy.
Resource recovery	The process of extracting materials or energy from a waste stream through re-use, reprocessing, recycling or recovering energy from waste.
Vergeside service	Local government services that collect a range of materials from the verge for recovery or disposal.
Waste avoidance	Refers to the prevention or reduction of waste generation, or the prevention or reduction of the environmental impacts (for example toxicity) of waste generation.
Waste Avoidance and Resource Recovery (WARR) Account	In accordance with the <i>Waste Avoidance and Resource Recovery Act 2007</i> (WARR Act), each year the Minister for Environment must allocate not less than 25 per cent of the forecast levy amount to the WARR Account. Funds in the WARR Account are applied to programs for the management, reduction, reuse, recycling, monitoring or measurement of waste and to support implementation of the Waste Strategy.
Waste diversion	The act of diverting a waste away from landfill for another purpose such as re-use or recycling.

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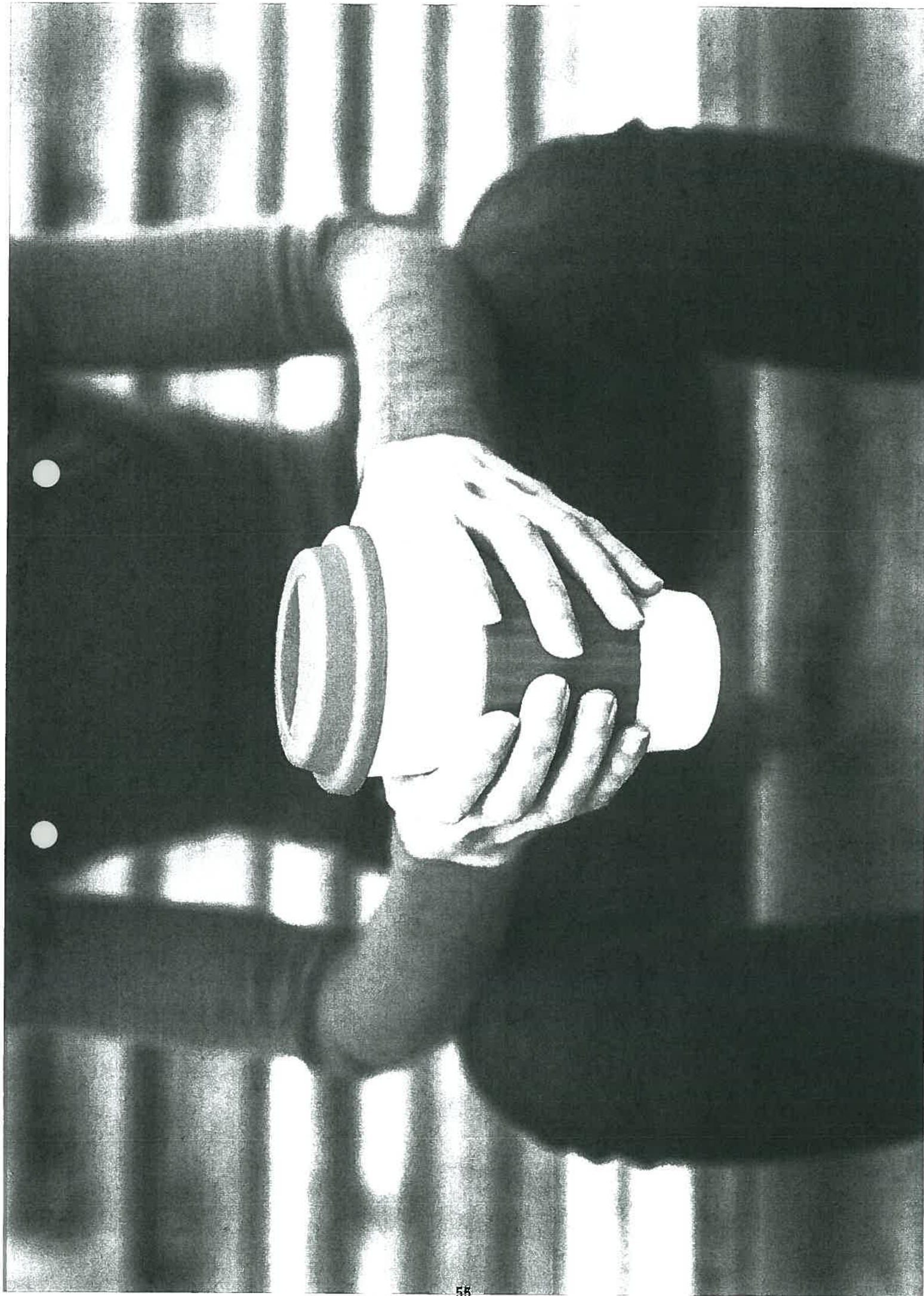
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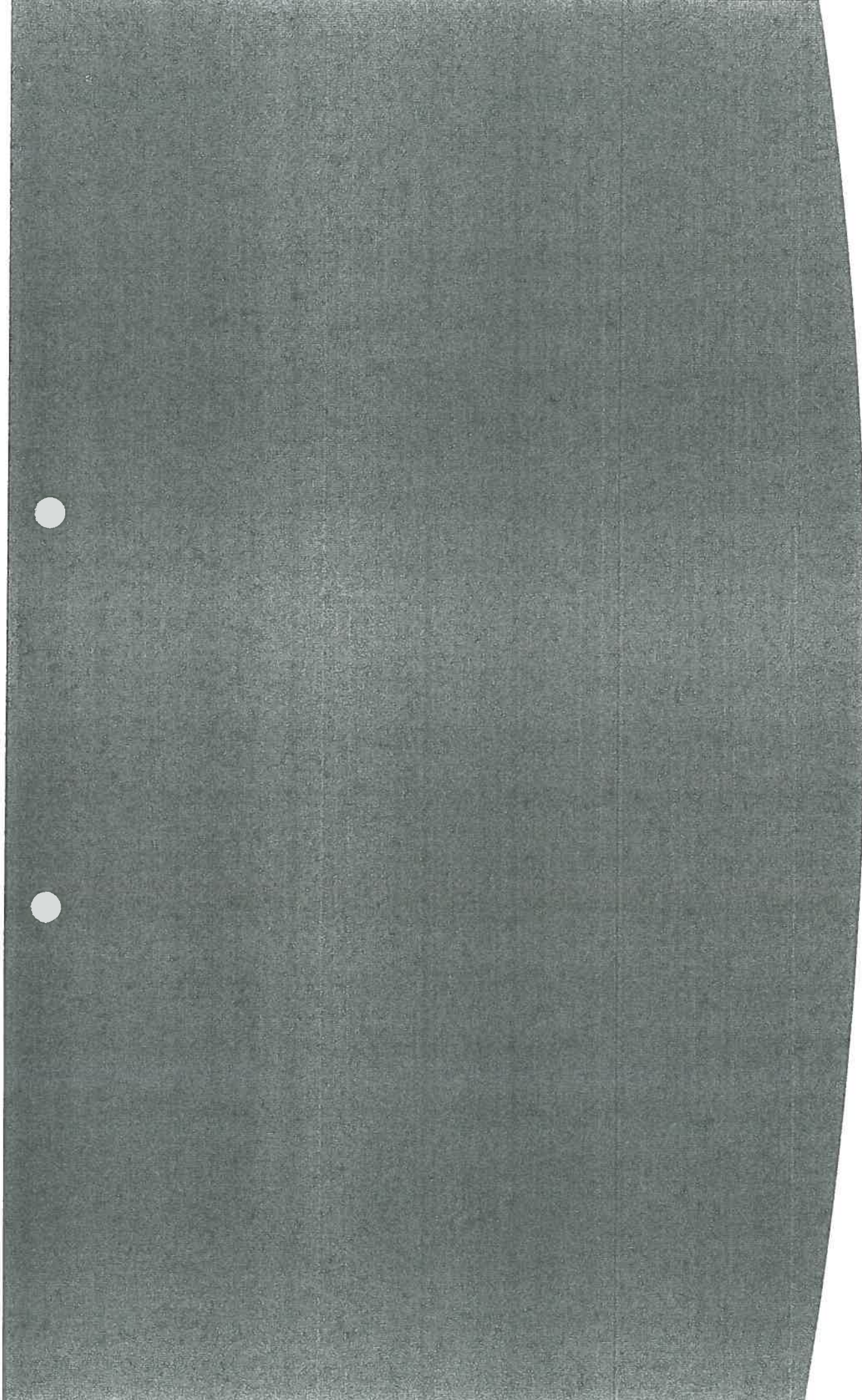
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Waste Authority

