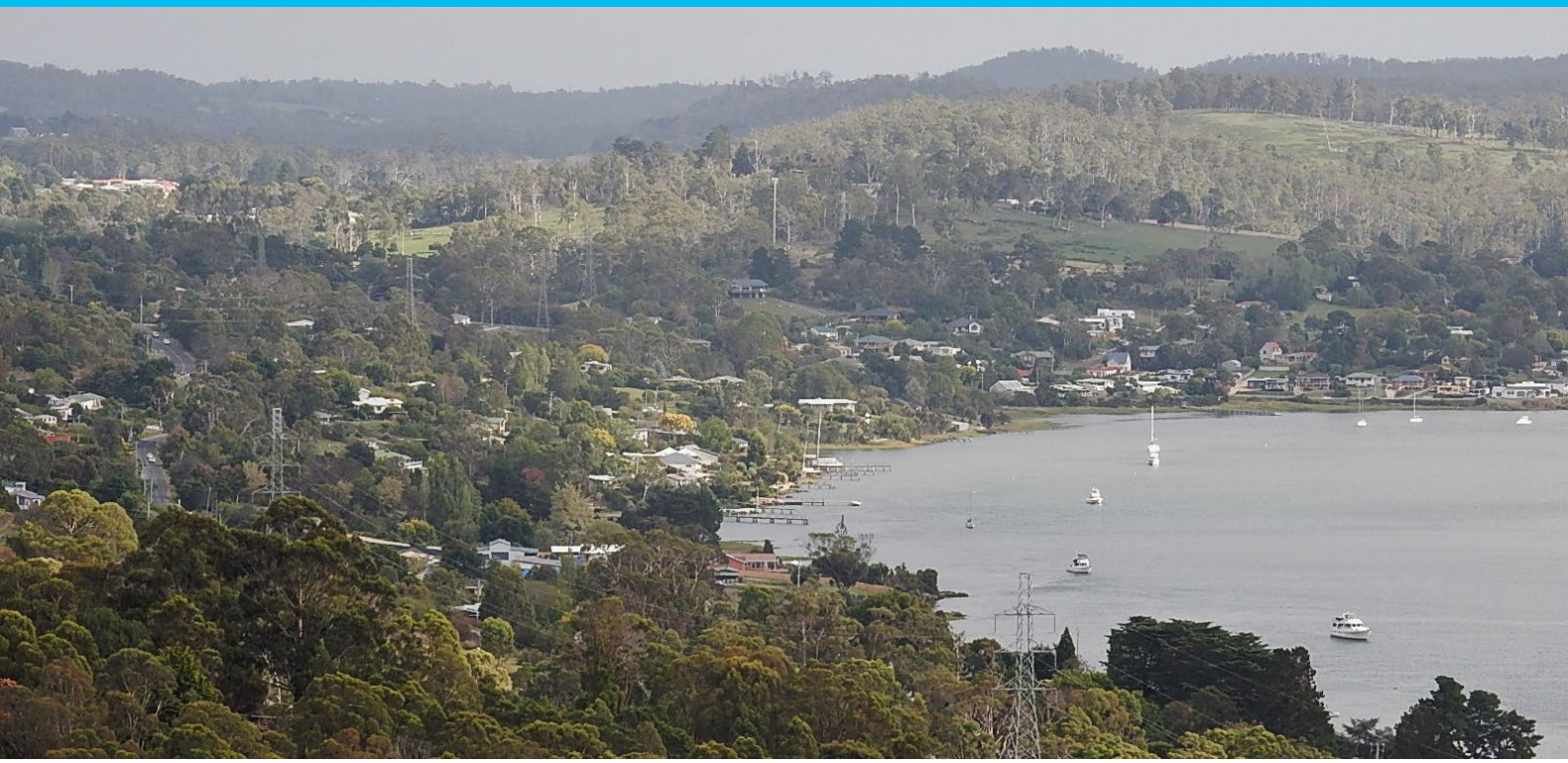
Northern Tasmanian Waste Management Program Strategic Plan Development Report

A Submission to NRM North

April 2024



MRA Consulting Group

Northern Tasmanian Waste Management Program Strategic Plan Development Report

A Submission to NRM North (ABN 86 015 680 466)

Job No. 1013386

Cover photo source: Michael Coghlan, (2016), *On the Edge of the Tamar,* link

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In the spirit of reconciliation MRA Consulting Group acknowledges the Traditional Custodians of Country throughout Australia and their connection to land, sea and community. We pay our respects to Aboriginal and Torres Strait Islander peoples and to Elders past, present and emerging.

Table of contents

1 Purpose

This report will provide an overview of initial research and consultation serving as the foundation for the development of a new five-year strategic plan from 2024-2029 detailing action steps, budgets, and timeframes. This report provides an opportunity to test preliminary visions, targets, and implementation tasks.

2 Northern Tasmania Waste Management Program

The Northern Tasmania Waste Management Program (NTWMP) was established in 2007, bringing together seven councils from the Northern Tasmania region: Break O'Day, Dorset, George Town, Launceston, Meander Valley, Northern Midlands, and West Tamar, with Flinders joining in 2024. The regional group was formed under the guidance of the waste hierarchy as their main principle and the aim to improve waste management in the region.

In 2012, the first NTWMP Strategy (2012-2017) was launched, marking a significant milestone for NTWMP as it was the organisation's first long-term strategy. During this period, the group conducted extensive research into waste management best practice, laying the groundwork for subsequent initiatives.

The most recent NTWMP Five-Year Strategy (2017-2022) builds upon the foundation laid by long-term strategic planning initiated in 2012. This strategy outlines a variety of initiatives that have matured into well-established projects aimed at reducing landfill waste and enhancing best practice. NTWMP advocates for lower waste generation rates through educational efforts and the facilitation of services that promote reuse or recycling. These initiatives aim to foster collaboration and cooperation among stakeholders, while also ensuring consistent waste management services and engagement across the region.

An interim report was developed in 2022 to review previous strategic plans and inform future strategic direction and priorities.

3 Review of strategy and policy

A desktop analysis assessed waste management strategies from a national to local level. Each strategy provides targets with a similar vision for better practice waste management systems, and to move towards a more circular economy, revealing shared strategic themes. These themes offer a comprehensive view of current waste management strategies, facilitating comparison.

Strategic themes were identified by assessing targets of the following strategic links:

- National Waste Policy (2018) – DCCEEW,
- National Waste Policy Action Plan (2019) – DCCEEW,
- Tasmanian Waste and Resource Recovery Strategy (2023-2026) – NRE Tasmania,
- Draft (Tasmanian) Waste Action Plan (2019) – NRE Tasmania,
- Tasmania's Climate Change Action Plan 2023-25 – ReCFIT Tasmania,
- CCWMG Strategic Plan (2023-2028) – Cradle Coast Waste Management Group,
- NTWMP Five-year strategy (2017-2022) – Northern Tasmania Waste Management Program,
- Sustainability Action Plan (2022-2023) – City of Launceston,
- Waste Management Strategy (2016 - 2020) – Meander Valley Council, and
- Waste Management Strategy (2024-2028) – Flinders Council.

Each strategic theme plays a crucial role in the various systems of a circular economy. The overlapping definitions of these themes highlight the holistic approach needed in moving towards a circular economy.

Refer to Table 1 for the common qualitative themes identified in the policy and strategy review.

Table 1 Identified strategic themes and definitions

Strategic Theme	Definition
Circular economy principles	Emphasising principles regarding waste avoidance, efficient use, reuse, and resource recovery.
Data integrity	Accessibility of accurate, up to date, and reliable data to inform better investment, strategic and consumer decisions.
Education	Boosting community, business, and industry engagement, promoting success, and awareness. The main aim is to improve source separation for resource recovery through behaviour change.
Energy and emissions	Strategies for renewable energy production.
Landfill diversion	Diverting waste to recover resources, extend landfill life, and cut emissions, with specific targets and improved infrastructure.
Natural environment	Preserving sensitive vegetation and conservation values and rehabilitating landfill areas.
Organics diversion	Diverting organics waste from landfill to reduce landfill emissions and increase resource recovery.
Problematic wastes	Ensuring difficult to recycle materials are phased out or managed correctly, such as plastics and hazardous waste.
Regional development	Enhancing infrastructure, skills, and access for improved community services and localised waste management.
Regulations and market demand	Enacting bans or regulations to stimulate market demand for recycling and recycled materials., including product stewardship schemes and compulsory use of recycled/recyclable materials. Regulations also refers to adherence to best practice waste management standards, improving resource recovery.
Resource recovery	Enhancing recycling systems to increase resource recovery rates and quality, including improvements in infrastructure and waste management systems.
Strategic planning	Local, regional, state, and national collaboration to support circular economy and waste management initiatives. Informs strategic direction.
Technology and innovation	Designing durable products, using recoverable, high-quality materials.
Waste avoidance	Reducing waste production to achieve targeted waste reduction goals. Strategies involve education and behaviour change.

Common quantitative targets were also identified in the review. These were mainly a product of strategy and policy alignment with the National Waste Policy[1]. Common quantitative targets are outlined in Table 2.

Table 2 Common quantitative targets identified in the policy and strategy review

Theme	Target
Waste avoidance	Reduce total waste generated in Australia by 10% per person by 2030.
Resource recovery	80% average resource recovery rate from all waste streams following the waste hierarchy by 2030.
Organics diversion	Halve the amount of organic waste sent to landfill by 2030.
Waste avoidance	Reduce waste generated in Tasmania by 5% per person by 2025 and 10% by 2030.
Regulations and market demand	Ensure 100% of packaging is reusable, recyclable or compostable by 2025.
Resource Recovery	Achieve a 40% average recovery rate from all waste streams by 2025 and 80% by 2030.
Organics diversion	Reduce the volume of organic waste sent to landfill by 25% by 2025 and 50% by 2030.
Organics diversion	Reduce food waste by 50 per cent by 2030 and reduce the volume of organic waste sent to landfill by 25 per cent by 2025 and 50 per cent by 2030.

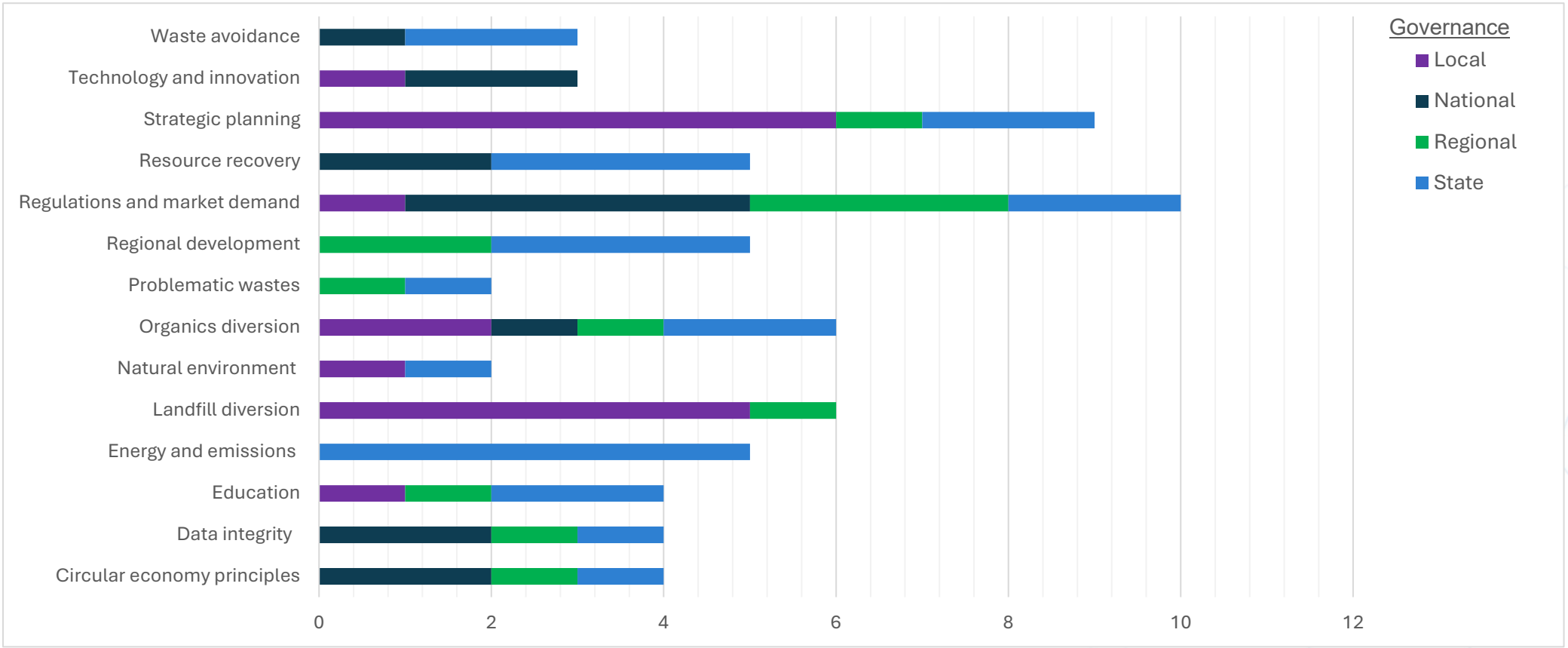
These common quantitative targets have been considered in further modelling and identification of objectives and targets for the NTWMP Strategic Plan.

[1] National Waste Policy, Department of Climate Change, Energy, the Environment and Water, 2018 National Waste Policy: Less waste, more resources, (2018), link

4 Gap analysis

Figure 1 provides an overview of the frequency of strategic themes identified in policy and strategy review, according to each level of governance. Focal areas of waste management strategies include regulations and market demand, strategic planning, organics diversion and landfill diversion. Conversely, there was less focus on problematic wastes and the natural environment. This analysis subsequently guided refinement of the vision of the NTWMP Strategic Plan and development of the preliminary objectives and targets to ensure full and appropriate coverage of the NTWMP Strategic Plan. This is explained below in Section 4.1 (NTWMP Strategy (2017-2022) Review).

Figure 1 Number of strategic themes identified by National, State, Regional, and Local strategy



4.1 NTWMP Strategy (2017-2022) Review

A gap analysis was also conducted on the NTWMP 2017-2022 Strategy's targets. This involved reviewing the strategy's performance indicators (i.e. activities required to meet the targets, provided in the NTWMP 2017-2021 Strategy) against the strategic themes outlined in the Review of strategy and policy section to identify any gaps that may exist. Table 3 lists the NTWMP 2017-2022 Strategy's targets and their identified themes.

Table 3 NTWMP 2017-2022 Strategy targets and strategic themes

Targets	Themes
• Help establish food and garden organics (FOGO) kerbside organics collections.	Organics diversion
1. Increase waste avoidance, resource recovery and recycling.	Circular economy principles
2. Continue the recycling of hazardous and problem wastes.	Problematic wastes
3. Achieve best practice and safe transfer stations and landfills.	Regulations and market demand
4. Implement consistent operating standards.	Regulations and market demand
5. Improve data collection.	Data integrity
6. Increase the number of kerbside recycling bin assessments.	Regulations and market demand
7. Broaden community, government and industry engagement, awareness, and education about recycling and better waste management.	Education

The gap analysis enabled identification of trends and gaps in alignment with national, state, regional, and local targets, identified in the previous section (3 Review of strategy and policy). In addition, it provided an insight into how the activities of the NTWMP 2017-22 Strategy support its targets. Each of the performance indicators was reviewed against the qualitative themes identified in Table 1.

Figure 2 shows the themes identified when analysing the NTWMP 2017-22 Strategy performance indicators. The graph shows the number of performance indicators falling under each theme. See Appendix A for the themes identified against each performance indicator.

Further investigation on these targets revealed that each target consists of multiple themes, as presented in Figure 2. It shows that majority of the targets are well rounded and predominantly align with the strategic themes noted in other strategies.

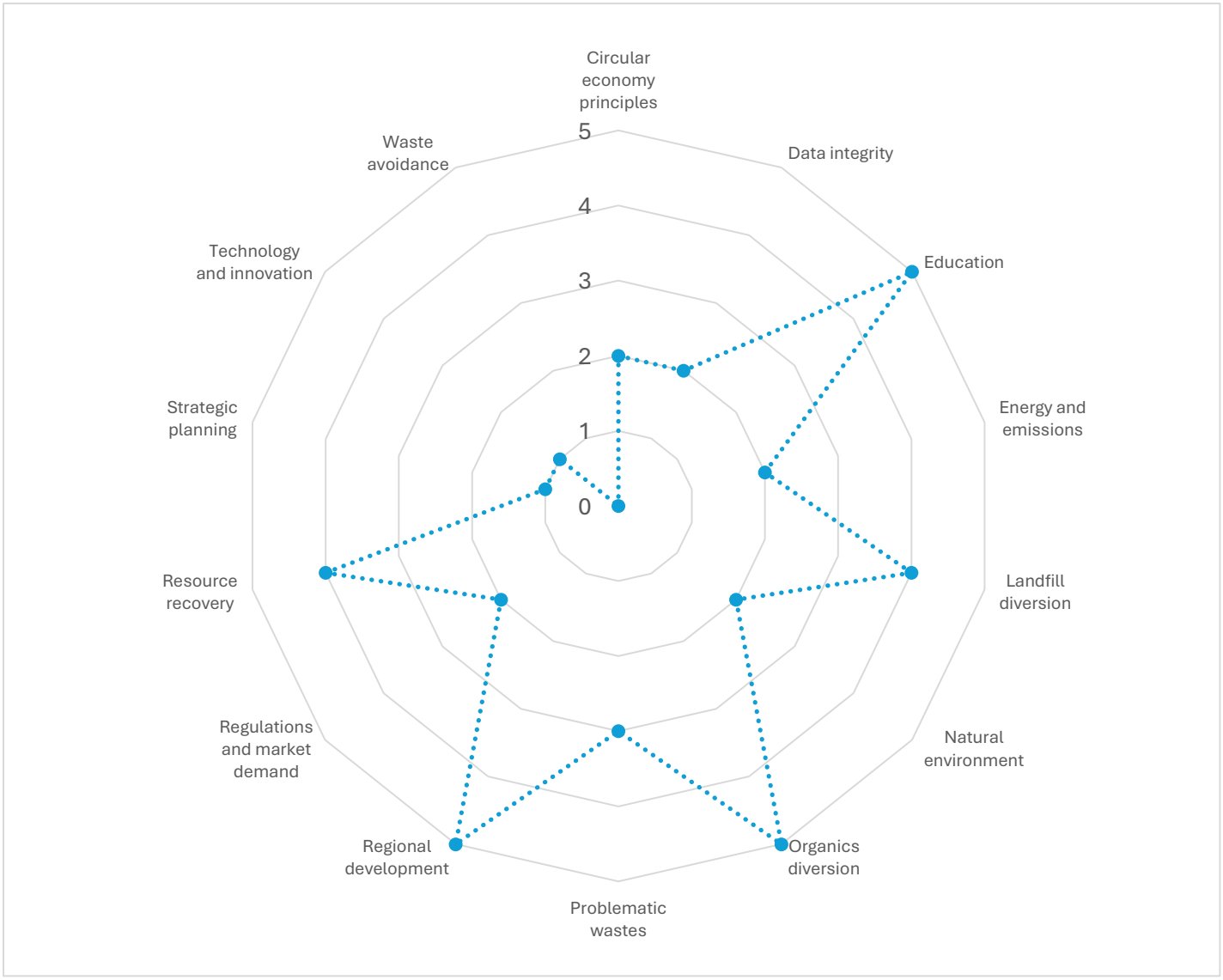
The NTWMP 2017-2022 Strategy targets focus on:

- Education,
- Landfill diversion,
- Organics diversion,
- Regional development, and
- Resource recovery.