Waste Avoidance and Resource Recovery Strategy Action Plan 2030

Western Australia's Waste Strategy



Introduction

The Waste Avoidance and Resource Recovery Strategy: 2030 (the waste strategy) is Western Australia's strategy to move our State towards becoming a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste. It encourages Western Australians to work towards three objectives – avoid, recover and protect – and sets targets that underpin these objectives.

The waste strategy also sets a number of high level strategies which indicate the types of activities that need to be pursued to achieve these targets.

This action plan clarifies the specific actions, timelines, lead responsibilities and collaborations that will be progressed to achieve the objectives of the waste strategy.

Priority actions for the 2018-19 and 2019-20 financial years include:

- Develop a plan for the roll out of Food Organics and Garden Organics (FOGO) systems in Perth and Peel, and update the Better Bins funding program to support three bin FOGO adoption.
- Review the State Supply Commission's Sustainable Procurement Policy and Disposal of Goods Policy to reduce waste, increase recycling and increase use of recycled products through procurement.
- Pilot the use of 25,000 tonnes of recycled construction and demolition (C&D) waste as road base under the Roads to Reuse trial and, subject to trial success and funding support, use over 100,000 tonnes of recycled C&D material on selected projects.

- Provide relevant local governments with written notice of the requirement to develop waste plans and develop supporting model plans and guidance in consultation with local governments.
- Maintain, update and review the Own Your Impact initiative with a focus on achieving household behaviour change.
- In consultation with relevant stakeholders, undertake a review of the scope and application of the waste levy to ensure it meets the objectives of the waste strategy.
- Establish a schedule of future waste levy rates that provides a minimum five year projection.
- Undertake an audit of existing waste infrastructure and a needs analysis to determine the waste infrastructure required to meet the objectives and targets in the waste strategy.

- Develop, release and implement a waste data strategy.
- Implement new waste data reporting requirements and guidance under amendments to the *Waste Avoidance and Resource Recovery Regulations 2008*, and implement a supporting online reporting system by 2020.
- Establish a recycling infrastructure support program and identify priority areas for funding to support adoption of waste avoiding practices and/or resource recovery.
- Identify, communicate and support better practice approaches to avoidance, recovery and disposal covering all waste generators and streams.

Waste Avoidance and Resource Recovery Strategy 2030 – key elements

VISION	Western Australia will become a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste.			
OBJECTIVES	Avoid Western Australians generate less waste.	Recover Western Australians recover more value and resources from waste.	Protect Western Australians protect the environment by managing waste responsibly.	
TARGETS	<ul style="list-style-type: none"> ⊙ 2025 – 10% reduction in waste generation per capita ⊙ 2030 – 20% reduction in waste generation per capita 	<ul style="list-style-type: none"> ⊙ 2025 – Increase material recovery to 70% ⊙ 2030 – Increase material recovery to 75% ⊙ From 2020 – Recover energy only from residual waste 	<ul style="list-style-type: none"> ⊙ 2030 – No more than 15% of waste generated in Perth and Peel regions is landfilled. ⊙ 2030 – All waste is managed and/or disposed to better practice facilities 	
HEADLINE STRATEGIES	<ul style="list-style-type: none"> • A consistent three bin kerbside collection system, which includes separation of food organics and garden organics from other waste categories, to be provided by all local governments in the Perth and Peel region by 2025 and supported by State Government through the application of financial mechanisms. • Implement local government waste plans, which align local government waste planning processes with the Waste Avoidance and Resource Recovery Strategy 2030. • Implement sustainable government procurement practices that encourage greater use of recycled products and support local market development. • Provide funding to promote the recovery of more value and resources from waste with an emphasis on focus materials. • Review the scope and application of the waste levy to ensure it meets the objectives of Waste Avoidance and Resource Recovery Strategy 2030 and establish a schedule of future waste levy rates with the initial schedule providing a minimum five year horizon. • Develop state-wide communications to support consistent messaging on waste avoidance, resource recovery and appropriate waste disposal behaviours. • Review and update data collection and reporting systems to allow waste generation, recovery and disposal performance to be assessed in a timely manner. • Undertake a strategic review of Western Australia's waste infrastructure (including landfills) by 2020 to guide future infrastructure development. 			Supporting documents Other documents which align with or support this strategy Waste Avoidance and Resource Recovery Strategy 2030 include the: <ol style="list-style-type: none"> 1. Waste Avoidance and Resource Recovery Strategy 2030 Action Plan 2. Waste Authority position and guidance statements 3. State Waste Infrastructure Plan 4. Annual Business Plan 5. Waste Data Strategy

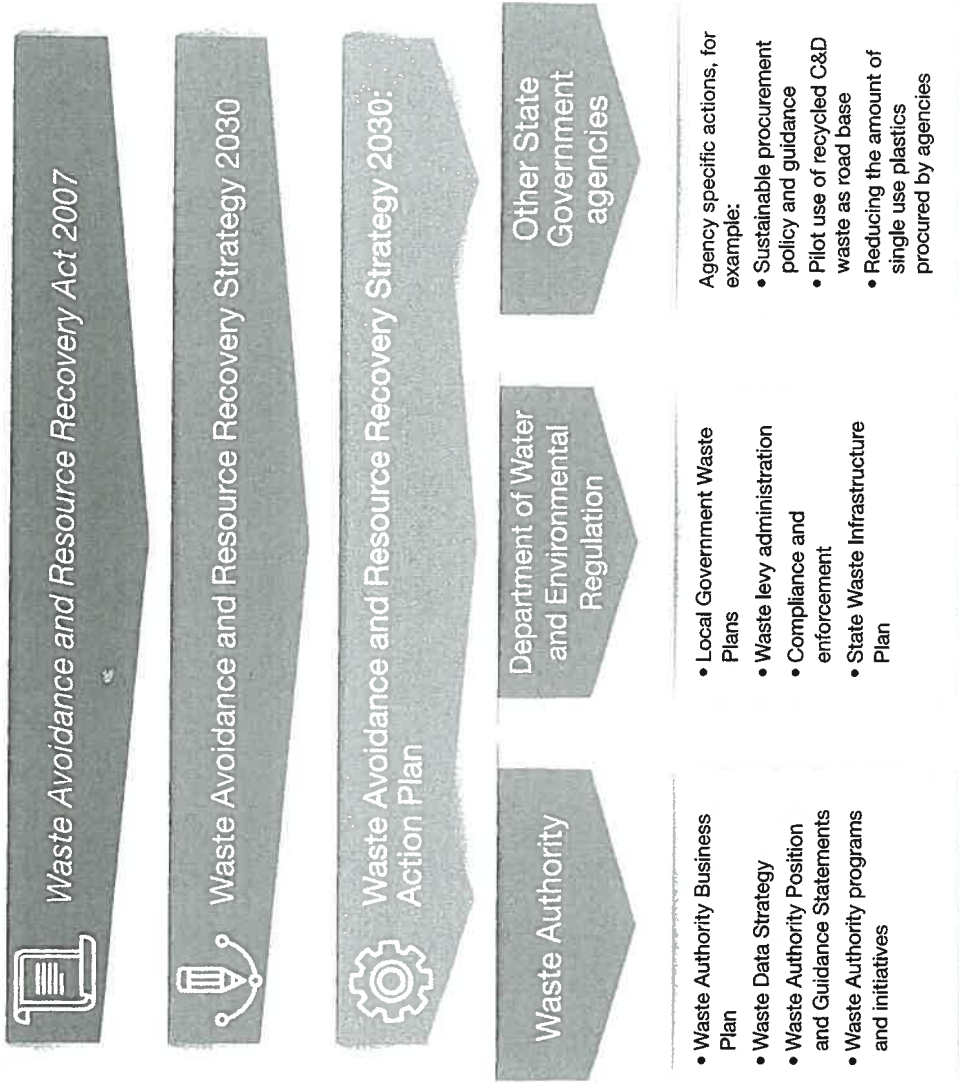
Role of the action plan

This action plan has been prepared in consultation with State Government agencies. It is one of the documents that supports the waste strategy.

The intent of the action plan is to prioritise actions to deliver against the high level strategies outlined in the waste strategy.

The action plan provides information about the timing of actions, the different aspects of their implementation, and the waste strategy objectives and strategies to which they relate. It also outlines who will lead specific actions, including the Waste Authority, the Department of Water and Environmental Regulation (DWER) and other State Government agencies.