However, there is a significant gap in targets focussing on

- Waste avoidance, and
- Technology and innovation.

Figure 2 Number of performance indicators under each theme



When comparing identified themes from the NTWMP 2017-2022 Strategy's actions (Figure 2) with its targets (Table 3), there are some inconsistencies. Figure 2 identifies main themes which do not have an appropriate range of specific actions identified to support implementation.

This may be because the targets are broad and cover a large range of themes, but the performance indicators only focus on one or two themes, shifting the priorities of the target. For example, Target 2 'Increase waste avoidance, resource recovery and recycling' is a broad target falling under the theme of Circular Economy Principle as it refers to activities involved in a circular economy. However, when reviewing performance indicators, none of the actions are directly aimed to reduce waste avoidance. There is a strong focus in education which can indirectly contribute to waste avoidance, but it is not identified as a priority.

On the other hand, Target 6 'Improve data collection' is a concise target with specific actions leading to specific themes which are well represented in both analyses.

In response to this issue, the vision, targets and actions suggested in this report will be refined to cover all areas identified in other strategies and concise targets with clear actions will be provided. Identified gaps from this analysis are considered in the development of the preliminary targets (section 9 Preliminary targets).

5 Waste management in the region in 2023

5.1 Methodology

The methodology and sources used to understand waste facilities, generation, and treatment in 2023 are explained below.

5.1.1 Waste facility data

Waste facility data was collected from multiple sources, including data provided from NRM North and publicly available information, such as the regulated premises register[2] and council websites.

Facility throughput data was gathered through RFI responses, and permit conditions for maximum throughput or storage found on the regulated premises register[2]. These sources were also used to map all identified facilities in Figure 3.

A list of sources is provided in Table 4.

5.1.2 Waste generation data

Waste generation data was extrapolated from state-wide data sourced from the National Waste Report[3].Total Tasmanian waste data was divided using the population data of Northern Tasmania from ABS statistics[4]. This produced waste data estimates by material type, as well as estimated tonnages along each materials treatment pathway (i.e. tonnes landfilled and recovered).

Waste materials were categorised into material categories to present a high-level analysis of waste generation and treatment in the region. Organic waste was not categorised as a whole material, instead it is presented by individual material type as it is a priority material, therefore it is important to understand the source of organic waste and its current treatment pathways to divert from landfill.

The data provided by the National Waste Report[3] was not comprehensive, with large tonnages of materials being unclassified and labelled as 'other' or not labelled at all. Although the material category was provided, the material itself was not reported therefore data is not comprehensively reflective of the amount of waste generated, landfilled, or recovered.

Waste generated from mining activities has been excluded from this analysis as it is out of scope.

A list of sources is provided in Table 4.

5.2 Sources

Table 4 Waste management in the region in 2023 analysis sources

Source	Data	Use
Regulated premises register[2]	All waste facilities in the Council	Identify waste facility data and mapping.

[2] Regulated premises register, Environmental Protection Agency Tasmania (2020), link
[3] National Waste Report 2022, Blue Environment, Prepared for Department of Climate Change, Energy, the Environment and Water, (2023), link
[4] Australian Bureau of Statistics, National Census Data 2001 – 2021, (2021), link

Blue Environment and Department of Climate Change, Energy, the Environment and Water[3]	All waste data from 2018-19 to 2020-21 in the Tasmanian jurisdiction	To understand the mean waste generation, recovery and landfilling per annum by material type and stream (C&I, C&D and MSW).
Australian Bureau of Statistics[4]	Population data from National Census Data from 2001 - 2021	To calculate the total population of the Northern Tasmania region using member council data.
Break O'Day Council website[5]	All waste facilities in the Council	Identify waste facility data and mapping.
Dorset Council website[6]	All waste facilities in the Council	Identify waste facility data and mapping.
Flinders Council website[7]	All waste facilities in the Council	Identify waste facility data and mapping.
George Town Council website[8]	All waste facilities in the Council	Identify waste facility data and mapping.
City of Launceston website[9]	All waste facilities in the Council	Identify waste facility data and mapping.
Meander Valley Council website[10]	All waste facilities in the Council	Identify waste facility data and mapping.
Northern Midlands Council website[11]	All waste facilities in the Council	Identify waste facility data and mapping.
West Tamar Council website[12]	All waste facilities in the Council	Identify waste facility data and mapping.

[5] Break O'Day Council website, Break O'Day Council, Waste, Waste Transfer Stations, (n.d.), link
[6] Dorset Council website, Dorset Council, Waste Management: Waste Transfer Stations, (2022-2024), link
[7] Flinders Council website, Flinders Council, Everyday life: Waste and Recycling, (2024), link
[8] George Town Council website, George Town Council, Waste transfer station operating hours, (2017), link
[9] City of Launceston website, City of Launceston, Natural environment and waste: Waste centres, (2024), link
[10] Meander Valley Council website, Meander Valley Council, Waste and Recycling: Waste disposal facilities, (2019-2024), link
[11] Northern Midlands Council website, Northern Midlands Council, Waste Management, Waste transfer stations, (n.d.), link
[12] West Tamar Council website, West Tamar Council, Services and facilities, Waste transfer stations, (2024), link

5.3 Waste facilities

Table 5 provides a summary of waste facilities located in each of the member council areas. Facility activities include storage, sorting, processing, and landfill (the only active registered landfill in Northern Tasmania is in Launceston). Many waste facilities in this region are not registered and facility data is not adequately and consistently reported on by all councils, there is also a lack of publicly accessible data; therefore, Table 5 and Figure 3 are only reflective of a portion of total facility throughput. Appendix A includes a full facility list including accepted materials and facility throughput (where available).

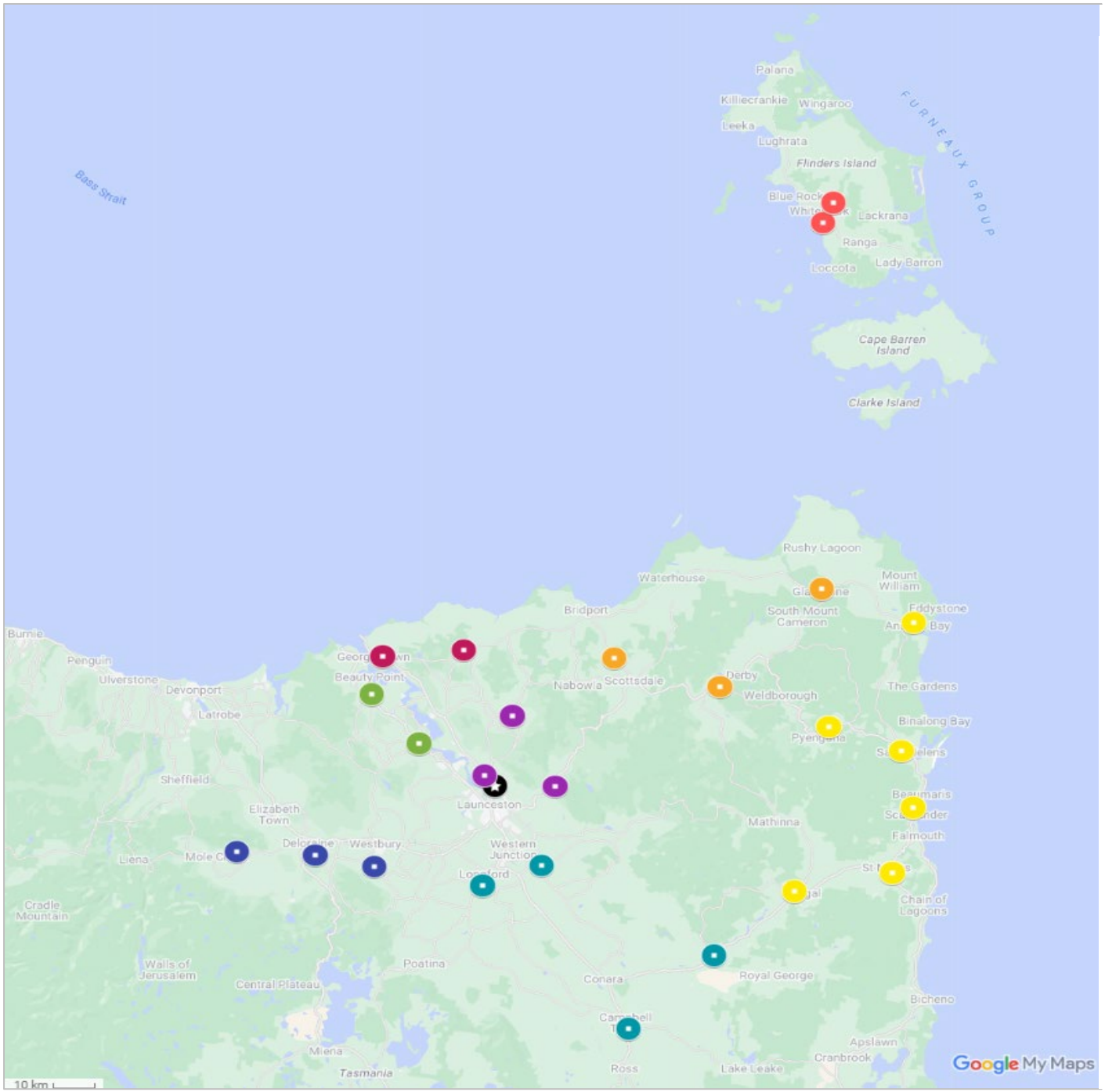
During the consultation stage with councils, additional waste facilities, including landfills, were identified; however, they remain unregulated by the EPA and have been excluded from the waste facility analysis due to insufficient or unreliable data.

Table 5 Number of waste facilities and known throughput located in the Northern Tasmania region

Council	Number of facilities	Throughput (tonnes per annum)
Break O'Day	6	4,500
Dorset	3	0
Flinders	2	2,000
George Town	2	20,000
Launceston	4	375,000
Meander Valley	3	10,500
Northern Midlands	4	0
West Tamar	2	0
Total	**28**	**412,000**

A map of facility locations is provided below in Figure 3.

Figure 3 Map of waste facilities in the Northern Tasmania region by council



Legend

Break O'Day
- Ansons Bay Waste Transfer Station
- Fingal Waste Transfer Station
- Pyengana Waste Transfer Station
- Scamander Waste Transfer Station
- St Helens Waste Transfer Station
- St Marys Waste Transfer Station

Dorset
- Branxholm Waste Transfer Station
- Gladstone Waste Transfer Station
- Scottsdale Waste Transfer Station

Flinders
- Walkers Supermarket Recycling Hub
- Whitemark Waste Disposal Site

George Town
- George Town Waste Depot
- Pipers River Transfer Station

Launceston
- Launceston Waste Centre and landfill
- Recycal
- Lilydale Transfer Station
- Nunamara Transfer Station

Meander Valley
- Deloraine Waste Disposal Site
- Mole Creek Waste Transfer Station
- Westbury Waste Disposal Site

Northern Midlands
- Avoca Waste Transfer Station
- Campbell Town Waste Transfer Station
- Evandale Waste Transfer Station
- Longford Waste Transfer Station

West Tamar
- Beaconsfield Waste Depot
- Exeter Transfer Station

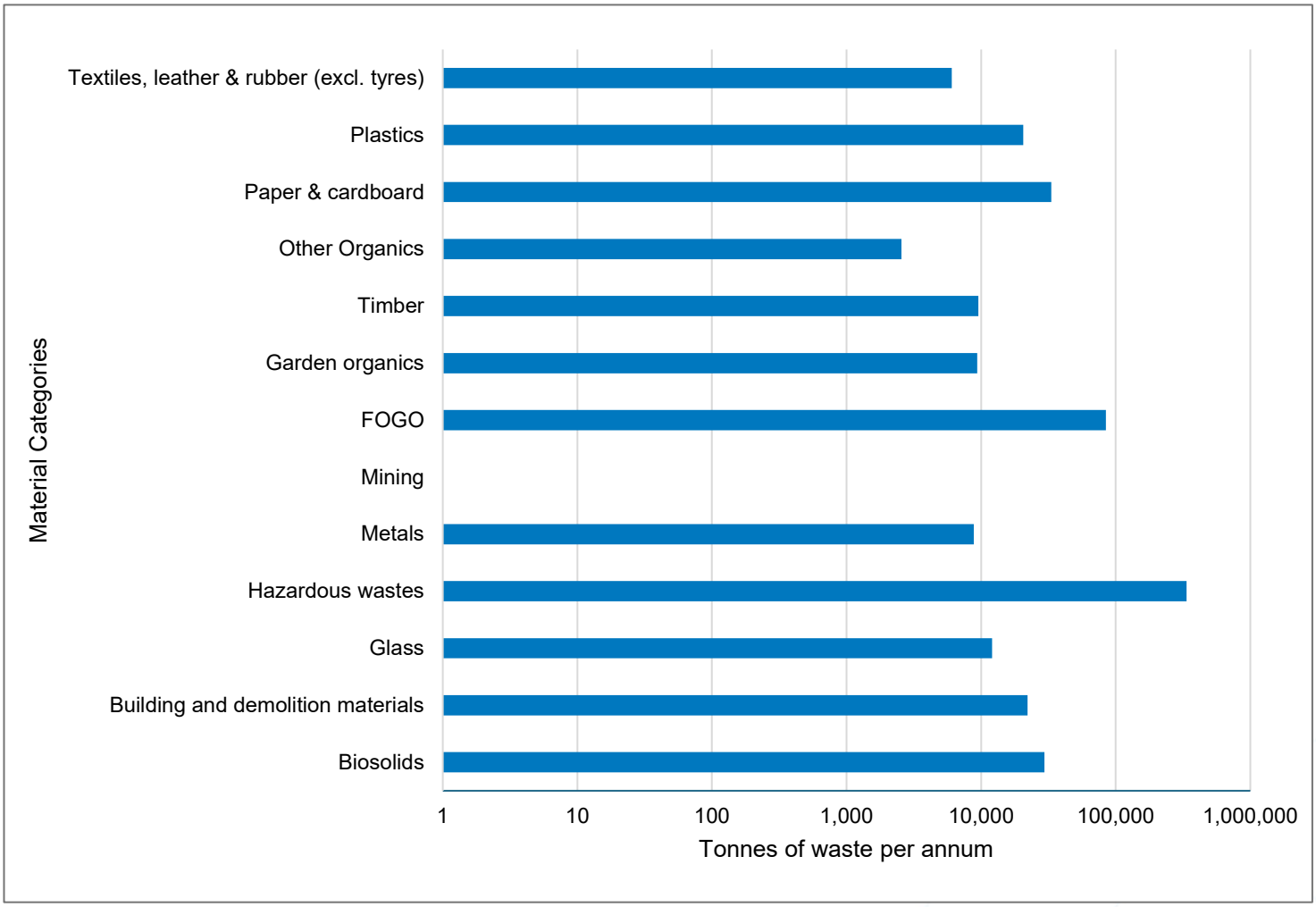
5.4 Waste generation

Waste generation in the region was modelled from 2023 to 2030 to understand the priority material types and sources for waste management in the region.

Figure 4 shows total waste generation for Northern Tasmanian region in 2023. Total generation shows a total of approximately 574,000 tonnes of waste, of which approximately 247,000 tonnes is currently landfilled, and approximately 326,000 is recovered.

The top materials generated in 2023 include hazardous wastes (336,000 tonnes), FOGO (84,000 tonnes), paper and cardboard (33,000 tonnes), biosolids (30,000 tonnes), and building and demolition materials (22,000 tonnes).

Figure 4 Total tonnes of waste generated per annum by material category

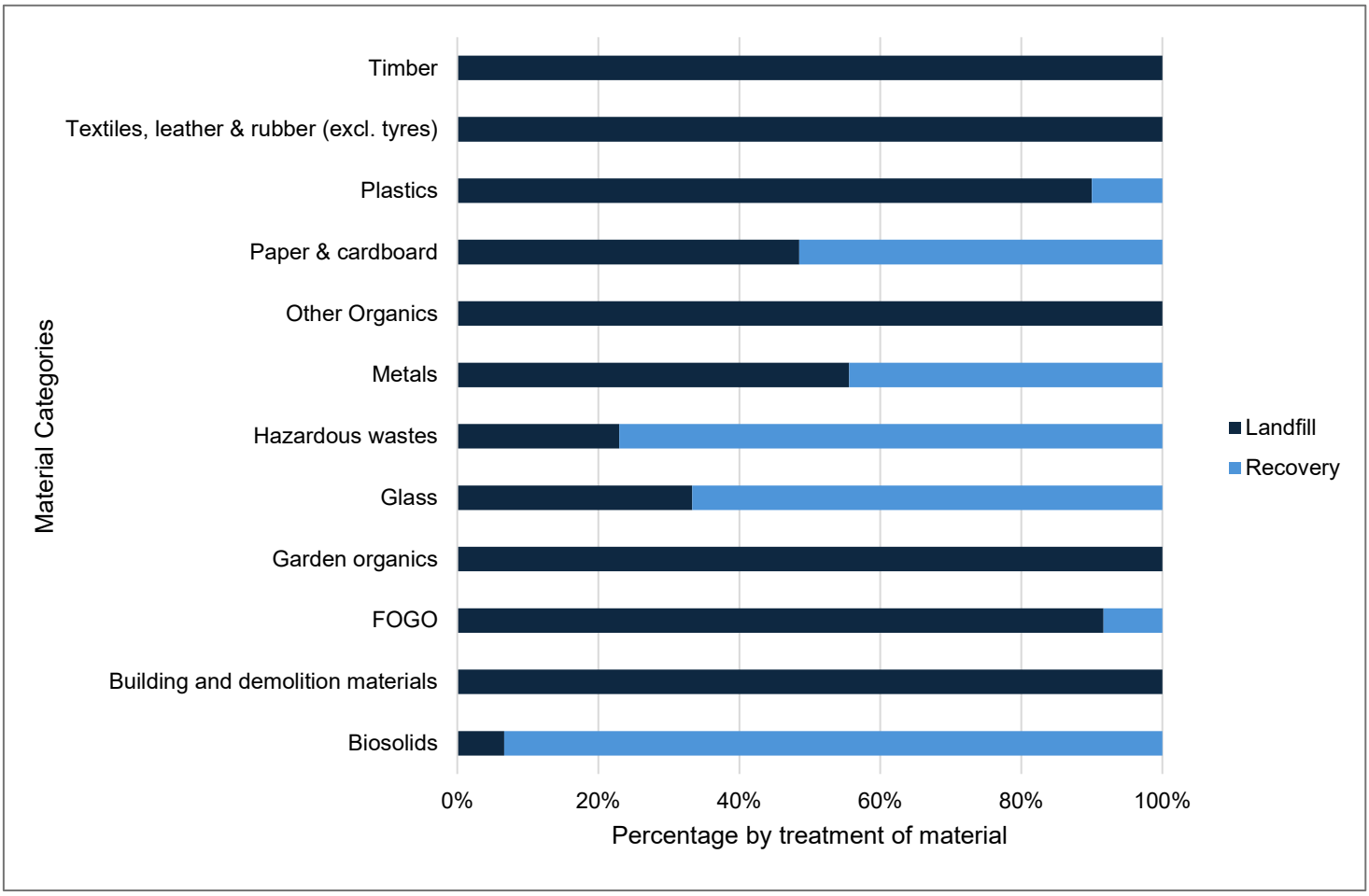


5.4.1 Waste treatment

Figure 5 provides a breakdown of each material category by fate of whether the material is recovered or landfilled. As shown, over half of the total waste materials are recovered (57%), with the remaining 43% landfilled.