Each action in the action plan directly relates to one or more of the 50 strategies outlined in the waste strategy. However, not every strategy outlined in the waste strategy is addressed in this action plan as its focus is the highest priority strategies. The action plan will be reviewed annually.

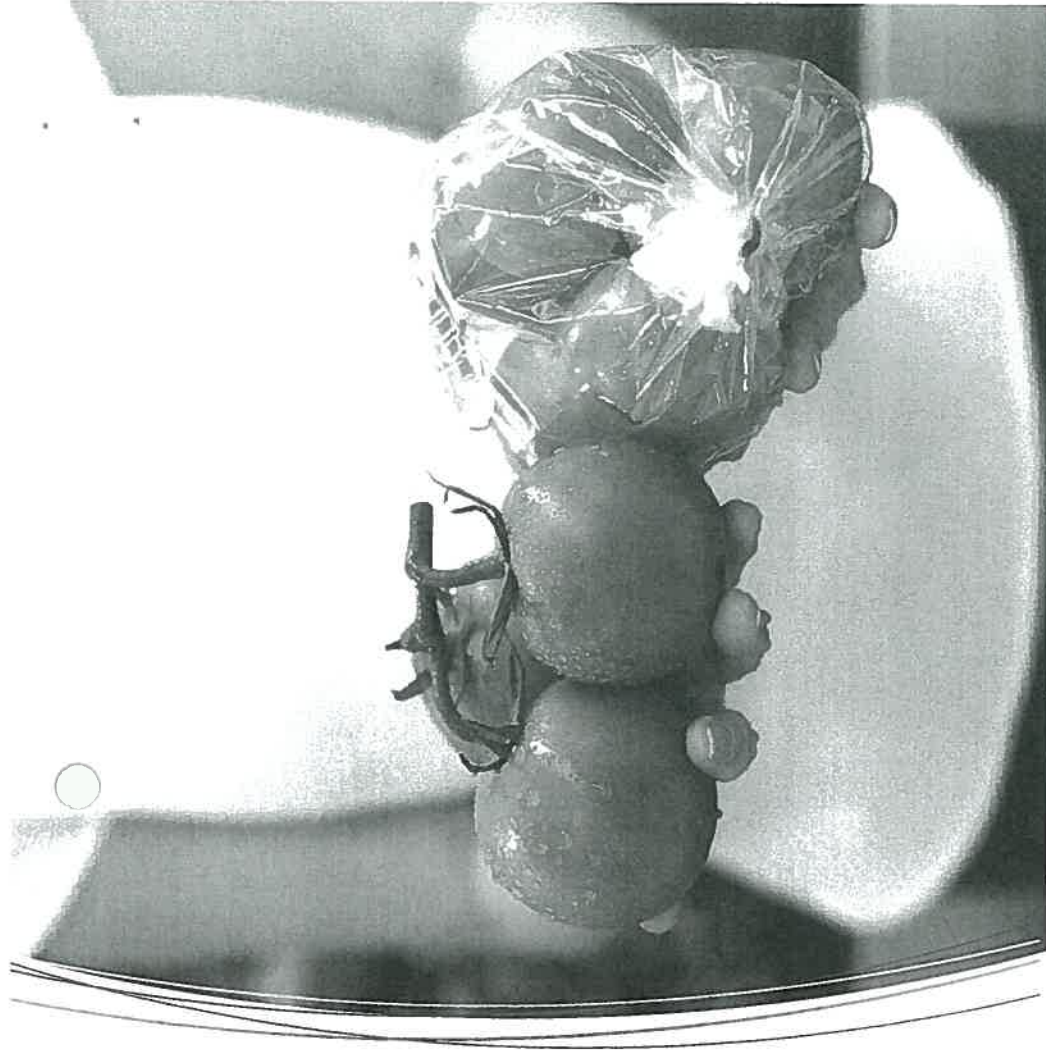


Key supporting documents, actions and activities

The action plan will be a key reference document for the Waste Authority, to monitor the progress of the Waste Strategy, to inform allocation of resources from the Waste Avoidance and Resource Recovery Account (WARR Account) and inform its provision of advice to the Minister for Environment.

The waste strategy will be reviewed in five years, while the action plan will be reviewed at least annually. The progress of the action plan will be reported on annually, in the Waste Authority Annual Report (for actions led by the Waste Authority) and in the DWER Annual Report (for actions led by DWER as well as other State Government agencies).

Delivery of the action plan will be supported by an evaluation framework, which will guide the evaluation of actions. The framework will allow the degree to which actions are meeting the intent of the waste strategy to be evaluated and potential improvements to be identified. The framework will ensure an approach to evaluation that is consistent, transparent, consultative and evidence based.





Actions

The action plan is organised according to the eight headline strategies included in the waste strategy. These are:

1. *Develop state-wide communications to support consistent messaging on waste avoidance, resource recovery and appropriate waste disposal behaviours.*
2. *A consistent three bin kerbside collection system, which includes separation of food organics and garden organics from other waste categories, to be provided by all local governments in the Perth and Peel region by 2025 and supported by State Government through the application of financial mechanisms.*
3. *Implement sustainable government procurement practices that encourage greater use of recycled products and support local market development.*
4. *Implement local government waste plans, which align local government waste planning processes with the Waste Avoidance and Resource Recovery Strategy 2030.*
5. *Review the scope and application of the waste levy to ensure it meets the objectives of the Waste Avoidance and Resource Recovery Strategy 2030 and establish a schedule of future waste levy rates with the initial schedule providing a minimum five year horizon.*

6. *Undertake a strategic review of Western Australia's waste infrastructure (including landfills) by 2020 to guide future infrastructure development.*
7. *Review and update data collection and reporting systems to allow waste generation, recovery and disposal performance to be assessed in a timely manner.*
8. *Provide funding to promote the recovery of more value and resources from waste with an emphasis on focus materials.*

Each headline strategy is associated with actions which represent specific deliverables that have an associated delivery time frame. These are presented as a table, together with the action's lead agency and the strategy and objective which the action addresses.