Materials with the highest rate of landfilling include garden organics (100%), timber (100%), other organics (100%), building and demolition materials (98%), and textiles, leather & rubber (excl. tyres) (98%), followed by FOGO (92%).

Figure 5 Percentage of material category recovered or landfilled



5.4.2 Waste sources

To further investigate the source of these waste materials, total waste data was separated into the following source waste streams:

- Municipal solid waste (MSW),
- Commercial and industrial waste (C&I), and
- Construction and demolition waste (C&D).

Of all three waste streams, C&I's waste generation amounts to 78% of total generation, which is significantly higher than MSW (14%), and C&D (8%).

Figure 6 and Figure 7 visualise generation, and recovery and landfilling for the above sectors respectively. Both figures show C&I to have the highest material recovery (58%), and the highest landfilling (92%) reflecting its high generation. MSW contributes to recovered materials by 25% and landfilling by 6%, and C&D contributes to recovered materials by 17% and landfilling by 2%.

Figure 7 Total waste generation by source of MSW, C&I, and C&D

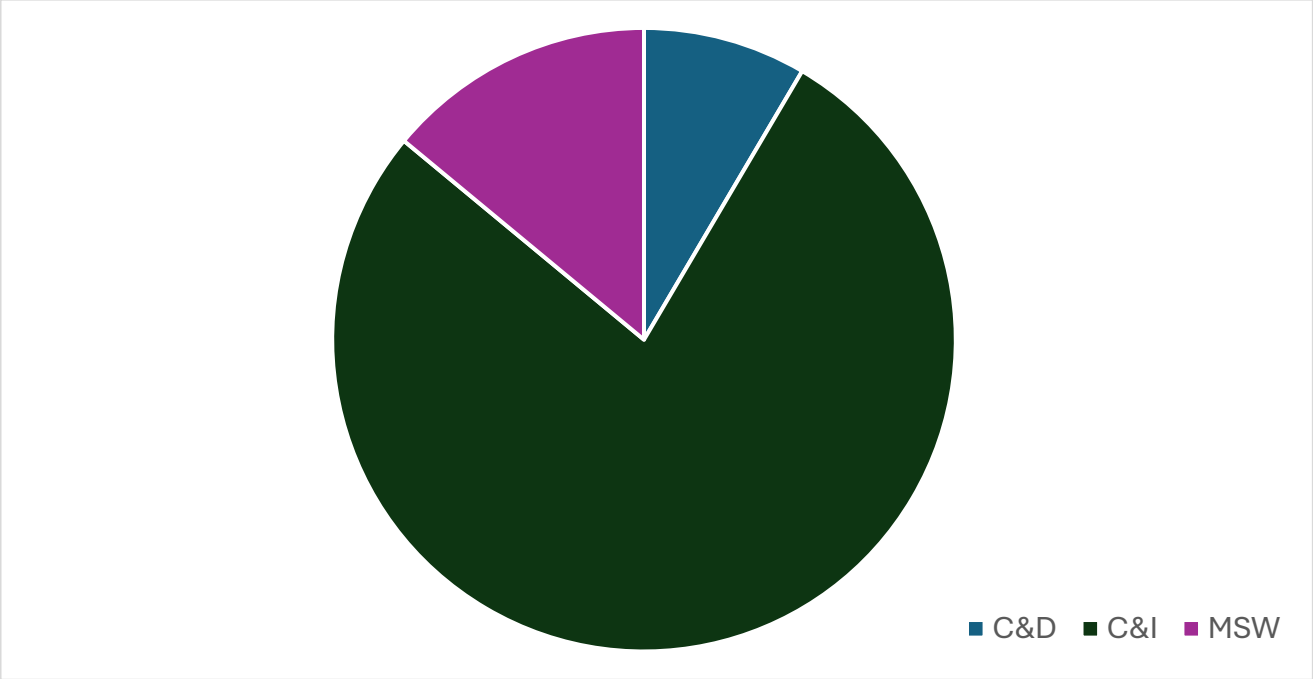
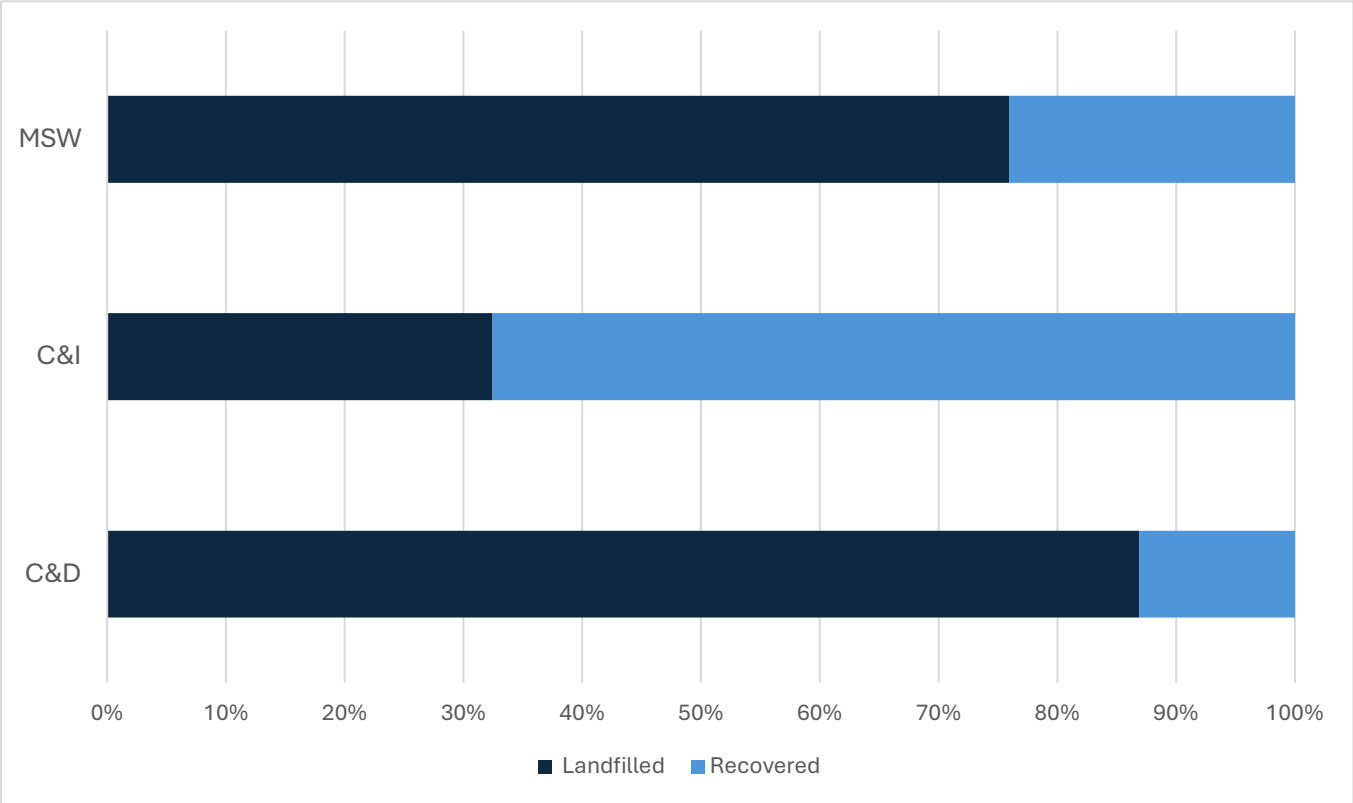


Figure 6 Waste source streams and fate type



6 Waste management in the region in 2030

Waste management in the region was modelled from 2023 – 2030 to inform development of objectives and targets by identifying priority materials for action. A baseline scenario was developed to understand annual waste generation, recovery, and landfilling in a business-as-usual scenario (BAU) with no investment in achieving the targets of this NTWMP Strategic Plan. The BAU model identified priority materials with higher opportunity for diversion from landfill including FOGO, hazardous waste, plastics, cardboard, and paper, building and demolition material and textiles. These findings, along with consultation input, have informed the development of Preliminary Strategic Objectives.

6.1 Methodology

The following methodology was used to model waste management in the Northern Region in 2030:

1. Establish population change for Tasmania. This was calculated using the change in population for Tasmania as a percentage growth or decline by year, between 2020 and 2030.
2. Calculate the mean population change per annum for Tasmania from 2020-2030.
3. Establish population change for the Northern Region. This was calculated using the change in population for each council in the Northern Region as a percentage growth or decline by year, between 2020 and 2030.
4. Calculate the mean population change per annum for the Northern Region from 2020-2030.
5. Establish waste generation, recovery and landfilling in 2020 in Tasmania. This was calculated using the mean waste generation, recovery, and landfilling (tonnes per annum) in Tasmania from 2018-2021 to establish an estimate of tonnage in 2020.
6. Extrapolate waste generation, recovery and landfilling in Tasmania in 2023. This was calculated using the mean population change per annum for Tasmania, to extrapolate the waste generation, recovery, and landfilling tonnages from 2020 to 2023.
7. Estimate the waste generation, recovery and landfilling in the Northern Region in 2023. This was estimated from the Tasmania tonnages on a per capita basis for the Northern Region.
8. Establish waste generation, recovery, and landfilling (tonnes per annum) in the Northern Region from 2023-2030. This was calculated using the mean population change per annum for the Northern Region, to extrapolate the waste generation, recovery, and landfilling tonnes per annum from 2023- 2030.

6.2 Sources

Sources used to model waste generation in the region are summarised Table 6.

Table 6 Waste generation modelling sources

Source	Data	Use
Blue Environment and Department of Climate Change, Energy, the Environment and Water[3]	All waste data from 2018-19 to 2020-21 in the Tasmanian jurisdiction	To understand the mean waste generation, recovery and landfilling per annum by material type and stream (C&I, C&D and MSW).

Australia Bureau of Statistics[13]	Population data from National Census Data from 2001 - 2021	To calculate population change by council area between 2001 and 2021, then forecast population change from 2022 to 2030.
Australia Bureau of Statistics[14]	Population data from National Census Data from 2001 - 2021	To calculate population change in Tasmania, 2001 and 2021, then forecast population change from 2022 to 2030, allowing per capita transformations of model data.

6.3 Assumptions

Several assumptions were used in this model. These included:

- an assumption that material composition of waste streams is homogenous across Tasmania, allowing the use of data for Tasmania in estimated waste composition in the Northern Region,
- an assumption that waste generation per capita is homogenous across Tasmania,
- an assumption that population change will generally remain consistent in Tasmania and the Northern Region across the timeframe of the model, and
- an assumption that waste generation will change proportionally with population change.

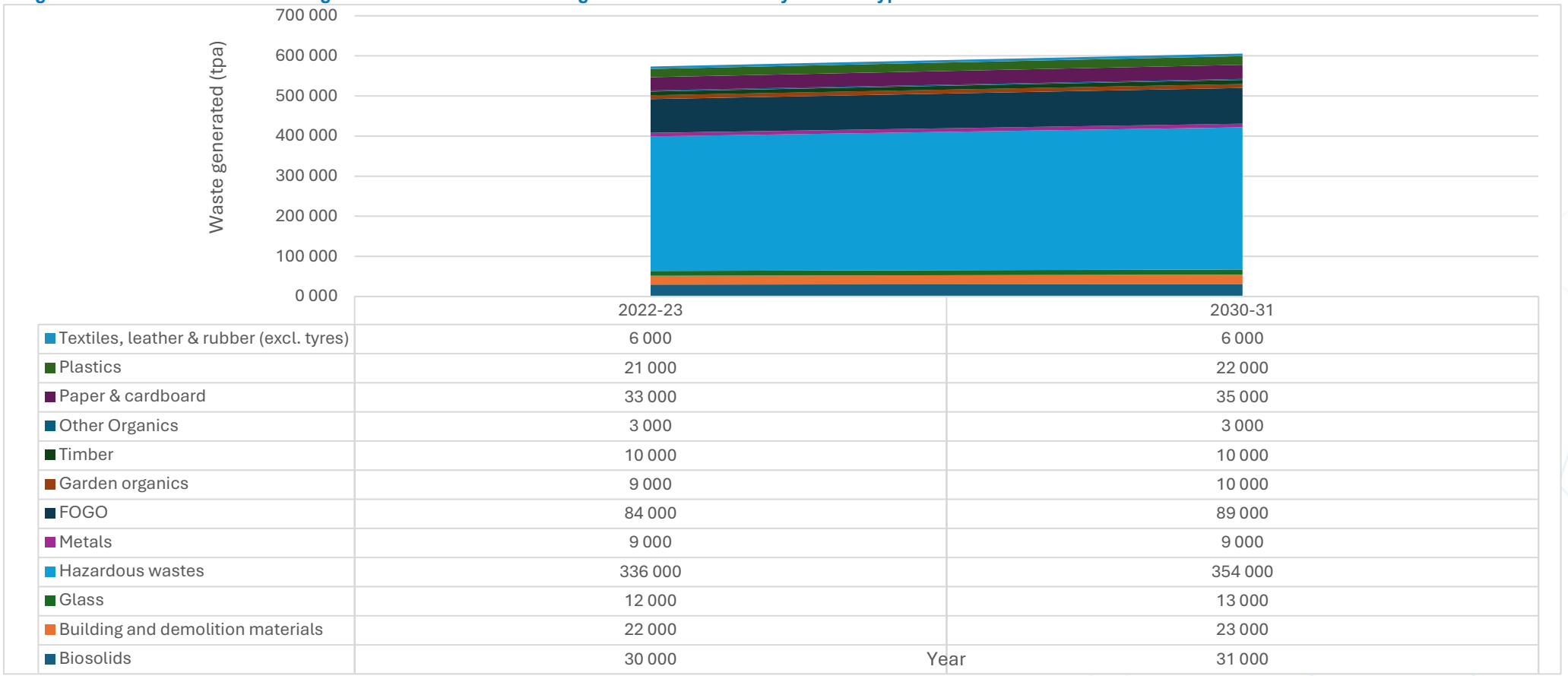
[13] Australian Bureau of Statistics, National Census Data 2001 – 2021, (2021), link
[14] Australian Bureau of Statistics, National Census Data 2001 – 2021, (2021), link

6.4 Waste generation, recovery and landfilling

6.4.1 BAU scenario waste generation

Waste generation, recovery and landfilling in the region were modelled from 2023 to 2030 to understand the priority material types and sources for waste management in the region. Figure 8 shows the BAU waste generation in the Northern Region from 2023 – 2030. Waste generation is modelled to increase from 574,000 tonnes in 2023 to 606,000 tonnes in 2030, with the top materials generated in 2030 modelled to be hazardous waste (354,000 tonnes), FOGO (89,000 tonnes), paper and cardboard (35,000 tonnes), biosolids (31,000 tonnes) and building and demolition material (23,000 tonnes).

Figure 8 Business As Usual waste generation in the Northern Region from 2023 - 2030 by material type

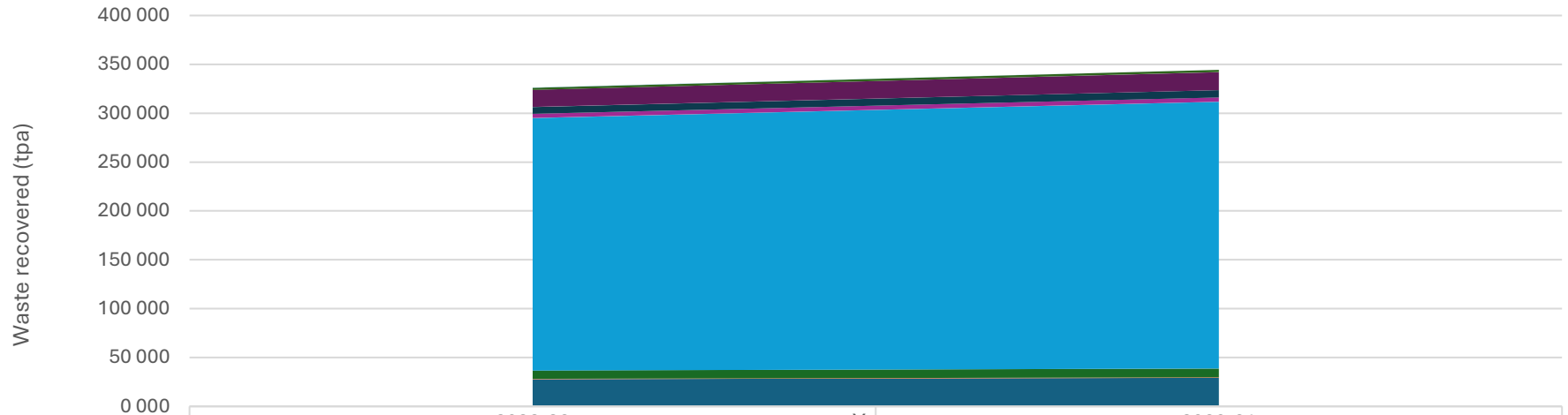


	2022-23	2030-31
Textiles, leather & rubber (excl. tyres)	6 000	6 000
Plastics	21 000	22 000
Paper & cardboard	33 000	35 000
Other Organics	3 000	3 000
Timber	10 000	10 000
Garden organics	9 000	10 000
FOGO	84 000	89 000
Metals	9 000	9 000
Hazardous wastes	336 000	354 000
Glass	12 000	13 000
Building and demolition materials	22 000	23 000
Biosolids	30 000	31 000

6.4.2 BAU scenario resource recovery

Figure 9 shows the BAU recovery of material in the Northern Region from 2023 – 2030. Recovery is modelled to increase from 326,000 tonnes in 2023 to 344,000 tonnes in 2030, with the top materials modelled to be recovered in 2030 including hazardous wastes (273,000 tonnes), biosolids (29,000 tonnes), paper and cardboard (16,000 tonnes), glass (9,000 tonnes) and FOGO (7,000 tonnes). The recovery rate of 57% remains constant from 2023 – 2030 under the BAU model.

Figure 9 Business As Usual waste recovery in the Northern Region from 2023 - 2030 by material type

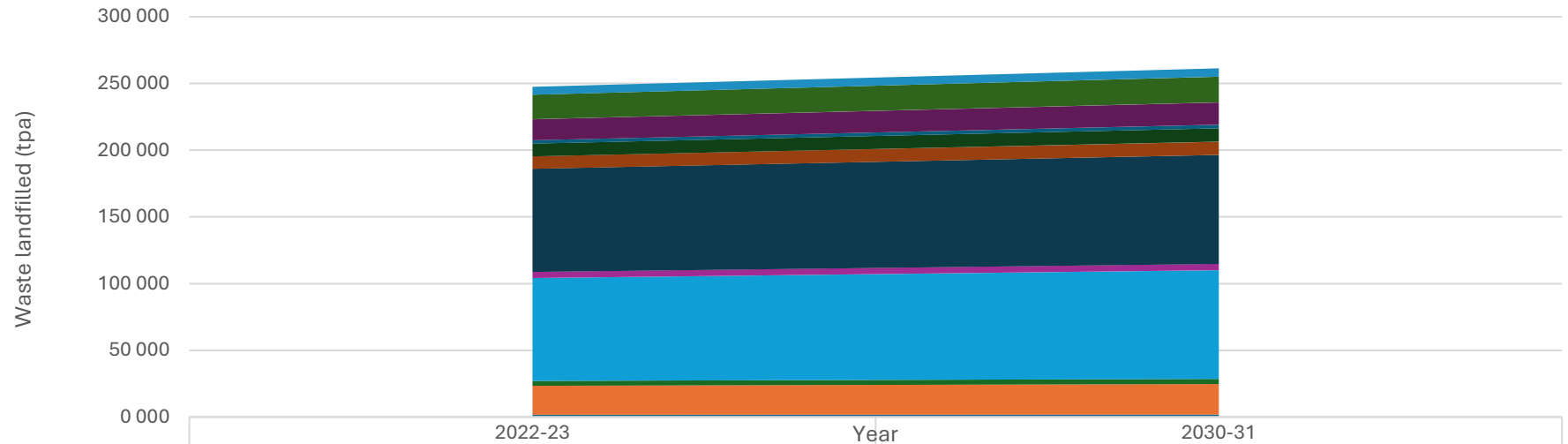


	2022-23	2030-31
Textiles, leather & rubber (excl. tyres)	0 000	0 000
Plastics	2 000	2 000
Paper & cardboard	17 000	18 000
Other Organics	0 000	0 000
Timber	0 000	0 000
Garden organics	0 000	0 000
FOGO	7 000	7 000
Metals	4 000	4 000
Hazardous wastes	258 000	273 000
Glass	8 000	9 000
Building and demolition materials	0 000	0 000
Biosolids	28 000	29 000

6.4.3 BAU landfilling

Figure 10 shows the BAU landfilling of material in the Northern Region from 2023 – 2030. Landfilling is modelled to increase from 247,000 tonnes in 2023 to 261,000 tonnes in 2030, with the top materials modelled to be landfilled in 2030 including FOGO (82,000 tonnes), hazardous waste (81,000 tonnes), building and demolition materials (23,000 tonnes), plastics (19,000 tonnes) and paper and cardboard (17,000 tonnes).