The timeframes are identified as follows:

- **Ongoing:** activities which are currently under way and/or which will be continuously undertaken
- **Short term:** activities to commence within the next 1-2 years
- **Medium term:** activities to commence within the next 3-5 years
- **Long term:** activities to commence in more than five years.

01

Develop state-wide communications to support consistent messaging on waste avoidance, resource recovery and appropriate waste disposal behaviours.

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
Waste Authority	<p>1.1 WasteSorted communications toolkit Build on and maintain the existing local government communications toolkit for consistent messaging relating to better practice kerbside service delivery and to support FOGO implementation in Perth and Peel.</p>	Ongoing				
	<p>1.2 Own Your Impact Maintain and enhance the Own Your Impact program to ensure that it is providing targeted up to date information and guidance to the community on key waste strategy initiatives. This will include delivery of key near-term campaigns prior to a subsequent behaviour change campaign.</p>	Short term				
DWER	<p>1.3 Major behaviour change program Develop a business case and subsequently implement a major long-term behaviour change campaign covering social marketing, media, education and engagement, informed by:</p> <ul style="list-style-type: none"> social research to determine initial program focus based on community readiness and expectations and waste strategy priorities, including: <ul style="list-style-type: none"> food and garden organics waste recycling contamination in kerbside collection systems awareness of the benefits of recycling and using recycled products impacts of illegal dumping staged program design by specialist behavioural change and social marketing expertise. timing of potential future regulatory change and infrastructure provisions, to better enhance community behaviour change that is led by State Government. 	Short-long term	✓ 1, 4, 5, 6	✓ 11, 12	✓ 24	✓ 42

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
Dept. of Local Govt., Sport and Cultural Industries (DLGSC)	1.4 Environmental education Provide waste and other environmental education opportunities at state owned infrastructure, consistent with the waste strategy.	Medium term	✓ 1, 4, 5, 6	✓ 11, 12	✓ 24	✓ 42
	1.5 Perth Cultural Centre demonstration project Deliver a sustainability demonstration project at the Perth Cultural Centre.	Short term				
	1.6 Support local government waste management Support local government to improve waste management through innovation and education.	Medium term				
	1.7 Guidance: Household Hazardous Waste Program In consultation with key stakeholders, review, update and publish <i>Guidelines for the design and operation of facilities for the acceptance and storage of household hazardous waste</i> , to support the Household Hazardous Waste Program.	Short term				
Waste Authority	1.8 Update Waste Authority Position Statements Review and update Waste Authority Position Statements on waste to energy and the waste hierarchy.	Short term	✓ 2	✓ 10, 13	✓ 25, 26, 30	✓ 30
	1.9 Better practice uptake In consultation with all relevant stakeholders, identify better practice priorities and develop, trial and publish relevant better practice guidance documents, and encourage their adoption.	Short-medium term				
	1.10 Better practice local government waste services Develop and publish better practice guidance for food organics and garden organics (FOGO) kerbside services, vergeside waste collection services and drop-off facilities to support local government development of waste plans and their adoption of better practice.	Short-medium term				
DWER	1.11 Managing waste in regional/remote communities In consultation with relevant State Government agencies, local government and communities, develop pragmatic guidelines for the design, maintenance and management of waste services and infrastructure in regional/remote communities, including Aboriginal communities.	Short-medium term				

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
Waste Authority	<p>1.12 Waste Wise Schools (WWS) expansion</p> <p>Continue to extend the WWS program with a focus on:</p> <ul style="list-style-type: none"> developing more high school resources to provide more motivation for high schools to engage with the WWS program and increase their diversion of waste from landfill. extending the WWS program to more schools in regional areas through the establishment of regional partnerships to meet demand for face to face school support in regional areas. 	Medium term				
DLGSC	<p>1.13 Better Bins at sporting and cultural venues</p> <p>Require use of Better Bins infrastructure (where appropriate) and messaging in sporting and cultural venues.</p>	Medium term	✓	✓	✓	✓
Water Corporation	<p>1.14 Reduce waste from wastewater management</p> <p>Continue research and implementation of better practice actions aimed at recovering resources and removing waste/pollutants from wastewater, including:</p> <ul style="list-style-type: none"> Gross Pollutant Trap, and safety screens/trash racks on Perth drains Research into recovery of struvite from wastewater and magnesium from seawater desalination brine Research into self-supply of carbon dioxide Research with Royal Melbourne Institute of Technology for microplastics analysis. 	Ongoing	2	10, 13	25, 26, 30	30

02

A consistent three bin kerbside collection system, which includes separation of food organics and garden organics from other waste categories, to be provided by all local governments in the Perth and Peel region by 2025 and supported by State Government through the application of financial mechanisms.

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
Waste Authority	<p>2.1 FOGO Position Statement Develop a Waste Authority Position Statement on Food Organics and Garden Organics (FOGO).</p>	Short term				
	<p>2.2 Revise Better Bins with a FOGO focus Review and update the Better Bins funding program and better practice guidelines for kerbside collection to include, and support the adoption of, three bin FOGO collection systems.</p>	Short term		✓		
	<p>2.3 Plan for three bin FOGO system roll out In consultation with local government, develop a plan for the phased introduction of three bin FOGO kerbside collection systems in Perth and Peel, including coverage requirements, processing and infrastructure needs, market scoping and development, mechanisms for transition from non-FOGO two and three bin services, and flexibility to allow for contractual transition.</p>	Short term		✓		18
	<p>2.4 Implement three bin FOGO system Implement three-bin FOGO systems across local governments in the Perth and Peel region, with funding support through the revised Better Bins program.</p>	Short-medium term				

03

Implement sustainable government procurement practices that encourage greater use of recycled products and support local market development.