Figure 10 Business As Usual landfilling in the Northern Region from 2023 - 2030 by material type



	2022-23	2030-31
Textiles, leather & rubber (excl. tyres)	6 000	6 000
Plastics	18 000	19 000
Paper & cardboard	16 000	17 000
Other Organics	3 000	3 000
Timber	10 000	10 000
Garden organics	9 000	10 000
FOGO	77 000	82 000
Metals	5 000	5 000
Hazardous wastes	77 000	81 000
Glass	4 000	4 000
Building and demolition materials	22 000	23 000
Biosolids	2 000	2 000

7 Consultation

7.1 Council interview

7.1.1 Methodology

All member councils were invited to provide input via one-on-one interviews. A summary of the councils that attended interviews and provided additional follow up response is outlined in Table 7.

Table 7 Council representatives, attendance and follow up

Council	Attended interview	Provided additional response
Northern Midlands	Yes	No
George Town	No	No
Flinders	Yes	No
Break O'Day	Yes	Yes
Launceston	Yes	Yes
Meander Valley	Yes	Yes
Dorset	Yes	Yes
West Tamar	Yes	Yes

The purpose of each interview was to:

- collaborate in the development of strategic themes and initiatives, and
- provide insights on the success and impact of past NTWMP services.

Interviews were conducted online. Interview attendees were provided with a copy of the questions before each interview, as well as an opportunity to review, add and amend interview notes afterwards.

Questions were asked to understand previous involvement in the NTWMP, current council waste management practices, previous experience in the NTWMP and future involvement in the NTWMP.

Each interview attendee was asked the following questions:

Previous participation

- Please provide a summary of your previous participation in the NTWMP.

Current waste management practices

- What are your council's priorities for waste management over the next 5 to 10 years?
- What do you consider the top 3 challenges your council faces in waste management?
- What are the constraints that prevent you from overcoming each of these challenges?

- Can you provide specific examples of challenges and opportunities within your waste management systems that you believe should be addressed at the regional level.
- Are there any specific initiatives where you see potential for regional expansion?
- Do you have mechanisms in place in council to monitor progress and adapt council strategies? What is the process?
- Are you able to provide data on waste generation for your council?
    - Please include any data you have on:
        - Tonnages of general waste collected at kerbside,
        - Tonnages of recyclables collected at kerbside,
        - Tonnages of organics, or food organics and garden organics collected at kerbside, and
        - Tonnages of hard waste collected.

Previous NTWMP services

- Were you satisfied with previous activities of the NTWMP?
- Can you identify what worked well about the NTWMP in past?
- Can you identify what did not work well about the NTWMP in the past?
- What were the top 3 most impactful activities of the NTWMP in the past?

Future NTWMP services

- How can the NTWMP Strategic Plan support your council in achieving its waste management targets you described above?
- Why does council wish to continue participating in the NTWMP?
- What are your primary objectives and expectations from the NTWMP for your council?
- Do you have any ideas to improve NTWMP activities in the future?
- Do you wish to see any change in future iterations of the NTWMP?
- Imagine looking back on the NTWMP in 5 years time – what does success look like?
- Do you have any other comments or input?

7.1.2 Summary

Member councils reflected on their varied experiences with the NTWMP, showing a range of engagement from newcomers to veterans with up to 15 years of involvement. Key contributions have spanned from strategic planning to active roles in technical committees, underlining the diverse but integral role each council plays within the NTWMP. Looking ahead, councils have articulated a broad set of priorities for the next decade, with common themes including enhanced landfill management, boosting waste diversion and resource recovery, and addressing infrastructure needs. These priorities have specific objectives such as developing infrastructure and strategies for waste management and organics, enhancing recycling efforts, understanding the carbon footprint of waste management, and increasing public access to services, alongside advocating for state government initiatives.

There are challenges to achieving these objectives, primarily being financial viability, market access, and the breadth of technical knowledge. Councils are contending with geographical isolation, financial constraints, and the need for better coordination across government levels and industry, all of which complicate efforts to advance waste management.

The interview group had cohesive expectations for the future of the NTWMP, with a universal commitment to continuing participation, driven by a shared vision for collaborative approaches, cost-effective solutions, and a pronounced focus on minimising landfill contributions while fostering community engagement and education on sustainable waste practices.

Looking five years into the future, success for the NTWMP is envisioned as achieving a marked reduction in landfill waste, increased recycling rates, and establishing a consistent and communicative strategy that produces a community-wide shift in perception and behaviour towards waste management.

The responses to each question are outlined in more detail below.

7.1.3 Responses

7.1.3.1 Previous participation

> Question: Please provide a summary of your previous participation in the NTWMP.

The interview group reflects a diverse range of long-term involvement in the NTWMP across several councils, with participation durations ranging from 10-15 years. This includes contributions to strategy writing, establishment of waste management groups, and consistent involvement in technical committees. One council recently joined, noting limited experience with program services, while others have been active members for many years, contributing to the technical and strategic aspects of waste management initiatives in the region.

7.1.3.2 Current waste management practices

> Question: What are council's priorities for waste management over the next 5 to 10 years?

The interview group provided a suite of priorities that were tailored to the current council structures, resourcing and population requirements. Common themes included a desire to improve landfill management, increase diversion of waste to landfill and improve resource recovery. A summary of specific priorities included:

- development of infrastructure,
- enhancing recycling capacities and opportunities to develop new processing streams,
- development of waste management strategies,
- development of organics strategies,
- localised material flow analysis and infrastructure capacity need analysis,
- rolling out and improving organics services,
- increasing service access for residents,
- understand carbon footprint of regional waste management options,
- transfer station upgrades to increase diversion and recovery of materials,
- managing landfills nearing end of life,
- advocacy to state government for initiatives arising from the landfill levy funding, and
- increasing recovery of comingled recycling.

Question: What are council's top 3 challenges in waste management?

The interview group predominantly cited understanding of financial viability, market access and technical knowledge as the main challenges faced in waste management. A summary of specific challenges includes:

- cost of waste management,
- educating residents and the broader community that waste management has a cost (when previously disposal has been free of charge),
- communication of the business case for organics and other source separation or recovery activities beyond the existing services in place,
- a perception that service levels to rural residents are inadequate,
- illegal dumping,
- facility compliance and funding to achieve compliance,
- transportation and logistics,
- a lack of local processing infrastructure,
- difficult access to market,
- high contamination in comingled recycling,
- carbon footprint of waste management options,
- a lack of coordinated effort from national, state and local bodies for circular economy implementation,
- uncertainty with changing regulations and reporting requirements, and
- uncertainty of the impact of Container Refund Scheme and landfill levy.

Question: What constraints are preventing council from overcoming these challenges?

The constraints preventing councils from overcoming their waste management challenges are multifaceted, encompassing issues related to geography, infrastructure, financial resources, and coordination among stakeholders. Key constraints include:

- Geographical isolation presents challenges for councils in remote locations, which affects the availability of land for composting and increases the costs and logistical difficulties associated with transporting materials to processing facilities.
- Financial limitation for recovery of materials from landfill waste streams, recovering inert materials like soil and concrete, and upgrading waste management infrastructure are major obstacles. Limited budgets also hinder the ability to fund large-scale projects or grants.
- Coordination and planning were noted among councils, including federal, state, and local governments, as well as industry partners. This lack of national and state level coordination is undermining confidence to develop cohesive and effective waste management strategies in council.

- Market access and the economic viability of recycling programs, such as for FOGO or hazardous waste, is challenged by market conditions, including the cost-effectiveness of recycling versus new material production and the accessibility of markets for processed materials.

Question: Provide specific examples of challenges and opportunities that you believe could be addressed at the regional level.

The interview group provided a cohesive response on the opportunities within their waste management systems that could be addressed at the regional level. Key points include:

- hazardous and special wastes, with a need for better collection and processing systems for lithium-ion batteries, solar cells, hazardous chemicals, and tyres. The lack of processing capacity and end markets for items like plastic silage wrap, which are often disposed of inappropriately, underscores the urgency for regional solutions,
- construction and demolition waste processing technology, which exists to crush and reuse concrete, but the cost-effectiveness of such recycling efforts is currently prohibitive in the region. There may be potential for market intervention to make recycled materials more competitive, addressing both environmental and economic concerns,
- electronic waste backlogs. Despite existing programs, backlogs of e-waste persist due to market barriers. This indicates a need for regional strategies to enhance e-waste recycling and recovery,
- collaborative market development, with a consistent desire for regional market development to boost processing capacity. This includes creating consistent services across the region, particularly for organics processing and addressing single-use plastics. The viability of a regional approach to waste management infrastructure, such as waste transfer stations and Material Recovery Facilities is considered essential. This could include shared contracts for services and the development of regional facilities to serve multiple councils, enhancing efficiency and sustainability,
- opportunities for leveraging joint procurement to achieve cost efficiencies and developing uniform educational campaigns to improve recycling rates and waste separation at the source were raised, and
- regional advocacy to improve access to hazardous waste programs and support for problematic items highlight the need for a unified voice in policy discussions.

Question: Are there any specific initiatives where you see potential for regional expansion?

Specific initiatives provided by interviewees that are recognised options for regional expansion include:

- Paint Buyback Scheme Overhaul: Improving the existing scheme to facilitate the recycling and proper disposal of paint and related materials.
- E-Waste management enhancements: Addressing the backlog and market barriers for electronic waste through regional strategies that could include improved collection, disassembly, and recycling services.

- Business engagement for material reuse: Partnering with local businesses to find solutions for material reuse, reduce waste, and improve logistics, which could involve swapping materials or enhancing recycling programs.
- Regional education campaigns: Developing and implementing uniform educational programs across the region to improve waste separation at the source and increase public awareness and participation in recycling efforts.
- Joint procurement/contracts for waste services: Leveraging the collective bargaining power of multiple councils to achieve better rates for waste management services, including collection, processing, and disposal.
- Single-use plastics policy: Implementing regional policies or initiatives to reduce the use of single-use plastics, potentially including bans or restrictions on certain products.
- Grant programs: More efficient and targeted use of grant money to support waste management initiatives, with a focus on full disbursement of available funds for maximum impact.

Question: Do you have mechanisms in place in council to monitor progress and adapt council strategies? What is the process?

Various councils are developing or revising waste management strategies with actions and targets for regional and national alignment. While some councils lack current strategies, all have mechanisms for strategy adoption or adaptation to align with any regional strategy released.

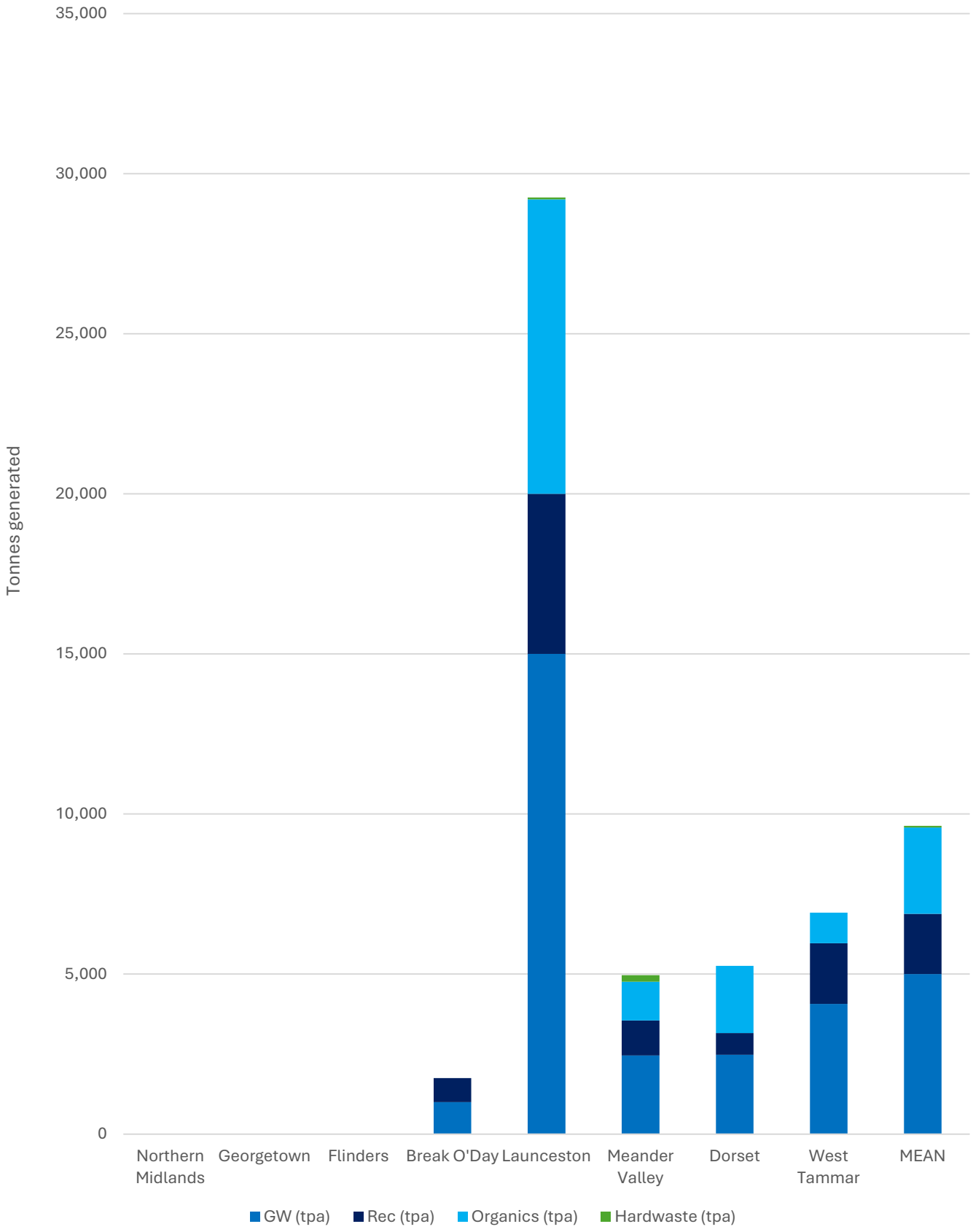
Question: Provision of data on waste generation.

Councils provided tonnages for general waste, recyclables, organics, and hard waste collected at kerbside, highlighting the variations in service offerings and challenges in data collection for some councils. Table 8 shows the average general waste, recycling, organics, and hard waste generation reported by member councils, with Figure 11 showing the distribution of council responses.

Table 8 Average general waste, recycling, organics and hard waste generation reported by councils

Council	General waste (tpa)	Recycling (tpa)	Organics (tpa)	Hardwaste (tpa)
Average	5001	1884	2693	52

Figure 11 Waste generation data reported by councils (tpa). Note Northern Midlands, George Town and Flinders were not able to return data



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7.1.3.3 Previous NTWMP services

Question: Were you satisfied with previous activities of the NTWMP?

The interview group reported mixed responses, with most councils satisfied with the program's previous activities, but some councils not benefiting as much from population-centric programs. There was particularly high satisfaction with previous e-waste, polystyrene, and oil collections activities, along with grants for transfer stations and hazardous waste management.

Question: Can you identify what worked well about the NTWMP in past?

Question: What were the top 3 most impactful activities?

The interview group typically provided examples of specific activities that worked well previously, including:

- grants management,
- e-waste collection,
- polystyrene collection,
- kerbside recycling audits,
- joint education platform (ReThink Waste),
- problematic waste management, and
- technical support for capital projects.

The top 3 most impactful activities were:

- kerbside recycling audits,
- grants management, and
- problematic waste management programs.

Question: Can you identify what did not work well about the NTWMP in the past?

Very few limitations were raised by the interview group, however there was consensus on the following aspects of the program that could be improved:

- ensuring programs capture smaller regional populations equitably.
- low funding amounts.

- lack of dedicated staff.
- buy in from executive management in councils can faulter over time, limiting program opportunities.

7.1.3.4 Future NTWMP services

> Question: How can the NTWMP Strategic Plan support your council in achieving its waste management targets you described above?

Generally, the interview group described an opportunity for the NTWMP Strategic Plan to provide standardised and consistent approaches to waste management in the region, particularly around procurement, education and advocacy. A summary of specific ideas includes:

- providing frameworks for regional consistency,
- providing preferred providers,
- providing regulatory guidance for regional consistency,
- mapping how the region will meet the targets set by the group,
- providing education principles for the region,
- shared contracts and better practice procurement,
- providing frameworks for consistent waste management strategies across the region,
- building industry input in all discussions and activities, and
- advocacy and political support for state policy and funding applications.

> Question: Do you have any ideas to improve NTWMP activities in the future?

Suggestions from the interview group to improve the NTWMP activities varied widely and were mostly informed by each council priorities. A summary of the suggestions include:

- advocacy and planning, particularly to provide a focal point for alignment and setting national or state targets to align to,
- partnering with businesses for material reuse and engaging to support waste management,
- sharing of staff resources or a regional officer to work on cross council issues like education,
- supporting consistent provision of collection and processing for additional waste streams with strategy and grant funding,
- more extensive engagement with community members,
- more targeted grant programs, and
- more efficient use of program funding.

Question: Does your council wish to continue participating in the NTWMP?

Question: What are your primary objectives and expectations from the NTWMP for your council?

100% of the interview group expressed commitment to continue participation in the NTWMP. -

The interview group highlight common themes among the councils: a desire for collaborative approaches to tackle waste management challenges, cost-effective solutions, and a significant focus on reducing waste to landfill while engaging and educating the community about sustainable waste practices. The primary objectives and expectations of each council are summarised below:

- Break O'Day Council expects the NTWMP to deal with problematic waste streams at the regional level, including plastics, textiles, hazardous materials, etc., that need to be diverted from landfill. They seek cost-effective programs and want outcomes to be measured based on landfill reduction, business engagement, cost-effectiveness, and affordability as assessed by ratepayers.
- City of Launceston seeks to reduce waste to landfill, access an advocacy forum to influence state and federal government policies, and make better purchasing decisions through the lens of the circular economy.
- Meander Valley Council expects to access regional procurement opportunities, including grants, and support council initiatives and programs to deliver a higher level of service, giving residents access to a contemporary waste management system.
- Dorset Council aims for consistency in regulatory processes, consolidation of reporting to the Environmental Protection Agency and hopes the NTWMP can bring this consistency across the participating councils.
- West Tamar Council looks forward to meeting waste management targets, reducing waste to landfill, and achieving transparency and equality among councils. They expect the NTWMP to provide the tools and education needed to succeed in reducing waste to landfill and engaging residents in the waste management process.
- Flinders Council seeks to access knowledge, learning, and networking opportunities, tap into existing markets by leveraging group volume, and receive support and guidance for regulatory requirements and compliance.
- Northern Midlands Council aims for collaboration, access to technical knowledge, shared resources, and joint procurement to improve waste management practices across their jurisdiction.
- George Town Council did not respond.

Question: Do you wish to see any change in future iterations of the NTWMP?

Ideas for changes in future iterations of the NTWMP were seemingly guided by each council's priorities once more, with varied responses including:

- introduction of shared resourcing,
- dedicated staffing for regional focus,

- stronger advocacy at the state and national levels,
- full disbursement of program funding,
- investigate the option of a waste management authority in the region, where councils are stakeholders, and there is an entity that is built to run all waste matters across the region. This authority would own and operate facilities on behalf of the councils, and other programs to implement a circular economy in the region.

Question: Imagine looking back on the NTWMP in 5 years time – what does success look like?

Common themes for success identified by the interview group included reduction in landfill waste, increased recycling rates, consistent regulatory compliance, and robust community engagement and education on waste management. A summary of specific responses includes:

- increased landfill diversion,
- increased recovery capacity,
- increased business engagement,
- increased market access,
- better practice landfill and transfer station management,
- progress towards the targets of national, state, and regional strategies,
- increased cost-effectiveness and affordability from the ratepayers' perspective,
- a significant mindset shift among councils and councillors to see waste management as an opportunity,
- good working relationships,
- strong alignment with the state strategy,
- partners working consistently across the region,
- industry being part of the governance and decision-making process,
- consistent regulatory compliance and reporting,
- transparent and interactive reporting available to community,
- carbon footprint of waste management options is understood and communicated, and
- shared resources across the region.

7.2 Government workshop

7.2.1 Methodology

Key government representatives were identified and provided an invitation to attend an online workshop, outlined in Table 10 including attendance.

Table 9 Government representatives and attendance

Organisation	Attendance

Waste and Resource Recovery Board	Present
Southern Tasmanian Regional Waste Authority	Present
Cradle Coast Waste Management Group	Present
NTWMP Technical Committee	Apologies
Local Government Association Tasmania	Apologies

The purpose of the workshop was to:

- provide government priorities which relate to the NTWMP,
- collaborate in the development of strategic themes and initiatives, and
- provide insights on the success and impact of past NTWMP services.

The workshop was conducted online. Workshop attendees were provided with a copy of the questions before each interview, as well as an opportunity to review, add and amend interview notes afterwards.

Questions were asked to understand relevant strategies and priorities, common waste management issues, opportunities for shared resources and strategic opportunities.

Workshop attendees were asked the following questions:

- list state strategy that should be considered,
- list regional strategy that should be considered,
- list other state priorities which should be considered,
- list common waste management issues your agency sees in the region,
- identify opportunities for shared resources or regional collaboration,
- discuss how the program can secure support from your agency, and
- discuss how the program could influence planning, strategy or policy in your agency.

7.2.2 Summary

Government representatives highlighted relevant strategies such as the Waste and Resource Recovery Strategy, Sustainability Strategy Discussion Papers, and the RECFIT Emissions Reductions and Resilience Plan at the state level. Regionally, strategies from the Southern Tasmanian Regional Waste Authority, Cradle Coast Waste Management Group, NRM North, regional climate action groups, and Chambers of Commerce were identified as vital for a unified approach. Additionally, the priorities of the Local Government Association Tasmania were acknowledged as crucial for tackling state-wide waste management challenges.

Key issues recognised across the region include the necessity to decrease waste generation per capita, enhance diversion rates, improve coordination among stakeholders, and address the challenges of engagement, education, and infrastructure planning for waste management.

Opportunities for shared resources and regional collaboration were seen in areas such as joint procurement, accessing collective knowledge and economies of scale, as well as in the funding and contracting for new waste streams to enhance the regional waste management framework.

Government representatives stressed that the success of these initiatives relies heavily on leadership from the state and strategic alignment across all levels of government, from state to local. The importance of formalising existing, albeit informal, collaborative processes through mechanisms like funding agreements was highlighted as a means to ensure more structured and effective collaboration. This approach aims to capitalise on the strengths of existing relationships and voluntary collaboration among stakeholders, recognising the value of open access and visibility of strategies and reports from different agencies. By doing so, it's anticipated that the programme can not only secure the necessary

support from various agencies but also significantly influence planning strategies and policies within the region to effectively address waste management challenges.

7.2.3 Responses

Question: List state strategy that should be considered

State strategy deemed relevant by government representatives included the:

- Waste and Resource Recovery Strategy,
- Sustainability Strategy Discussion Papers, and
- RECFIT Emissions Reductions and Resilience Plan.

Question: List regional strategy that should be considered

Regional strategy deemed relevant by government representatives included:

- the Southern Tasmanian Regional Waste Authority Strategy,
- the Cradle Coast Waste Management Group Strategy 23-28,
- the NRM North Regional Strategy,
- strategy from the regional climate action impact on councils group, and
- strategy from other regional networks, e.g., Chambers of Commerce.

Question: List other state priorities which should be considered

Priorities of the Local Government Association Tasmania were the only other priorities raised from consideration.

Question: List common waste management issues your agency sees in the region

Government representatives raised a variety of waste management issues they see across the region. These included:

- a need to reduce waste generation per capita,
- a need for improved diversion rates and the removal of single-use plastics,
- a lack of coordination and planning among stakeholders,
- a lack of clarity on the roles and responsibilities of stakeholders in the region, and
- a lack of engagement and education on waste management issues,

- barriers to understanding the most cost effective way to recover and reuse problematic materials,
- littering and illegal dumping,
- limited access to waste streams and infrastructure planning data,
- contamination issues, particularly for organics and commingled recycling, and
- limited access to producers of C&I and C&D material, with most existing waste management groups and programs targeting MSW material.

Question: Identify opportunities for shared resources or regional collaboration

Opportunities for regional collaboration centred around joint procurement and building the regional waste management market collaboratively, with specific ideas including:

- joint procurement, including scope, specifications and consistent planning,
- accessing knowledge and skills and economies of scale collectively,
- joint program delivery including hazardous waste collection and processing for problematic materials, and
- funding and securing contracts for new waste streams.

Question: Discuss how the program can secure support from your agency

Government representatives emphasised that support depends on leadership from the state and the alignment of strategies from state, regional, to local levels. The existing processes for information sharing and strategic alignment were highlighted as informal, but successful. These worked because of the existing relationships between stakeholders and rely upon voluntary collaboration.

Question: Discuss how the program could influence planning strategy or policy in your agency

Formalising existing collaborative processes between boards, regional groups, and providing leadership and support were the main ideas. Funding agreements were also raised as a mechanism the state can use to influence policy or activities in the region. Importantly, government representatives highlighted the value of stakeholders being able to access one another and maintaining visibility of respective strategies and reporting from each agency.

7.3 Industry workshop

7.3.1 Methodology

Key industry representatives were identified and provided an invitation to attend an online workshop, outlined in Table 10 including attendance.

Table 10 Industry representatives and attendance

Organisation	Attendance
Tasmanian Hospitality Association	Apologies
NRM North	Apologies
Tourism Industry Council Tasmania	Apologies
Master Builders	Apologies
Veolia	Apologies
Cleanaway	Present
JJ Richards	Apologies
Southern Waste Solutions	Present
Dulverton Waste Management	Present
City of Launceston	Apologies

The purpose of the workshop was to:

- provide insights into working with the NTWMP,
- collaborate in the development of strategic themes and initiatives, and
- provide insights on the success and impact of past NTWMP services.

The workshop was conducted online. Workshop attendees were provided with a copy of the questions before each interview, as well as an opportunity to review, add and amend interview notes afterwards.

Questions were asked to understand industry priorities over the next 5 – 10 years and identify opportunities to increase collaboration and involvement of industry in the NTWMP Strategic Plan.

Workshop attendees were asked the following questions:

- What are your organisation's priorities over the next 5-10 years?
- What are the priority issues you face in waste management?
- What are the primary barriers to infrastructure development in the region?
- What is required from state or regional bodies to guide your organisation's planning and strategies?
- What can be done to facilitate collaboration between your organisation and state or regional bodies?
- Can you identify any opportunities for regional activities you would be involved in?

- List previous examples of success facilitated by the NTWMP.

7.3.2 Summary

Workshop participants provided industry insights into priorities, challenges, and future directions for the industry over the next 5 to 10 years. A significant focus was placed on enhancing waste management practices, with emphasis on energy recovery from waste and efforts to divert waste from landfills. Strategies discussed include bolstering waste collections in specific regions and exploring sustainable waste management solutions. Efforts to improve landfill management efficiency and develop facilities for organic waste underscore a shared commitment to sustainable waste practices across the sector.

The discussions also identified major issues facing waste management, such as the need for clarity and increased collaboration in glass recycling, the management of soft plastics and single-use items, and the challenges posed by biosecurity measures and hazardous waste disposal. Participants pointed out the barriers to infrastructure development, emphasising the unique nature of regional waste streams and the need for tailored solutions that consider local economic and environmental contexts. Additionally, there was a consensus on the importance of state and regional support, data sharing, and collaboration to guide planning and strategic initiatives. Infrastructure capacity planning was highlighted as a fundamental piece of work that is missing and therefore undermining confidence in industry investment in the region.

The responses to each question are outlined in detail below:

7.3.3 Responses

Question: What are your organisation's priorities over the next 5-10 years?

Naturally each industry representative had differing priorities over the next 5-10 years, with specific priorities including:

- airspace management of existing landfills across the state,
- business continuity planning,
- contingency planning and agreements,
- redevelopment of transfer stations to focus on resource recovery and C&D and C&I materials,
- development of organics facility, and
- re-development of organisational strategies.

Question: What are the priority issues you face in waste management?

Priority issues raised by the workshop group included:

- development of the business case for recovery of materials in the regional economy,
- a lack of processing capacity for glass and beneficiation options to improve resource recovery options,

- a lack of processing capacity for tyres, for reuse or use as fuel on island, as well as an assessment of the carbon economics for this,
- persistent recurrence of medium fires caused by batteries and flares,
- the extent of single use plastics,
- biosecurity issues with a new organics facility coming online,
- small end markets, and
- increasing the amount of materials being deposited that are not suitable for release into the environment, particularly historical household hazardous waste.

Question: What are the primary barriers to infrastructure development in the region?

The workshop participants provided cohesive responses, with barriers for understanding the unique nature of waste streams in Tasmania, the cost of construction and logistics, and achieving a state-wide understanding of waste management facilities were identified as significant barriers.

Question: What is required from state or regional bodies to guide your organisation's planning and strategies?

All workshop participants agreed that is a need for state strategy that provides clarity and continuity, collaborative approaches, and realistic scales of programs and commitments in the context of industry capability. A fundamental part of this was the need for infrastructure capacity modelling to understand capacity needs across the state.

Question: What can be done to facilitate collaboration between your organisation and state or regional bodies?

Several options were provided to improve collaboration between government and industry. These included:

- provision of data for material flows, particularly C&D and C&I,
- business engagement programs for waste management compliance, as regulatory and compliance support is limited, and
- clarification of roles and responsibilities for educate and engagement on waste management across community and business.

Question: Can you identify any opportunities for regional activities that industry can be involved in?

Opportunities highlighted by the workshop group included advocacy for regional landfill and airspace management, Container Refund Scheme, and education programs.

Question: Previous examples of success facilitated by the NTWMP

Previous successes highlighted by the workshop group include education programs aligned with the ReThink Waste program, joint public engagement for diversion activities, and sharing of documentation and knowledge reports.

8 Vision

The NTWMP vision is to support Northern Tasmania's transition to a circular economy by fostering collaboration and resource-sharing at a regional level, while aligning closely with state and national waste management targets.

Four goals have been developed to guide NTWMP towards its vision, enabling a holistic approach to improving waste management in the region. These goals encompass NTWMP's role in supporting stakeholders, facilitating improvements in infrastructure, leading strategic direction, and advocating for regional development.

Table 11 lists the identified goals informed by previous sections of this report, including:

- Strategy and policy gap analysis;
- Current waste management and generation analysis; and
- Consultation and work shops.

Table 11 NTWMP Goals

Goals		Detail
Goal 1	The NTWMP will work to implement a circular economy in the region	The NTWMP will achieve this by understanding material flows and identifying materials suited to circularity, improving industry capacity and resilience, increasing landfill diversion and recovery capacity, engaging businesses, reducing waste generation per capita, and enhancing landfill and transfer station design and management practices.
Goal 2	The NTWMP will work to improve data and reporting on waste management in the region	The NTWMP will achieve this by tracking progress towards strategic targets, ensuring regulatory compliance, providing transparent and interactive community reporting, and calculating and communicating the carbon footprint of waste management operations.
Goal 3	The NTWMP will work to facilitate and improve collaboration between members, industry, community, and government across Tasmania.	The NTWMP will achieve this by sharing resources, facilitating and sharing technical knowledge, efficiently using resources for circular economy and market development, integrating the industry into governance, fostering good working relationships, executing joint procurement, and engaging communities and businesses.
Goal 4	The NTWMP will support strategic alignment across all levels of waste management, including local, regional, state, and national strategies	The NTWMP will achieve this by ensuring regional consistency, aligning closely with the state strategy, maintaining consistent partner operations across regions, advocating and lobbying, and adopting a coherent procurement policy.

9 Preliminary targets and actions

Following the development of the goals, preliminary targets have been developed, as well as supporting actions and suggested implementation tasks. Section 9.1 (Strategy Model) details how a Strategy Model was developed to ensure that the Preliminary Targets below are sufficient to meet all national and state policy targets previously reviewed in Section 4 (Gap analysis).

Table 12 provides the goals and their supplementary targets, actions, and implementation tasks.

Table 12 Preliminary targets and actions

Goal	Target	Action	Suggested implementation tasks
Goal 1: The NTWMP will work to implement a circular economy in the region	Reduce waste generation per capita to 3.45 tonnes per person by 2030.	1.1 Reduce waste generation per capita by a total of 9% by 2030	• MSW generation may be affected by: ○ education programs to engage residents for waste avoidance, ○ swap out campaigns, or ○ facilitation of reuse, repair, refill and refurbishing of existing goods.
			• C&I waste generation may be affected by: ○ business engagement for waste avoidance and swap out campaigns, or ○ conducting a C&I reduction opportunity analysis with businesses.
			• C&D waste generation may be affected by: ○ building site waste prevention programs run by councils which engage builders or use permit requirements to reduce waste generation.
	Increase landfill diversion by 23% by 2030	1.2 Increase FOGO capture rate by 69%	• Develop a business case template to assess viability of universal kerbside FOGO services. • Assist councils to transition from opt in to universal FOGO where viable. • Assist councils to implement FOGO where viable by researching collection and processing best practice, joint procurement activities, grant funding or advocacy. • Support waste facilities to increase FOGO processing capacity.
		1.3 Increase garden organics capture rate by 80%	• Develop a business case template to assess viability of extended garden organics collection. • Assist councils to extend garden organics collection services. • Support member council waste facilities to increase capacity to capture and process garden organics materials by providing

Goal	Target	Action	Suggested implementation tasks
			better practice guidance, joint procurement activities, grant funding or advocacy.
		1.4 Increase plastics capture rate by 36%.	• Facilitate an audit on plastics to improve understanding of plastics material types and flows in the region. • Conduct an infrastructure needs analysis to understand regional processing capacity and needs. Including an assessment of consolidation opportunities to meet critical mass requirements for processing. • Support member council waste facilities to increase capacity to capture plastic materials by providing better practice guidance, joint procurement activities, grant funding or advocacy.
		1.5 Increase building and demolition capture rate by 29%	• Conduct an infrastructure needs analysis to understand regional processing capacity and needs. • Support successful implementation of C&D waste diversion facility at City of Launceston. • Support member councils to develop and implement building site waste prevention programs. • Support member council waste facilities to increase capacity to capture C&D materials by providing better practice guidance, joint procurement activities, grant funding or advocacy.
		1.6 Increase textiles capture rate by 15%	• Conduct an infrastructure needs analysis in response to the MFA findings to understand regional processing capacity and needs. • Investigate the feasibility of collection and processing of textiles in the region. • Pending feasibility assessment, support member council waste facilities to increase capacity to capture textiles by providing better practice guidance, joint procurement activities, grant funding or advocacy.
		1.7 Increase paper and cardboard capture rate by 31%	• Conduct an infrastructure needs analysis to understand regional processing capacity and needs. • Support member council waste facilities to increase capacity to capture paper and cardboard materials by providing better practice guidance, joint procurement activities, grant funding or advocacy.

Goal	Target	Action	Suggested implementation tasks
		1.8 Increase other organics capture rate by 80%	• Support councils to improve data reporting to be timely and reliable. • Facilitate an audit on organics to improve understanding of organic material types and flows in the region. • Conduct an infrastructure needs analysis to understand regional processing capacity and needs. • Support member council waste facilities to increase capacity to capture and process organic materials by providing better practice guidance, joint procurement activities, grant funding or advocacy.
		1.9 Increase timber capture rate by 80%	• Conduct an infrastructure needs analysis to understand regional processing capacity and needs. • Support member council waste facilities to increase capacity to capture timber materials by providing better practice guidance, joint procurement activities, grant funding or advocacy.
		1.10 Increase hazardous waste capture rate by 9%	• Expand the collection, tracking, and processing of hazardous and problem wastes. • Run regular hazardous waste collections for households. • Assist businesses to understand hazardous waste disposal options. • Advocate for improved hazardous (controlled) waste tracking in Tasmania.
	Improve landfill operations and management	1.11 Increase regulatory compliance of landfills to 100%	• Advocate for state-wide mapping of landfill airspace and understand the value of future airspace. • Conduct landfill capacity assessments with member councils. • Provide better practice landfill and transfer station management guidelines. • Assess how improving better practice might decrease capacity by impacting viability of existing or planned facilities. • Achieve best practice and safe transfer stations and landfills.
		1.12 100% of member councils have emergency	• Assist member councils to prepare consistent emergency waste management plans which include contingency arrangements and plans

Goal	Target	Action	Suggested implementation tasks
		waste management plans	for likely material arising in natural disasters or emergencies.
	Increase material recovery rate to 80%	1.13 Increase material recovery by 23%	• Assess the viability of 100% recovery of the additional materials proposed for capture under this plan. • Assess options for improving recovery rate of existing materials captured in the region.
	Ensure recovery capacity pipeline is sufficient to 2050	1.14 Ensure recovery capacity pipeline for MSW is sufficient to 2050	• Conduct infrastructure needs analysis by assessing existing, planned and closing facilities and their associated capacities for material streams and sources in the region. Ensure the needs analysis includes detailed modelling on future waste generation and processing requirements. • Consider the possibility of a state-wide infrastructure needs analysis. Advocate for appropriate parties to conduct this, or proceed regionally and ensure standardised approaches allow amalgamation of data for a state-wide infrastructure assessment. • Consider how the infrastructure planning outcomes could be used to facilitate private and public investment in infrastructure for resource recovery.
		1.15 Ensure recovery capacity pipeline for C&I is sufficient to 2050	
		1.16 Ensure recovery capacity pipeline for C&D is sufficient to 2050	
Goal 2: The NTWMP will work to improve data and reporting on waste management in the region.	Facilitate consistent regulatory compliance for waste data reporting	2.1. Ensure regional understanding of data collection and reporting compliance requirements	• Conduct a needs analysis to achieve compliant data reporting systems and implement identified needs.
	Develop transparent and interactive waste data reporting available to the community	2.2. Develop an appropriate waste data dashboard to inform the community (including carbon footprint of waste)	• Develop an online, regional community dashboard for waste data.