Lead	Actions	Timing	Waste strategy objective and strategy number		
			Avoid	Recover	Protect Foundation
DWER	<p>3.1 Identify options and priority actions to reduce waste through procurement In consultation with industry and State Government, identify priority sustainable government procurement measures, reporting requirements and policies, and engage with State Government agencies and obtain commitment to these within negotiated timeframes.</p>	Short term			
	<p>3.2 Implement reducing waste through procurement program Lead collaboration between State Government agencies and industry to implement sustainable government procurement measures and policies.</p>	Short-medium term			
	<p>3.3 Develop better practice procurement framework Work with DWER to review the State Supply Commission's Sustainable Procurement Policy and Disposal of Goods Policy to reduce waste, increase recycling and increase use of recycled products in goods and services procurement; and incorporate any new requirements into relevant guidance materials. Such work may seek to:</p> <ul style="list-style-type: none"> Streamline existing guidance materials; Draw upon DWER and other agencies' experience to incorporate examples of better practice; and Develop a communications plan for the updated documents. 	Short term	✓ 3	✓ 9, 22	
Department of Finance (DoF)	<p>3.4 CUA update Review all relevant State Government Common Use Agreements as they fall due for renewal, to promote opportunities for agencies to reduce their purchase of disposable plastic based products and increase their purchasing of recycled and low-waste products.</p>	Short-medium term			
	<p>3.5 Mandatory requirements: Government construction projects Work with DWER to review current practices for recycled content use, including the recycling of DoF construction and demolition waste, and undertake research to establish a baseline and set appropriate targets.</p>	Long term			
	<p>3.6 Reporting protocol Establish a reporting protocol including thresholds for reuse, recycling, recovery and disposal.</p>	Medium term			

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
Department of Communities (DoC)	3.7 DoC construction project targets Work with industry to establish targets for recycling and recycled material content to be used in construction projects over thresholds (to be determined).	Short-medium term				
	3.8 DoC project tendering Include in tender documentation provisions for consideration of waste avoidance and resource recovery.	Short-medium term				
	3.9 DLGSC recycled content for building projects Require the use of recycled content and reporting for building projects/grants over certain thresholds (to be determined).	Short-medium term	✓	3		
Dept. of Local Govt., Sport and Cultural Industries (DLGSC)	3.10 DLGSC single use plastics Avoidance of single use plastics at all state owned culture and sport venues and advocacy for this at state sporting facilities managed by others.	Short-medium term			✓	9, 22
	3.11 Roads to reuse trial In 2019, MRWA will work with the Waste Authority and DWER to pilot Roads to Reuse on the Kwinana Freeway Northbound Widening Project from Russell Road to Roe Highway or a similar project, using approximately 25,000 tonnes of recycled construction and demolition (C&D) waste as road base.	Short term				
Main Roads Western Australia (MRWA)	3.12 Use of recycled C&D – 2019 Subject to ongoing DWER independent audit testing, MRWA to use over 100,000 tonnes of crushed recycled concrete on selected projects in 2019, with access to Roads to Reuse program funding as appropriate.	Short term				
	3.13 Use of recycled C&D – 2020 Subject to ongoing independent audit testing by DWER or the Waste Authority, MRWA to use over 200,000 tonnes of crushed recycled concrete on selected projects in 2020, with access to Roads to Reuse program funding as appropriate.	Short term				

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
Main Roads Western Australia (MRWA)	3.14 Use of recycled C&D – beyond 2020 MRWA continue to work closely with DWER and the Waste Authority to aim to double these targets, whilst ensuring that independent audit testing and firm action achieve full compliance with maximum permissible limits of contaminants.	Medium term		✓		
	3.15 Use of crumbed scrap tyre rubber for asphalt projects MRWA to develop and implement alternative crumbed scrap rubber bituminous binders to double usage by MRWA and local governments to over 1200 tonnes per year by 2021.	Short term		9, 22		



04

Implement local government waste plans, which align local government waste planning processes with the Waste Avoidance and Resource Recovery Strategy 2030.

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
DWER Dept. of Local Govt., Sport and Cultural Industries (DLGSC)	4.1 Develop waste plan support and guidance In consultation with local government, develop model plans and guidance to support the development of local government waste plans that are consistent with the waste strategy and form part of the local government integrated planning process.	Short term				
	4.2 Notify local governments of waste plan requirements Provide relevant local governments with written notice of the requirements to develop waste plans.	Short term				✓ 48
	4.3 Support local governments to meet waste plan requirements Provide local governments with support and assistance to meet ongoing waste plan preparation, review and reporting requirements.	Short-medium term				



05

Review the scope and application of the waste levy to ensure it meets the objectives of the Waste Avoidance and Resource Recovery Strategy 2030 and establish a schedule of future waste levy rates with the initial schedule providing a minimum five year horizon.