Goal	Target	Action	Suggested implementation tasks
	Ensure carbon footprint of waste management options are understood and considered in business cases	2.3. Conduct regional carbon modelling of waste management activities and future options	• Conduct modelling and add carbon metrics to regional community dashboard for waste data.
	Establish infrastructure for data collection and reporting	2.4. Implement weighbridges or other accurate measurement infrastructure where waste is received or recovered.	• Develop a plan to ensure regional measurement and reporting infrastructure is in place to support data collection and reporting in a reliable and timely manner.
	Implement a consistent framework for data collection and reporting	2.5. Ensure reliable data reporting mechanisms are in place.	• Assess the viability of a shared data reporting framework.
	Implement a hazardous waste collection program	2.6 Identify hazardous material generation (types, generators and material flows) in the region	• Material flow analysis.
		2.7 Identify a better practice prevention and collection program	• Infrastructure needs analysis.
		2.8 Identify appropriate lawful consolidation, transport and processing of hazardous wastes	
		2.9 Implement a hazardous	• Grant funding provision.

Goal	Target	Action	Suggested implementation tasks
		waste collection program	
	Implement a MSW, comingled recycling and FOGO kerbside audit program	2.10 Use regional shared resources to undertake audits on a regular basis to inform decision making and materials flow analyses.	• Audit at intervals that support good decision making and tracking of targets.
	C&D audit program		
	C&I audit program		
Goal 3: The NTWMP will work to facilitate and improve collaboration between members, industry, community, and government across Tasmania.	Increase circular materials market access	3.1. Build public and private stakeholder understanding of material flows via annual material flow reports.	• Conduct a material flow analysis (MFA) to identify material flows and priority materials to include in an infrastructure needs analysis. Include developing an understanding of the source and nature of the significant hazardous (controlled) waste generation in the region.
		3.2. Guide private investment through annual release of relevant data.	• Collaborate with appropriate parties to a provide a feasibility study or business case for key infrastructure needs in the region and investment opportunities.
		3.3 Conduct market development feasibility studies for priority circular economy materials identified in the MFA.	• Facilitate market development feasibility studies for the priority materials identified in the strategy waste projection model and MFA to improve investor confidence.
		3.4. Ensure development at either regional or state level of industry standards and specifications	• Facilitate appropriate standards and specifications to support reuse i.e., compost, mulches, aggregates. • Focus on the end markets for priority materials or materials streams which could increase recovery rates to build demand for processed material.

Goal	Target	Action	Suggested implementation tasks
		for material reuse.	
		3.5. Develop procurement policy to support the use of priority materials identified in the materials flow analysis.	• Develop procurement policy to support markets for priority materials (either at state or regional level). • Mandate minimum recycled content in government procurement.
	Increase industry participation	3.6. Facilitate an industry working group that meets on a regular basis.	• Meet with Industry working group regularly under a formal mechanism for input into reporting.
	Facilitate working relationships	3.7. Formalise information sharing and collaboration mechanisms through an MoU or similar mechanism	• Formalise the informal processes which currently occur for information sharing and collaboration between organisations and member councils. • Seek to provide simple MOUs to provide stability and continuity against organisational, personnel and political change.
		3.8. Continue technical committee meetings on a regular basis	• Meet at appropriate intervals.
		3.9. Continue Committee meetings on a regular basis	• Meet at appropriate intervals.
		3.10. Facilitate technical knowledge sharing sessions on a regular basis	• Conduct workshops to share technical waste knowledge on a subject matter guided by member councils. • Invite external subject matter experts where possible to gain interjurisdictional insights.
	Provide ongoing education and engagement	3.11. Ensure an ongoing community engagement program to improve waste	• Support expansion and resourcing of the ReThink Waste program to enhance community awareness and buy in. • Provide frameworks and resources to councils for consistent community engagement.

Goal	Target	Action	Suggested implementation tasks
		management outcomes	
		3.12. Ensure an ongoing business engagement program to improve waste management outcomes	• Develop a business engagement toolkit. • Provide a shared resource to engage businesses across the region.
Goal 4: The NTWMP will support strategic alignment across all levels of waste management, including local, regional, state, and national strategies.	Facilitate strategic alignment	4.1. Align this regional strategy with state and national strategies	• Ensure further development of policy and programs to align with national, state, and local strategy.
		4.2. Facilitate alignment of member council waste management strategies and plans with this regional strategy	• Work with member councils to ensure their targets and actions align with this regional Plan. • Provide a waste management plan template for member councils to develop consistent and integrated waste management planning. • Consider opportunities for this activity to inform regional data collection and planning. • Consider provision of funding support or other resources to support delivery of waste management plans.
	Facilitate consistent approaches	4.3. Facilitate member councils working consistently across the region	• Develop common waste management standards and protocols for consistency across the region. • Hold regular training sessions and workshops to share best practices and introduce new waste management technologies. • Engage all partners in collaborative planning and strategy development to ensure unified decision-making. • Promote the adoption of integrated waste management systems for a harmonised approach to waste handling. • Create a robust platform for efficient communication and information sharing among partners. • Implement a monitoring and evaluation system to assess and align waste management practices across the region.

Goal	Target	Action	Suggested implementation tasks
			• Offer financial and technical support to ensure all partners can meet established standards. • Foster a culture of collaboration, encouraging partnerships and shared initiatives for mutual improvement.
		4.4. Develop and implement consistent operating standards	• Advocate for development of better practice guidelines for facility types, particularly facilities which process priority materials for the region. • Facilitate specifications for end market product, particularly for priority materials.
		4.5. Implement consistent bin standards across the region as bins and parts are replaced	• Align collection bins with AS4123.7-2006 as they are replaced or repaired.
	Facilitate advocacy	4.6. Facilitate advocacy on behalf of the group	• Advocate and lobby for those aspects of the vision and targets that sit outside of the NTWMP field of control. • Advocate for 100% reusable, recyclable or compostable packaging by 2025. • Facilitate market supply and demand through business engagement program.
		4.7. Ensure use of reusable, recyclable or compostable packaging by 2025	
	Standardise procurement specifications	4.8. Develop standardised procurement specifications across the region to support efficiency and the development of a circular economy	• Develop waste procurement specifications for the group to remove duplication of effort.

Waste management in 2030 to achieve the targets

9.1 Strategy Model

A Strategy Model was developed building from the BAU scenario model to determine the requirement of waste management to achieve preliminary objectives and targets of the NTWMP Strategic Plan. The Strategy Model sets assumptions for waste management in the Northern Region which align with the findings from the review of national, state and local policy and strategy targets, as well as the analysis and consultation in development of this report.

The BAU model identified priority materials with higher opportunity for diversion from landfill including FOGO, hazardous waste, plastics, cardboard and paper, building and demolition material and textiles. These findings, along with consultation input, have been used to prioritise materials requiring increased capture and diversion from landfill to achieve the NTWMP Strategic Plan targets.

9.2 Methodology

The following methodology was used to model waste management in the Northern Region in 2030:

1. Establish population change for Tasmania. This was calculated using the change in population for Tasmania as a percentage growth or decline by year, between 2020 and 2030.
2. Calculate the mean population change per annum for Tasmania from 2020-2030.
3. Establish population change for the Northern Region. This was calculated using the change in population for each council in the Northern Region as a percentage growth or decline by year, between 2020 and 2030.
4. Calculate the mean population change per annum for the Northern Region from 2020-2030.

- Establish waste generation, recovery and landfilling in 2020 in Tasmania. This was calculated using the mean waste generation, recovery and landfilling (tonnes per annum) in Tasmania from 2018-2021 to establish an estimate of tonnage in 2020.
- Extrapolate waste generation, recovery and landfilling in Tasmania in 2023. This this was calculated using the mean population change per annum for Tasmania, to extrapolate the waste generation, recovery and landfilling tonnages from 2020 to 2023.

5. Estimate the waste generation, recovery and landfilling in the Northern Region in 2023. This was estimated from the Tasmania tonnages on a per capita basis for the Northern Region.

- Establish waste generation, recovery and landfilling (tonnes per annum) in the Northern Region from 2023-2030. This was calculated using the mean population change per annum for the Northern Region, to extrapolate the waste generation, recovery and landfilling tonnes per annum from 2023- 2030.

6. Build assumptions for national and state targets for waste management into the model. See assumptions below.

- Build assumptions for increasing capture rates of priority materials identified in the BAU model to increase diversion from landfill. See assumptions below.

7. Assess the gap between the BAU model and the Strategy Model to inform targets and actions of the NTWMP Strategic Plan.

9.3 Sources

Sources used to model waste generation in the region are summarised in Table 13.

Table 13 Waste generation modelling sources

Source	Data	Use
Blue Environment and Department of Climate Change, Energy, the Environment and Water3.	All waste data from 2018-19 to 2020-21 in the Tasmanian jurisdiction	To understand the mean waste generation, recovery and landfilling per annum by material type and stream (C&I, C&D and MSW).
Australian Bureau of Statistics[15]	Population data from National Census Data from 2001 - 2021	To calculate population change by council area between 2001 and 2021, then forecast population change from 2022 to 2030.
Australian Bureau of Statistics[16]	Population data from National Census Data from 2001 - 2021	To calculate population change in Tasmania, 2001 and 2021, then forecast population change from 2022 to 2030, allowing per capita transformations of model data.
City of Launceston[17]	Composition of C&D waste in the region	Testing assumptions for composition of C&D material in the region.
Dulverton Waste Management Group[18]	Composition of MSW in the region	Testing assumptions for composition of MSW material in the region.
MRA Consulting Group[19]	FOGO and Organics capture rates	Testing assumptions for capture rate viability for organics and FOGO.
Australian Bureau of Statistics[20]	Paper and cardboard capture rates, hazardous material capture rates and plastic capture rates	Testing assumptions for capture rate viability for paper and cardboard, hazardous material and plastics.
National, state and local policy and strategies	See Summary and Appendix A for a full list of national, state and local policies and strategies considered	Aligning model assumptions and ensuring other targets are achieved.

[15] Australian Bureau of Statistics, National Census Data 2001 – 2021, (2021), link
[16] Australian Bureau of Statistics, National Census Data 2001 – 2021, (2021), link
[17] City of Launceston Waste Diversion Feasibility Report, City of Launceston, (2023)
[18] Kerbside Bag Composition Report, Dulverton Waste Management Group, (2022)
[19] Getting the most out of the FOGO revolution, MRA Consulting Group, (2022), link
[20] Australian Bureau of Statistics, Waste Account, (2022), link

9.4 Assumptions

Several assumptions were used in this model. These included:

- an assumption that material composition of waste streams is homogenous across Tasmania, allowing the use of data for Tasmania in estimated waste composition in the Northern Region,
- an assumption that waste generation per capita is homogenous across Tasmania,
- an assumption that population change will generally remain consistent in Tasmania and the Northern Region across the timeframe of the model, and
- an assumption that waste generation will change proportionally with population change.

In addition, the Strategy Model included specific assumptions for waste management outlined in Table 14.

Table 14 Assumptions for Strategy Model.

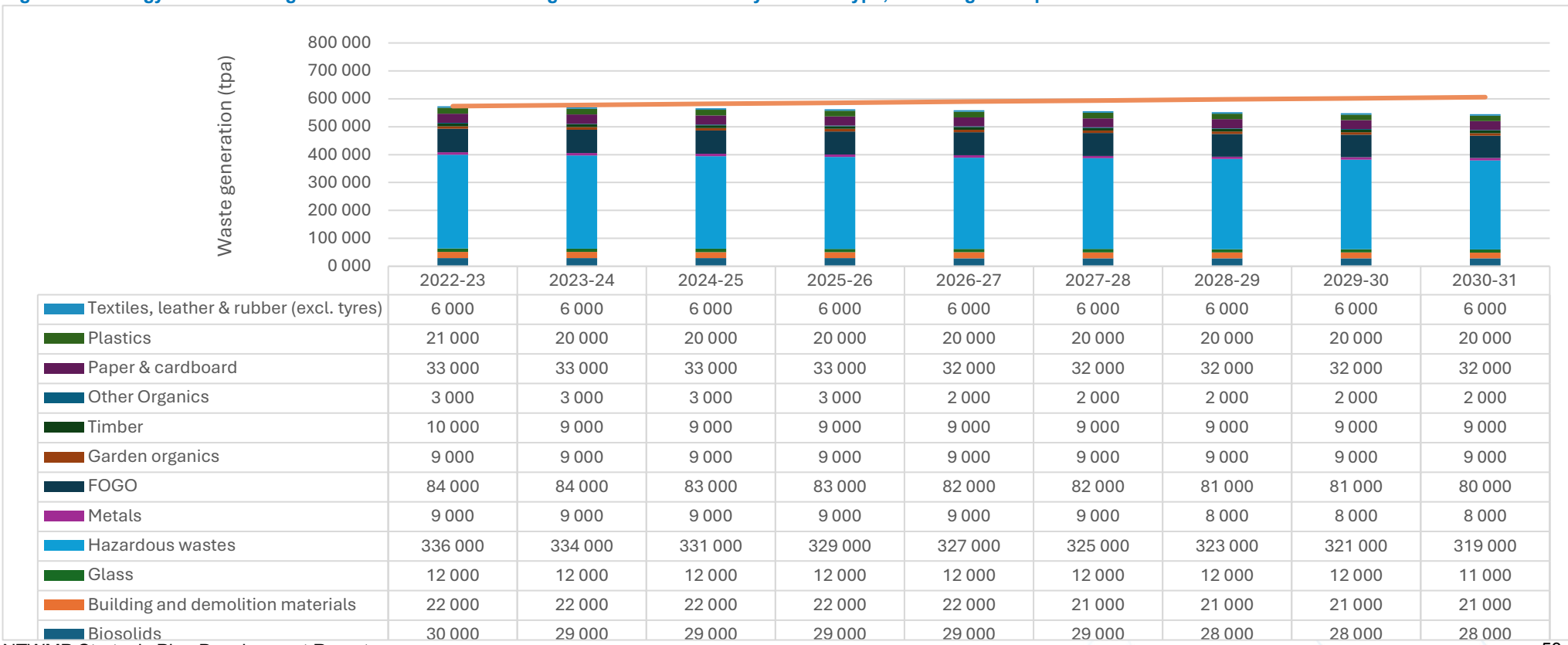
Assumption	Per annum	by 2025	by 2030
State population growth rate (per annum mean)	0.25%		
Regional population growth rate (per annum mean)	4%		
FOGO capture rate from putrescible waste		50%	75%
Organic capture rate from putrescible waste		40%	80%
Paper and cardboard capture rate from putrescible waste			65%
Hazardous waste capture rate from putrescible waste			40%
Plastic capture rate from putrescible waste			40%
Building and demolition capture rate from putrescible waste			30%
Textile capture rate from putrescible waste			15%
Average resource recovery		40%	80%
Waste generation per capita reduction		5%	10%
Reduction of organics to landfill		25%	50%

9.5 Waste generation, recovery and landfilling

9.5.1 Strategy Model waste generation

Waste generation, recovery, and landfilling in the region were modelled from 2023 to 2030 based on waste management assumptions. Figure 12 illustrates the projected waste generation in the Northern Region during this period to meet NTWMP Strategic Plan targets. By 2030, waste generation is projected to increase from 574,000 tonnes in 2023 to 545,000 tonnes, reflecting an 11% reduction from the BAU model of 606,000 tonnes, aligning with National Waste Targets. The top materials generated in 2030 are hazardous wastes (319,000 tonnes), FOGO (80,000 tonnes), paper and cardboard (32,000 tonnes), biosolids (28,000 tonnes), and building and demolition material (21,000 tonnes). The total waste generation per annum under the BAU model is provided for comparison.

Figure 12 Strategy Model waste generation in the Northern Region from 2023 - 2030 by material type, including a comparison to the BAU model total

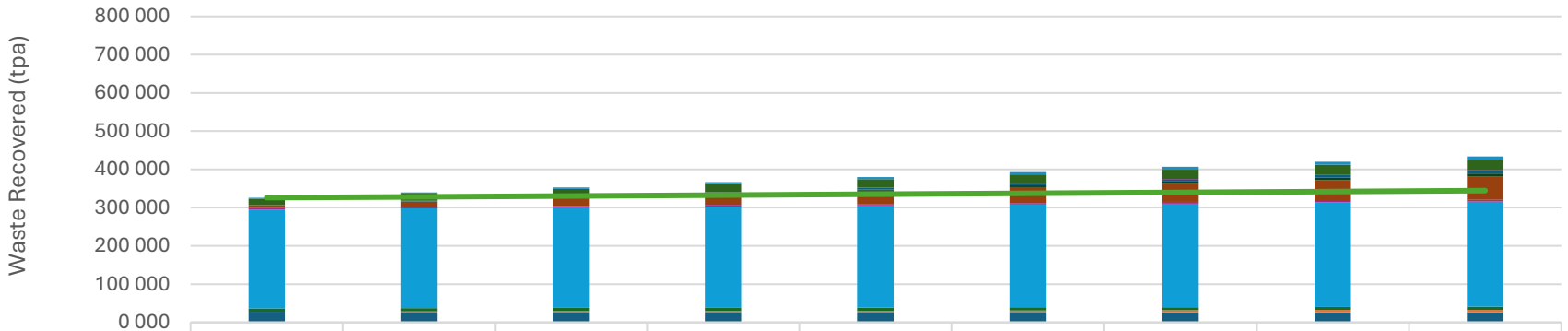


	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
Textiles, leather & rubber (excl. tyres)	6 000	6 000	6 000	6 000	6 000	6 000	6 000	6 000	6 000
Plastics	21 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000
Paper & cardboard	33 000	33 000	33 000	33 000	32 000	32 000	32 000	32 000	32 000
Other Organics	3 000	3 000	3 000	3 000	2 000	2 000	2 000	2 000	2 000
Timber	10 000	9 000	9 000	9 000	9 000	9 000	9 000	9 000	9 000
Garden organics	9 000	9 000	9 000	9 000	9 000	9 000	9 000	9 000	9 000
FOGO	84 000	84 000	83 000	83 000	82 000	82 000	81 000	81 000	80 000
Metals	9 000	9 000	9 000	9 000	9 000	9 000	8 000	8 000	8 000
Hazardous wastes	336 000	334 000	331 000	329 000	327 000	325 000	323 000	321 000	319 000
Glass	12 000	12 000	12 000	12 000	12 000	12 000	12 000	12 000	11 000
Building and demolition materials	22 000	22 000	22 000	22 000	22 000	21 000	21 000	21 000	21 000
Biosolids	30 000	29 000	29 000	29 000	29 000	29 000	28 000	28 000	28 000

9.5.2 Strategy Model resource recovery

Figure 13 shows modelled recovery of material in the Northern Region from 2023 – 2030 to achieve the NTWMP Strategic Plan targets. To achieve the targets, recovery must increase from 326,00 tonnes in 2023 to 434,000 tonnes in 2030, which is an additional 108,000 tonnes compared to the BAU model (344,000 tonnes). The top materials modelled to be recovered in 2030 including hazardous wastes (275,000 tonnes), FOGO (62,000 tonnes), biosolids (26,000 tonnes), paper and cardboard (26,000 tonnes), and plastics (9,000 tonnes). An average material recovery rate of 80% is achieved under the model.