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
DWER	<p>5.1 Waste levy review In consultation with relevant stakeholders, undertake a review of the scope and application of the waste levy to ensure it meets the objectives of the waste strategy.</p>	Short term				✓ 46
	<p>5.2 Schedule of levy rates Establish a schedule of future waste levy rates that provides a minimum five year projection.</p>	Short term				
	<p>5.3 Amend WARR Levy Regulations Update the <i>Waste Avoidance and Resource Recovery Levy Regulations 2008</i> to reflect any changes to the scope and application of the waste levy.</p>	Medium term				
	<p>5.4 Litter Strategy Implement the litter prevention strategy to reduce littering and manage its impacts in partnership with the Keep Australia Beautiful Council (KABC).</p>	Ongoing				
	<p>5.5 Illegal dumping strategies Implement actions to protect the environment from the impacts of illegal dumping:</p> <ul style="list-style-type: none"> work with land owners/managers to build their capacity to tackle illegal dumping detect, investigate and prosecute illegal dumping. 	Short-medium term			✓ 28, 32, 33, 34	✓ 47
	<p>5.6 Improved regulatory framework for waste Review and update the regulatory framework for waste to ensure it is appropriate, reduces the environmental impacts and risks from waste management, and facilitates adequate processing facilities to process collected materials.</p>	Short-medium term				
	<p>5.7 Improved regulatory compliance Review regulations and policies to create a reasonable risk of enforcement and ensure that entities that are compliant and apply better practice are not disadvantaged.</p>	Medium term				
	<p>5.8 Improved levy compliance Develop and implement mechanisms to reduce levy evasion and stockpiling of waste.</p>	Medium term				

06

Undertake a strategic review of Western Australia's waste infrastructure (including landfills) by 2020 to guide future infrastructure development.

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
DWER	<p>6.1 State waste infrastructure audit Undertake an audit of existing waste infrastructure and a needs analysis to determine the waste infrastructure required to meet the objectives of the waste strategy.</p> <p>6.2 State Waste Infrastructure Plan In consultation with State Government agencies, local government, and the waste industry, develop the State Waste Infrastructure Plan which addresses:</p> <ul style="list-style-type: none"> • different waste infrastructure options and technologies available to meet the objectives of the waste strategy • land use planning instruments and issues • environmental, planning and licence approvals processes. <p>6.3 Guidance for waste infrastructure planning Work with the Department of Planning, Lands and Heritage to develop the planning instruments and guidance for local government and developers necessary to facilitate appropriate siting and design of waste facilities (including landfills).</p> <p>6.4 Options for improving waste infrastructure planning Investigate options for developing a 'needs based' approach to planning, environmental and licensing approval of new landfills and other waste infrastructure that supports a State Waste Infrastructure Plan, in consultation with the Department of Planning, Lands and Heritage.</p>	Short term				
		Short-medium term	✓ 16	✓ 27	✓ 44, 49, 50	
		Medium term				
		Medium-long term				

07

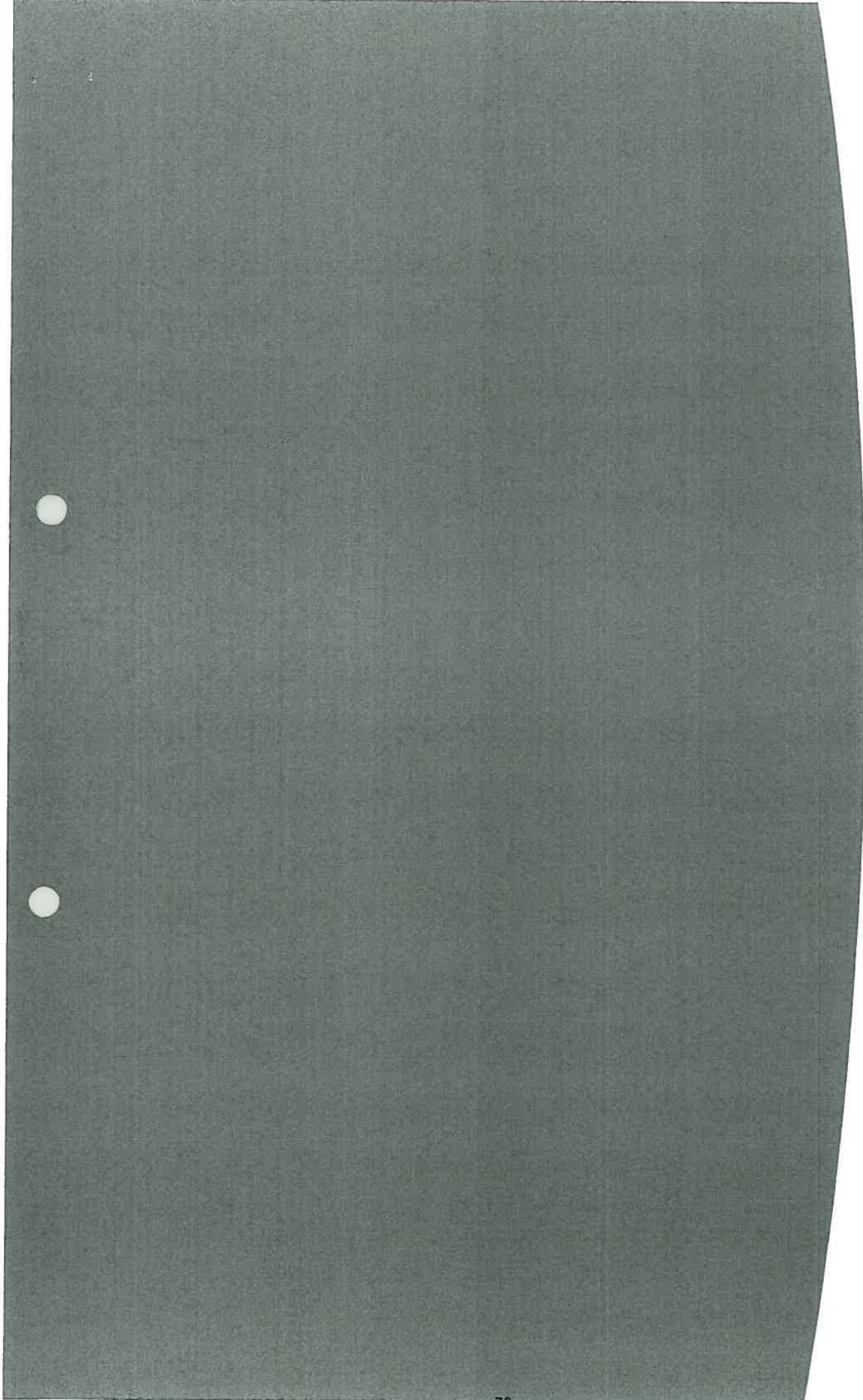
Review and update data collection and reporting systems to allow waste generation, recovery and disposal performance to be assessed in a timely manner.

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
Waste Authority	7.1 Waste Data Strategy Develop, release and implement the Waste Data Strategy.	Ongoing				
	7.2 Mandatory reporting of waste and recycling data Implement new reporting requirements under amendments to the <i>Waste Avoidance and Resource Recovery Regulations 2008</i> and develop reporting guidance to provide support to local governments, recyclers and landfill operators.	Short term				
	7.3 Online system for waste reporting Implement an online reporting system for waste data by 2020.	Short term				
DWER	7.4 Improved waste data Review and update waste data reporting systems and methodology, and develop new metrics, in order to improve data accuracy and eliminate identified gaps in waste data. Initial focus will be on: <ul style="list-style-type: none"> • monitoring progress towards achieving objectives and targets of the waste strategy • monitoring and prosecuting illegal dumping • materials that are reused • waste tracking and stockpiling • focus materials • measuring the impact of communication initiatives, including those focused on kerbside recycling 	Short-Medium term	✓ 15	✓ 23	✓ 37, 38, 41	
	7.5 MyCouncil: Reporting waste data In collaboration with DWER, report local government waste data on the MyCouncil website to provide increased transparency around local government waste and recycling performance and encourage benchmarking and improved performance.	Short term				
Dept. of Local Govt., Sport and Cultural Industries (DLGSC)						

08

Provide funding to promote the recovery of more value and resources from waste with an emphasis on focus materials.

Lead	Actions	Timing	Waste strategy objective and strategy number			
			Avoid	Recover	Protect	Foundation
DWER	<p>8.1 Product stewardship Develop, support and implement measures to establish and maintain product stewardship schemes aligned with the State's waste priorities, including implementation of a container deposit scheme and working with the Australian Packaging Covenant Organisation.</p>	Ongoing				
Waste Authority	<p>8.2 Facilitate waste avoidance and recovery Identify priority areas of need for funding, and establish a funding program(s) to support adoption of waste avoiding practices and behaviour and/or the recovery of resources from waste, with an emphasis on:</p> <ul style="list-style-type: none"> • focus materials • reuse and low-waste alternatives • community, government and industry initiatives that lead to waste avoidance and resource recovery • increasing the uptake of better practice approaches 	Short term	✓ 6, 7	✓ 16, 17, 19	✓ 29	✓ 43
	<p>8.3 Infrastructure support program Develop and implement a recycling infrastructure support program that delivers funding and other support for the development of local resource recovery infrastructure.</p>	Short term				
	<p>8.4 Reprocessing feasibility research Consider medium to long term options for reprocessing in Western Australia, taking into account known standards, technologies, viabilities and potential barriers.</p>	Short term				



Waste Authority



11.3 ITEMS CONTAINED IN THE INFORMATION BULLETIN

REFERENCE: Ref: D2019/02922

The following item is included in the Information Bulletin, which accompanies the Agenda.

1. WASTE SERVICES

1.1 COUNCIL TONNAGE COMPARISONS AS AT 31 JANUARY 2019 (Ref: D2019/02661)

RECOMMENDATION

That the Technical Advisory Committee notes the items contained in the Information Bulletin accompanying the 7 March 2019 Technical Advisory Committee Agenda.

TAC RESOLUTION(S)

MOVED MR JACKSON

SECONDED MR SHERIDAN

THAT THE TECHNICAL ADVISORY COMMITTEE NOTES THE ITEMS CONTAINED IN THE INFORMATION BULLETIN ACCOMPANYING THE 7 MARCH 2019 TECHNICAL ADVISORY COMMITTEE AGENDA.

CARRIED UNANIMOUSLY



12 REPORTS OF DELEGATES

Nil

13 NEW BUSINESS OF AN URGENT NATURE APPROVED BY THE CHAIRMAN OR PRESIDING MEMBER OR BY DECISION OF MEETING

Nil

14 CONFIDENTIAL MATTERS FOR WHICH THE MEETING MAY BE CLOSED TO THE PUBLIC

Nil

15 FUTURE MEETINGS OF THE TECHNICAL ADVISORY COMMITTEE

The next meeting of the Technical Advisory Committee will be held on **Thursday 4 April 2019 (if required)** at the EMRC Administration Office, 1st Floor, Ascot Place, 226 Great Eastern Highway, Belmont WA 6104 commencing at 4:00pm (12.30pm).

Future Meetings 2019

Thursday	4	April	(if required)	at	EMRC Administration Office
Thursday	9	May	(if required)	at	EMRC Administration Office
Thursday	6	June	(if required)	at	EMRC Administration Office
Thursday	4	July	(if required)	at	EMRC Administration Office
Thursday	8	August	(if required)	at	EMRC Administration Office
Thursday	5	September	(if required)	at	EMRC Administration Office
Thursday	10	October	(if required)	at	EMRC Administration Office
Thursday	21	November (1:00pm)	(if required)	at	Red Hill Waste Management Facility

15 DECLARATION OF CLOSURE OF MEETING

There being no further business the meeting was closed at 4:54pm.