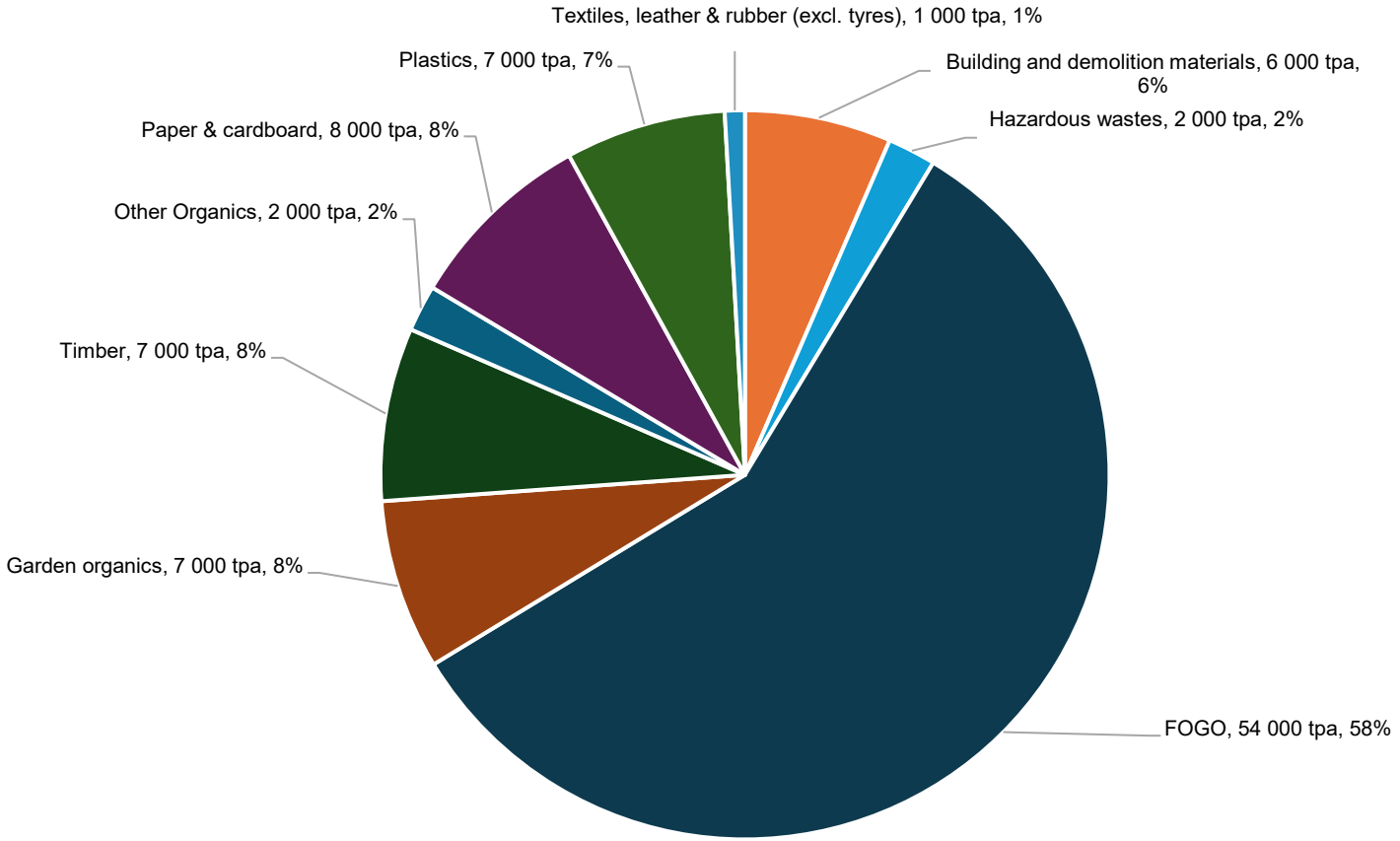
Figure 13 Strategy Model recovery in the Northern Region from 2023 - 2030 by material type, including a comparison to the BAU model



	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
Plastics	2 000	3 000	4 000	5 000	6 000	7 000	7 000	8 000	9 000
Paper & cardboard	17 000	19 000	20 000	21 000	22 000	23 000	24 000	25 000	26 000
Other Organics	0 000	0 000	0 000	1 000	1 000	1 000	1 000	2 000	2 000
Timber	0 000	1 000	2 000	3 000	4 000	5 000	5 000	6 000	7 000
Garden organics	0 000	1 000	2 000	3 000	4 000	4 000	5 000	6 000	7 000
FOGO	7 000	14 000	21 000	28 000	34 000	41 000	48 000	55 000	62 000
Metals	4 000	4 000	4 000	4 000	4 000	4 000	4 000	4 000	4 000
Hazardous wastes	258 000	261 000	263 000	265 000	267 000	269 000	271 000	273 000	275 000
Glass	8 000	8 000	8 000	8 000	8 000	8 000	8 000	8 000	8 000
Building and demolition materials	0 000	1 000	2 000	3 000	4 000	4 000	5 000	6 000	7 000
Biosolids	28 000	28 000	27 000	27 000	27 000	27 000	27 000	27 000	26 000
Textiles, leather & rubber (excl. tyres)	0 000	0 000	0 000	0 000	1 000	1 000	1 000	1 000	1 000
Baseline model total	326 000	328 000	331 000	333 000	335 000	338 000	340 000	342 000	344 000

To achieve 2030 targets, recovery must increase from 326,000 tonnes in 2023 to 434,000 tonnes in 2030, which is an additional 90,000 tonnes compared to business as usual (344,000 tonnes). The top materials modelled to be recovered in 2030 include hazardous wastes (275,000 tonnes), FOGO (62,000 tonnes), biosolids (26,000 tonnes), paper and cardboard (26,000 tonnes), and plastics (9,000 tonnes). Under the strategy projection model, NTWMP would need to achieve average material recovery rate of 80% to meet the targets. The additional material recovery required by 2030 to achieve these targets is outlined in Figure 14.

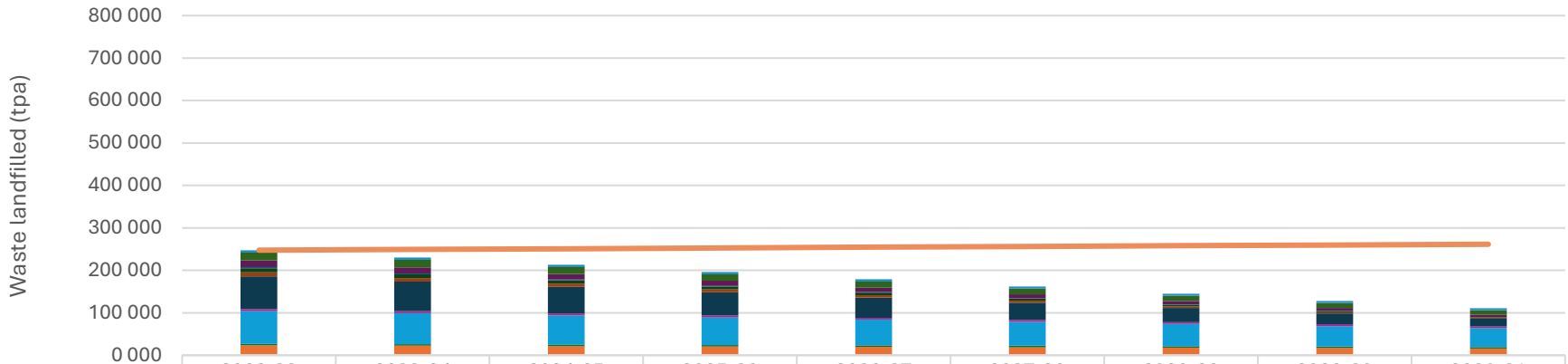
Figure 14 Additional material recovery required in 2030



9.5.3 Strategy Model landfilling

Figure 15 shows modelled landfilling of material in the Northern Region from 2023 – 2030 to achieve the NTWMP Strategic Plan targets. To achieve the targets, landfilling must decrease from 247,000 tonnes in 2023 to 111,000 tonnes in 2030, which is 136,000 tonnes less than the BAU model (261,000 tonnes) as a result of waste generation reduction and increased diversion. The top materials modelled to be landfilled in 2030 including hazardous wastes (44,000 tonnes), FOGO (18,000 tonnes), building and demolition waste (14,000 tonnes), plastics (10,000 tonnes) and paper and cardboard (5,000 tonnes).

Figure 15 Strategy Model landfilling in the Northern Region from 2023 - 2030 by material type, with comparison to the BAU model



	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
Textiles, leather & rubber (excl. tyres)	6 000	6 000	6 000	6 000	5 000	5 000	5 000	5 000	5 000
Plastics	18 000	17 000	16 000	15 000	14 000	13 000	12 000	11 000	10 000
Paper & cardboard	16 000	14 000	13 000	12 000	11 000	9 000	8 000	7 000	5 000
Other Organics	3 000	2 000	2 000	2 000	2 000	1 000	1 000	1 000	0 000
Timber	10 000	9 000	8 000	7 000	6 000	5 000	4 000	3 000	2 000
Garden organics	9 000	8 000	7 000	7 000	6 000	5 000	4 000	3 000	2 000
FOGO	77 000	70 000	63 000	55 000	48 000	40 000	33 000	26 000	18 000
Metals	5 000	5 000	5 000	4 000	4 000	4 000	4 000	4 000	4 000
Hazardous wastes	77 000	73 000	69 000	65 000	61 000	56 000	52 000	48 000	44 000
Glass	4 000	4 000	4 000	4 000	4 000	4 000	4 000	3 000	3 000
Building and demolition materials	22 000	21 000	20 000	19 000	18 000	17 000	16 000	15 000	14 000
Biosolids	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000
Baseline model total	247 000	249 000	251 000	253 000	254 000	256 000	258 000	260 000	261 000

Summary and outcomes

A review of policy and strategy was conducted across national, state and local stakeholders. Common themes for waste management strategy and policy included:

- Circular economy principles,
- Data integrity,
- Education,
- Energy and emissions,
- Landfill diversion,
- Natural environment,
- Organics diversion,
- Problematic wastes,
- Regional development,
- Regulations and market demand,
- Resource recovery,
- Strategic planning,
- Technology and innovation, and
- Waste avoidance.

The previous NTWMP 2017-2022 Strategy was compared to the review of policy and strategy across Australia in order to identify gaps for improvement. Gaps were identified for:

- waste avoidance, and
- technology and innovation.

In addition, a review of the themes, targets and actions of the previous NTWMP 2017-2022 Strategy was conducted. It was determined that some of the objectives were too broad, lacking specificity to establish clear actions that would progress objectives. There was a lack of clear actions in the waste avoidance, technology and innovation, circular economy principles, data integrity, strategic planning, energy and emissions, natural environment, problematic wastes and regulations and market demand. Identified gaps from this analysis were considered in the development of the preliminary targets (section 9 Preliminary targets).

This report then assessed current waste management in the region, including provision of waste facilities, throughput and waste generation in 2023 modelled using the BAU model developed for this strategy. The BAU model built on this to project waste generation, recovery and landfilling across the region from 2023 – 2030.

Under a BAU scenario:

- Waste generation is modelled to increase from 574,000 tonnes in 2023 to 606,000 tonnes in 2030, with the top materials generated in 2030 modelled to be hazardous wastes (354,000 tonnes), FOGO (89,000 tonnes), paper and cardboard (35,000 tonnes), biosolids (31,000 tonnes) and building and demolition material (23,000 tonnes).
- Resource recovery is modelled to increase from 326,000 tonnes in 2023 to 344,000 tonnes in 2030, with the top materials modelled to be recovered in 2030 including hazardous wastes (273,000 tonnes), biosolids (29,000 tonnes), paper and cardboard (16,000 tonnes), glass (9,000 tonnes) and FOGO (7,000 tonnes). The recovery rate of 57% remains constant from 2023 – 2030 under the BAU model.
- To achieve the targets, the Northern Region will need to increase capture rates of high priority materials, which will generate an additional 90,000 tonnes of priority material per annum in the

region. The characteristic of this additional material is shown in Figure 14, with the top materials being hazardous wastes (275,000 tonnes), FOGO (62,000 tonnes), biosolids (26,000 tonnes), paper and cardboard (26,000 tonnes), and plastics (9,000 tonnes).

- Landfilling is modelled to increase from 247,000 tonnes in 2023 to 261,000 tonnes in 2030, with the top materials modelled to be landfilled in 2030 including FOGO (82,000 tonnes), hazardous wastes (81,000 tonnes), building and demolition materials (23,000 tonnes), plastics (19,000 tonnes) and paper and cardboard (17,000 tonnes).

The BAU model identified priority materials with higher opportunity for diversion from landfill including FOGO, hazardous waste, plastics, cardboard and paper, building and demolition material and textiles. These findings, along with consultation input, informed the development of Preliminary Strategic Objectives.

Consultation with councils, industry and government further informed the development of Preliminary Strategic Objectives and Targets.

Councils articulated a broad set of priorities for the next decade, with common themes including enhanced landfill management, boosting waste diversion and resource recovery, and addressing infrastructure needs. These priorities have specific objectives such as developing infrastructure and strategies for waste management and organics, enhancing recycling efforts, understanding the carbon footprint of waste management, and increasing public access to services, alongside advocating for state government initiatives.

There are challenges to achieving these objectives, primarily being financial viability, market access, and the breadth of technical knowledge. Councils are contending with geographical isolation, financial constraints, and the need for better coordination across government levels and industry, all of which complicate efforts to advance waste management.

The interview group had cohesive expectations from the future of the NTWMP, with a universal commitment to continuing participation, driven by a shared vision for collaborative approaches, cost-effective solutions, and a pronounced focus on minimising landfill contributions while fostering community engagement and education on sustainable waste practices.

Looking five years into the future, success for the NTWMP is envisioned as achieving a marked reduction in landfill waste, increased recycling rates, and establishing a consistent and communicative strategy that produces a community-wide shift in perception and behaviour towards waste management.

By combining the BAU modelling and identification of priority materials with clear input from consultation, this report was able to establish a clear vision for the NTWMP Strategic Plan.

Vision 1 The NTWMP will work to implement a circular economy in the region

The NTWMP will achieve this by understanding material flows and identifying materials suited to circularity, improving industry capacity and resilience, increasing landfill diversion and recovery capacity, engaging businesses, and enhancing landfill and transfer station management practices.

Vision 2 The NTWMP will work to facilitate and improve collaboration between members, industry, community, and government across Tasmania.

The NTWMP will achieve this by sharing resources, facilitating technical knowledge, efficiently using resources for circular market development, integrating the industry into governance, fostering good working relationships, executing joint procurement, and engaging communities and businesses.

Vision 3 The NTWMP will support strategic alignment across all levels of waste management, including local, regional, state, and national strategies

The NTWMP will achieve this by ensuring regional consistency, aligning closely with the state strategy, maintaining consistent partner operations across regions, advocating and lobbying, and adopting a coherent procurement policy.

Vision 4: The NTWMP will work to improve data and reporting on waste management in the region.

The NTWMP will achieve this by tracking progress towards strategic targets, ensuring regulatory compliance, providing transparent and interactive community reporting, and communicating the carbon footprint of waste management options.

By considering the strategy and policy requirements established by desktop review, the priority materials identified by the BAU model and the priorities for stakeholders from consultation, a range of targets and activities were established to implement the vision of the NTWMP Strategic Plan.

The NTWMP's strategy to foster a circular economy in the region involves several targeted actions aimed at reducing waste generation per capita to 3.45 tonnes by 2030, which includes a further 9% reduction. Strategies include engaging residents and businesses through education, swap out campaigns, and encouraging the reuse, repair, refill, and refurbishing of goods. To increase landfill diversion by 23% by 2030, the NTWMP plans to improve the capture rates of FOGO, garden organics, plastics, building and demolition waste, textiles, paper, cardboard, other organics, timber, and hazardous waste through various initiatives like developing business case templates for FOGO services, conducting audits and infrastructure needs analysis, and supporting council waste facilities to enhance their capacity for capturing specific waste materials.

To enhance data and reporting, the NTWMP will track strategic targets, ensure regulatory compliance, develop a community dashboard for waste data, and communicate the carbon footprint of waste management options. Implementing a consistent framework for data collection and conducting regular audits for MSW, comingled recycling, FOGO, C&D, and C&I waste streams are part of the plan to improve waste management practices and achieve a sustainable waste management system in the region.

To improve collaboration across Tasmania, the NTWMP aims to increase market access for circular materials, guide private investment, conduct feasibility studies for market development, develop industry standards, and implement procurement policies that support the use of priority materials. Establishing an industry working group and formalising information sharing and collaboration mechanisms are also part of the plan to enhance partnership among members, industry, community, and government.

Supporting strategic alignment across all levels of waste management, the NTWMP will ensure regional consistency with state and national strategies, advocate for policy changes, and adopt a coherent procurement policy. This includes aligning member council waste management plans with the regional strategy, developing common waste management standards, and facilitating a culture of collaboration.

Finally, a Strategy Model was developed to ensure the Preliminary Targets are sufficient to achieve alignment with key national and state strategy targets.

10 Appendix A

Table 15 National to Local Policy and Strategy Review

Governance	Organisation	Strategy	Target	Theme
National	Australian Government (DCCEEW)	National Waste Policy (2018)	Prioritise waste avoidance, encourage efficient use, reuse and repair	Circular economy principles
National	Australian Government (DCCEEW)	National Waste Policy (2018)	Design products so waste is minimised, they are made to last and we can more easily recover materials	Technology and innovation
National	Australian Government (DCCEEW)	National Waste Policy (2018)	Improve material collection systems and processes for recycling.	Resource recovery
National	Australian Government (DCCEEW)	National Waste Policy (2018)	Improve the quality of recycled material we produce	Technology and innovation
National	Australian Government (DCCEEW)	National Waste Policy (2018)	Increase use of recycled material and build demand and markers for recycled products	Regulations and market demand
National	Australian Government (DCCEEW)	National Waste Policy (2018)	Better manage material flows to benefit human health, the environment, and the economy	Circular economy principles
National	Australian Government (DCCEEW)	National Waste Policy (2018)	Improve information to support innovation, guide investment and enable informed consumer decisions	Data integrity
National	Australian Government (DCCEEW)	National Waste Policy Action Plan (2019)	Ban the export of waste plastic, paper, glass and tyres, commencing in the second half of 2020	Regulations and market demand

National	Australian Government (DCCEEW)	National Waste Policy Action Plan (2019)	Reduce total waste generated in Australia by 10% per person by 2030	Waste avoidance
National	Australian Government (DCCEEW)	National Waste Policy Action Plan (2019)	80% average resource recovery rate from all waste streams following the waste hierarchy by 2030	Resource recovery
National	Australian Government (DCCEEW)	National Waste Policy Action Plan (2019)	Significantly increase the use of recycled content by governments and industry	Regulations and market demand
National	Australian Government (DCCEEW)	National Waste Policy Action Plan (2019)	Phase out problematic and unnecessary plastics by 2025	Regulations and market demand
National	Australian Government (DCCEEW)	National Waste Policy Action Plan (2019)	Halve the amount of organic waste sent to landfill by 2030	Organics diversion
National	Australian Government (DCCEEW)	National Waste Policy Action Plan (2019)	Make comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decisions	Data integrity
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Alignment of state, regional and local strategic planning	Strategic planning
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Effective landfill levy administration	Regulations and market demand
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Moving towards a circular economy	Circular economy principles
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Understanding material flows, infrastructure capacity, supply chains and priorities	Data integrity

State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Supporting infrastructure, new systems, and skills	Regional development
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Improved regional and remote access to services	Regional development
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Understanding priorities	Strategic planning
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Reducing waste production	Waste avoidance
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Increasing reuse and recovery	Resource recovery
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Improved community and business education and engagement	Education
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Strong partnerships addressing priority issues	Regional development
State	Tasmanian Government (NRE)	Tasmanian Waste and Resource Recovery Strategy (2023-2026)	Promoting success and champions	Education
State	Tasmanian Government (NRE)	Draft (Tasmanian) Waste Action Plan (2019)	Reduce waste generated in Tasmania by 5% per person by 2025 and 10% by 2030	Waste avoidance
State	Tasmanian Government (NRE)	Draft (Tasmanian) Waste Action Plan (2019)	Ensure 100% of packaging is reusable, recyclable or compostable by 2025	Regulations and market demand
State	Tasmanian Government (NRE)	Draft (Tasmanian) Waste Action Plan (2019)	Achieve a 40% average recovery rate from all waste streams by 2025 and 80% by 2030	Resource recovery
State	Tasmanian Government (NRE)	Draft (Tasmanian) Waste Action Plan (2019)	Have the lowest incidence of littering in the country by 2023	Resource recovery

State	Tasmanian Government (NRE)	Draft (Tasmanian) Waste Action Plan (2019)	Work at the national level and with local government and businesses in Tasmania to help phase out problematic and unnecessary plastics by 2030	Problematic wastes
State	Tasmanian Government (NRE)	Draft (Tasmanian) Waste Action Plan (2019)	Reduce the volume of organic waste sent to landfill by 25% by 2025 and 50% by 2030	Organics diversion
State	Tasmanian Government (ReCFIT)	Tasmania's Climate Change Action Plan 2023-25	Net zero emissions, or lower, from 2030	Energy and emissions
State	Tasmanian Government (ReCFIT)	Tasmania's Climate Change Action Plan 2023-26	Reduce food waste by 50 per cent by 2030 and reduce the volume of organic waste sent to landfill by 25 per cent by 2025 and 50 per cent by 2030	Organics diversion
State	Tasmanian Government (ReCFIT)	Tasmania's Climate Change Action Plan 2023-27	100 per cent electric government fleet vehicles by 2030.	Energy and emissions
State	Tasmanian Government (ReCFIT)	Tasmania's Climate Change Action Plan 2023-28	Double Tasmania's renewable electricity production (from 2020 levels) by 2040, with an interim target of 150 per cent by 2030	Energy and emissions
State	Tasmanian Government (ReCFIT)	Tasmania's Climate Change Action Plan 2023-29	Maintain the lowest, or among the lowest, regulated prices in the National Electricity Market.	Energy and emissions
State	Tasmanian Government (ReCFIT)	Tasmania's Climate Change Action Plan 2023-30	Become a significant producer of renewable hydrogen by 2030.	Energy and emissions

State	Tasmanian Government (ReCFIT)	Tasmania's Climate Change Action Plan 2023-31	No loss of fire-sensitive vegetation and other high conservation natural, cultural and historic values in the Tasmanian Wilderness World Heritage Area	Natural environment
Regional	CCWMG	CCWMG Strategic Plan (2023-2028)	Diversion of materials from landfill to increase resource recovery, extend the life of existing landfills and reduce greenhouse gas emissions from waste.	Landfill diversion
Regional	CCWMG	CCWMG Strategic Plan (2023-2028)	Provide regional planning and coordination of waste infrastructure and services to provide improved resource recovery, delivering efficiencies and reducing costs of services / waste infrastructure.	Regional development
Regional	CCWMG	CCWMG Strategic Plan (2023-2028)	Maintain partnerships with government, planning authorities and the three waste management regions to shape waste management policies and regulation to influence future regulatory requirements and to identify programs and infrastructure best delivered with a state-side approach.	Strategic planning

Regional	CCWMG	CCWMG Strategic Plan (2023-2028)	Work with the community and industry, through education and feedback, to take ownership of waste avoidance and reuse to improve the use of existing and future services.	Regional development
Regional	NTWMP	NTWMP Five-year strategy (2017-2022)	Help establish food and garden organics (FOGO) kerbside organics collections	Organics diversion
Regional	NTWMP	NTWMP Five-year strategy (2017-2022)	Increase waste avoidance, resource recovery and recycling	Circular economy principles
Regional	NTWMP	NTWMP Five-year strategy (2017-2022)	Continue the recycling of hazardous and problem wastes	Problematic wastes
Regional	NTWMP	NTWMP Five-year strategy (2017-2022)	Achieve best practice and safe transfer stations and landfills	Regulations and market demand
Regional	NTWMP	NTWMP Five-year strategy (2017-2022)	Implement consistent operating standards	Regulations and market demand
Regional	NTWMP	NTWMP Five-year strategy (2017-2022)	Improve data collection	Data integrity
Regional	NTWMP	NTWMP Five-year strategy (2017-2022)	Increase the number of kerbside recycling bin assessments	Regulations and market demand
Regional	NTWMP	NTWMP Five-year strategy (2017-2022)	Broaden community, government and industry engagement, awareness and education about recycling and better waste management	Education
Local	City of Launceston	Sustainability Action Plan (2022-2023)	90% of City of Launceston operational waste is	Landfill diversion

			diverted from landfill by 2030	
Local	City of Launceston	Sustainability Action Plan (2022-2023)	80% of community waste is diverted from landfill by 2030	Landfill diversion
Local	City of Launceston	Sustainability Action Plan (2022-2023)	25% of community organic waste is diverted from landfill by 2025	Organics diversion
Local	City of Launceston	Sustainability Action Plan (2022-2023)	100% of households are provided FOGO kerbside bins by 2030	Organics diversion
Local	City of Launceston	Sustainability Action Plan (2022-2023)	Kerbside recycling contamination rate is less than 10% by 2025.	Education
Local	Meander Valley Council	Waste Management Strategy (2016 - 2020)	Provide effective and efficient kerbside services	Landfill diversion
Local	Meander Valley Council	Waste Management Strategy (2016 - 2020)	Provide high quality landfill and resource recovery infrastructure	Landfill diversion
Local	Meander Valley Council	Waste Management Strategy (2016 - 2020)	Develop regional and strategic partnerships	Strategic planning
Local	Meander Valley Council	Waste Management Strategy (2016 - 2020)	Ensure services are sustainable through review, monitoring, innovation and improvement	Technology and innovation
Local	Meander Valley Council	Waste Management Strategy (2016 - 2020)	Be a community leader in waste management	Strategic planning
Local	Flinders Council	Waste Management Strategy (2024-2028)	Conducted a cost–benefit analysis of waste management options for putrescible and recoverable waste streams by the end of 2024	Strategic planning

Local	Flinders Council	Waste Management Strategy (2024-2028)	Developed an infrastructure and operational masterplan for Council's waste facilities by the end of 2024	Strategic planning
Local	Flinders Council	Waste Management Strategy (2024-2028)	Implemented a resource recovery system that meets the community's expectations for waste diversion from landfill by the end of 2025	Landfill diversion
Local	Flinders Council	Waste Management Strategy (2024-2028)	Achieved full compliance with EPA regulations and permit requirements for waste management by the beginning of 2026	Regulations and market demand
Local	Flinders Council	Waste Management Strategy (2024-2028)	Investigated processes for Cape Barren Island to incorporate resource recovery by the end of 2026	Strategic planning
Local	Flinders Council	Waste Management Strategy (2024-2028)	Developed a rehabilitation plan for the legacy landfill areas at the Whitemark Waste Facility by the end of 2026	Natural environment
Local	Flinders Council	Waste Management Strategy (2024-2028)	Collaborated with the State Government, and relevant stakeholders, to assess and implement alternate waste treatment infrastructure that diverts avoidable waste from landfill by the end of 2027	Strategic planning

Table 16 Waste facility list and data

LGA	Owner	Name of site	Activity	Materials accepted	Regulatory limit	Source
Break O'Day	Break O'Day Council	St Helens Inert Waste Depot	Depot and some recovery	Household waste, green waste, inert waste, treated and untreated timber, furniture, car batteries, tyres, scrap steel, car bodies, waste oil, glass, cardboard, aluminium cans, fluro tubes, e-waste, gas bottles.	4,500 tonnes per year of residual waste for disposal.	ListMAP
Break O'Day	Break O'Day Council	Scamander Waste Transfer Station	Depot	Household waste, green waste, asbestos, scrap steel and car bodies, waste oil, empty waste oil containers, glass, cardboard, aluminium cans, batteries, gas bottles.	NA	Online
Break O'Day	Break O'Day Council	St Marys Waste Transfer Station	Depot	Household waste, green waste, builders waste, scrap steel and car bodies, waste oil, empty waste oil containers, glass, cardboard, fluro tubes, batteries, and gas bottles.	NA	Online
Break O'Day	Break O'Day Council	Fingal Waste Transfer Station	Depot	Household waste, builders waste, green waste, waste oil, glass, cardboard, steel, batteries, and gas bottles (de-gassed).	NA	Online
Break O'Day	Break O'Day Council	Pyengana Waste Transfer Station	Depot	Household waste, green waste, waste oil, scrap steel, and glass.	NA	Online
Break O'Day	Break O'Day Council	Ansons Bay Waste Transfer Station	Depot	Household waste, builders waste, green waste, waste oil, scrap steel, and batteries.	NA	Online

Dorset	Dorset Council	Scottsdale Refuse Disposal Site	Depot and some recovery	General waste, timber, tyres, mattress, plastics, glass, steel cans, paper, cardboard, oil, aluminium cans, green waste, polystyrene, gas cyclinders, drumMUSTER, car batteries, e-waste, steel, white goods, motor vehicle bodies	0 tonnes per year of waste received or likely to be received (excluding materials for recycling)	ListMAP
Dorset	Dorset Council	Branxholm Waste Transfer Station	Depot	General waste, timber, tyres, mattress, plastics, glass, steel cans, paper, cardboard, oil, aluminium cans, green waste, polystyrene, gas cylinders, drumMUSTER, car batteries, e-waste, steel, white goods, motor vehicle bodies	NA	RFI Response
Dorset	Dorset Council	Gladstone Waste Transfer Station	Depot	General waste, timber, tyres, mattress, plastics, glass, steel cans, paper, cardboard, oil, aluminium cans, green waste, polystyrene, gas cylinders, drumMUSTER, car batteries, e-waste, steel, white goods, motor vehicle bodies	NA	RFI Response
Flinders	Flinders Council	Whitemark Waste Disposal Site	Depot	Household waste drop off	2,000 tonnes per year of residual waste for disposal.	ListMAP
Flinders	Flinders Council	Walkers Supermarket Recycling Hub	Recycling hub	Household waste drop off		Online
George Town	George Town Council	George Town Waste Depot	Depot and some recovery	General waste, C&I, green waste, inert waste, clay and clean fill, mattresses, tyres, motor vehicle bodies, scrap steel, cardboard, e-waste, aluminium cans, polystyrene, scrap steel, soft plastics, hard	20,000 tonnes per year of residual waste for disposal.	ListMAP

				plastics, car and household batteries, glass bottles, paints		
George Town	George Town Council	Pipers River Transfer Station	Depot	General waste, green waste, mattresses, tyres, scrap steel	NA	Online
Launceston	City of Launceston	Launceston Waste Centre	Landfill	Residual.	150,000 tonnes per year (excluding materials for recycling).	ListMAP
Launceston	City of Launceston	Launceston Waste Centre	Compost	Organics	15,000 tonnes per year of production of compost or mushroom substrate.	ListMAP
Launceston	Recycle PTY LTD	Recycal	Depot	Metal	60000 tonnes per year of waste received. 30,000 tonnes of the same material stored at a time.	ListMAP
Launceston	City of Launceston	Launceston Waste Centre	Recovery	Aluminium cans, car batteries, cardboard, cooking oil, electronics, fire extinguishers, fluorescent tubes and bulbs, gas bottles, glass bottles and jars, household batteries (such as AAs, AAAs, and button batteries), magazines, mixed recycling, motor oil, newspaper, oil-based and water-based paint, polystyrene, reusable goods like bric-a-brac, books, building materials, clothing, furniture, and paint, scrap metal (both ferrous and non-ferrous), clear soft plastic, steel, timber, and white goods	150,000 tonnes per year (excluding clean fill).	ListMAP

				(excluding refrigerators and freezers)		
Launceston	City of Launceston	Lilydale Transfer Station	Depot	General waste, tyres, mattresses	NA	Online
Launceston	City of Launceston	Nunamara Transfer Station	Depot	General waste, tyres, mattresses	NA	Online
Meander Valley	Meander Valley Council	Deloraine Waste Depot	Depot	Aerosol cans, aluminium and steel cans, aluminium foil, car and household batteries, cardboard, envelopes, e-waste, fluorescent tubes and light bulbs, gas bottles, glass bottles, jar lids, motor and cooking oils, both full and empty paint tins, paper, polystyrene, light scrap steel, and non-ferrous metals, green waste, timber, truck tyres, mattresses, refrigerators, and freezers, motor vehicle bodies, C&D	8,000 tonnes per year of residual waste for disposal.	ListMAP
Meander Valley	Meander Valley Council	Westbury Waste Depot	Depot	Aerosol cans, aluminium and steel cans, aluminium foil, car and household batteries, cardboard, envelopes, e-waste, fluorescent tubes and light bulbs, gas bottles, glass bottles, jar lids, motor and cooking oils, both full and empty paint tins, paper, polystyrene, light scrap steel, and non-ferrous metals, green waste, timber, truck tyres, mattresses, refrigerators, and freezers, motor vehicle bodies, C&D	4,500 tonnes per year of residual waste for disposal.	ListMAP

Meander Valley	Meander Valley Council	Mole Creek Waste Transfer Station	Depot	Aerosol cans, aluminium and steel cans, aluminium foil, car and household batteries, cardboard, envelopes, e-waste, fluorescent tubes and light bulbs, gas bottles, glass bottles, jar lids, motor and cooking oils, both full and empty paint tins, paper, polystyrene, light scrap steel, and non-ferrous metals, green waste, timber, truck tyres, mattresses, refrigerators, and freezers, motor vehicle bodies, C&D	NA	Online
Northern Midlands	Northern Midlands Council	Avoca Waste Transfer	Depot	General waste, C&I, mattresses, white goods, C&D, green waste, tyres, gas bottles, paint tins, batteries	NA	RFI Response
Northern Midlands	Northern Midlands Council	Campbell Town Waste Transfer	Depot and some recovery	General waste, C&I, mattresses, white goods, C&D, green waste, tyres, gas bottles, paint tins, batteries	NA	RFI Response
Northern Midlands	Northern Midlands Council	Evandale Waste Transfer	Depot and some recovery	General waste, C&I, mattresses, white goods, C&D, green waste, tyres, gas bottles, paint tins, batteries	NA	RFI Response
Northern Midlands	Northern Midlands Council	Longford Waste Transfer	Depot and some recovery	General waste, C&I, mattresses, white goods, C&D, green waste, tyres, gas bottles, paint tins, batteries	NA	RFI Response
West Tamar	West Tamar Council	Beaconsfield Waste Depot	Depot and some recovery	Domestic waste, green waste, tyres, waste oil, whitegoods, mattresses, domestic cardboard, empty gas bottles, e-waste, aluminium and steel cans, glass bottles,	NA	ListMAP

				car batteries, domestic polystyrene, hot water systems, fencing wire, roofing iron, C&D (small quantities).		
West Tamar	West Tamar Council	Exeter Transfer Station (Biloo Street)	Depot and some recovery	Domestic waste, green waste, tyres, waste oil, whitegoods, mattresses, domestic cardboard, empty gas bottles, e-waste, aluminium and steel cans, glass bottles, car batteries, domestic polystyrene, hot water systems, fencing wire, roofing iron, C&D (small quantities).	NA	RFI Response, Online

Table 17 NTWMP 2017-2021 Strategy performance indicators against themes

Goals	Targets	Performance indicators	Circular economy principles	Data integrity	Education	Energy and emissions	Landfill diversion	Natural environment	Organics diversion	Problematic wastes	Regional development	Regulations and market demand	Resource recovery	Strategic planning	Technology and innovation	Waste avoidance
Improve resource recovery	1. Help establish food and garden organics (FOGO) kerbside organics collections.	Help establish FOGO collections in a minimum of four municipalities within northern Tasmania by 2022.	0	0	0	0	0		1	0	1	0	0	0	0	0
Improve resource recovery	1. Help establish food and garden organics (FOGO) kerbside organics collections.	Reduce the amount of organic waste in regional kerbside rubbish bins from 46%	0	0	0	1	0	0	1	0	0	0	0	0	0	0
Improve resource recovery	2. Increase waste avoidance, resource recovery and recycling	Increase waste diversion from landfill with a particular focus on diverting organic waste.	1	0	0	1	1	0	1	0	0	0	0	0	0	0
Improve resource recovery	2. Increase waste avoidance, resource recovery and recycling	Help establish a construction and demolition recovery facility in the region by 2020.	0	0	0	0	1	0	0	0	1	0	1	0	0	0

Improve resource recovery	3. Continue the recycling of hazardous and problem wastes	Increase, by three, the number of facilities offering problem waste recycling.	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Improve resource recovery	3. Continue the recycling of hazardous and problem wastes	Continue to offer recycling services to residents for hazardous household items and problem wastes.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Improve resource recovery	3. Continue the recycling of hazardous and problem wastes	Educate residents about existing services using print, digital and broadcast media at least once a quarter	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
Improve council waste and recycling infrastructure, operations and data systems to best practice	4. Achieve best practice and safe transfer stations and landfills	Seven transfer stations upgraded to best-practice standards	0	0	0	0	0	0	0	0	1	0	0	0	1	0	

Improve council waste and recycling infrastructure, operations and data systems to best practice	4. Achieve best practice and safe transfer stations and landfills	Standard materials will be collected from all regional transfer stations by 2022.	0	0	0	0	1	0	1	0	0	1	1	0	0	0	
Improve council waste and recycling infrastructure, operations and data systems to best practice	4. Achieve best practice and safe transfer stations and landfills	All transfer stations reviewed in 2020 for compliance against best practice	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Improve council waste and recycling infrastructure, operations and data systems to best practice	5. Implement consistent operating standards	Encourage standardised operation, pricing and materials at all transfer stations	0	0	0	0	0	0	0	0	1	1	1	0	0	0	

Improve council waste and recycling infrastructure, operations and data systems to best practice	5. Implement consistent operating standards	All transfer stations reviewed in 2020 for compliance against best practice	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Improve council waste and recycling infrastructure, operations and data systems to best practice	6. Improved data collection	Implement waste data collection at all major (2020) and minor (2022) transfer stations	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Facilitate education, engagement and partnerships about waste, recycling and reuse	7. Increase the number of kerbside recycling bin assessments	Visit 65% of accessible households and assess their bins three times.	0	1	1	0	1	0	1	0	0	0	1	0	0	0	0

Facilitate education, engagement and partnerships about waste, recycling and reuse	8. Broaden community, government and industry engagement, awareness and education about recycling and better waste management	Undertake 30 community engagement events annually.	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Facilitate education, engagement and partnerships about waste, recycling and reuse	8. Broaden community, government and industry engagement, awareness and education about recycling and better waste management	Facilitate information sharing through council waste forums and advocate to the state government as required on waste and recycling matters	0	0	1	0	0	0	0	0	0	0	0	1	0	0
Facilitate education, engagement and partnerships about waste, recycling and reuse	8. Broaden community, government and industry engagement, awareness and education about recycling and better waste management	Educate residents about existing services using print, digital and broadcast media at least once a quarter	0	0	1	0	0	0	0	0	0	0	0	0	0	0

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