

LGAT Waste and Resource Management Strategy

A submission to LGAT

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Local Government Association Tasmania



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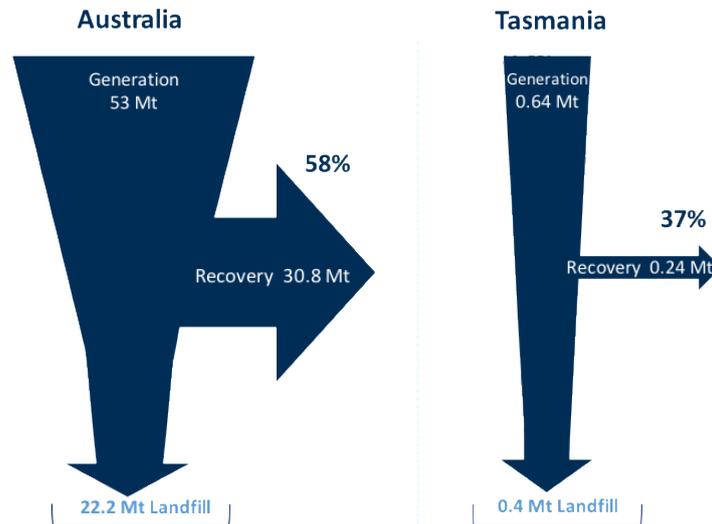
Executive Summary

This Strategy details a suite of initiatives which address key statewide issues faced by local governments across Tasmania, for consideration by the Environment Protection Agency (EPA) in developing a new Tasmanian Waste and Resource Management Strategy (TWRMS). This Strategy calls for rethink of the classic linear model of waste and resource management and for Tasmania to embrace the vision of a circular economy whereby materials are kept in circulation through reuse and recycling, industrial symbiosis and other efforts to divert materials from landfill. The circular economy vision provides for greater jobs and investment in resource recovery and directly addresses a potential future risk where increasing waste generation might outstrip improvements in landfill diversion rates.

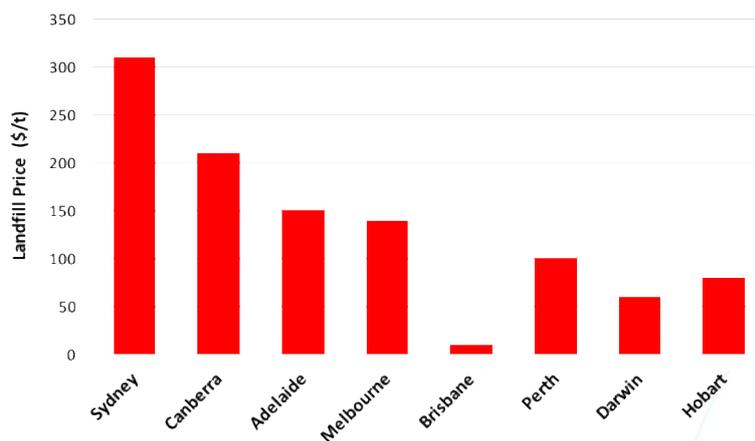
A critical factor which is key to the successful implementation of the new TWRMS is an adequately resourced state organisation to lead/champion and deliver the new state wide strategy. Eight themes or priority areas are identified, which were established in consultation with the LGAT Waste Reference Group, these are listed below.

Thematic Area	Description of key issues
1. Policy & Strategy	<ul style="list-style-type: none"> Tasmanian policy levers, signals and their support of strategic objectives; and Alignment with national policies and delivery of national product stewardship schemes.
2. Leadership & Governance	<ul style="list-style-type: none"> The roles and responsibilities of government organisations to lead/champion and deliver a new state strategy; and Providing greater transparency to the performance of waste and resource recovery system.
3. Evidence Base	<ul style="list-style-type: none"> The quality, timeliness and accessibility of data used to inform decision making and measure performance.
4. Infrastructure Planning	<ul style="list-style-type: none"> Planning for the future need for residual waste disposal and resource recovery infrastructure.
5. Resource Recovery	<ul style="list-style-type: none"> Opportunities to improve resource recovery including infrastructure, services and programs to support the recovery of priority materials.
6. Industry Support	<ul style="list-style-type: none"> Enabling industry to generate less and recover more waste; and Supporting the expansion of the market for recovered resources and products derived from recovered resources.
7. Community Engagement	<ul style="list-style-type: none"> Assisting the community to reduce the waste they generate and to effectively use the resource recovery system.
8. Public Health & Environment	<ul style="list-style-type: none"> Reducing risk and/or negative impact of waste and waste management practices on public health and the environment; and The capacity of the EPA to improve regulatory compliance.

All Australian states and territories, except Northern Territory and Queensland, divert a significantly greater percentage of material from landfill. The Tasmanian landfill diversion rate¹ of 37% is significantly lower than the national average² of 58% and almost half that of the ACT, NSW, Victoria and South Australia. National (2011) and Tasmanian (2014-15) waste generation and recovery amounts are compared and shown in the figure below:



In the absence of a state wide levy, Tasmanian landfill prices are amongst the lowest and low landfill prices equate to poor resource recovery. Landfill levies increase the cost of waste disposal and provide a market environment which encourages investment in resource recovery resulting in an increase to the landfill diversion rate. For the purposes of comparison, the estimated average prices for landfill disposal in each of Australia’s capital cities is provided below.

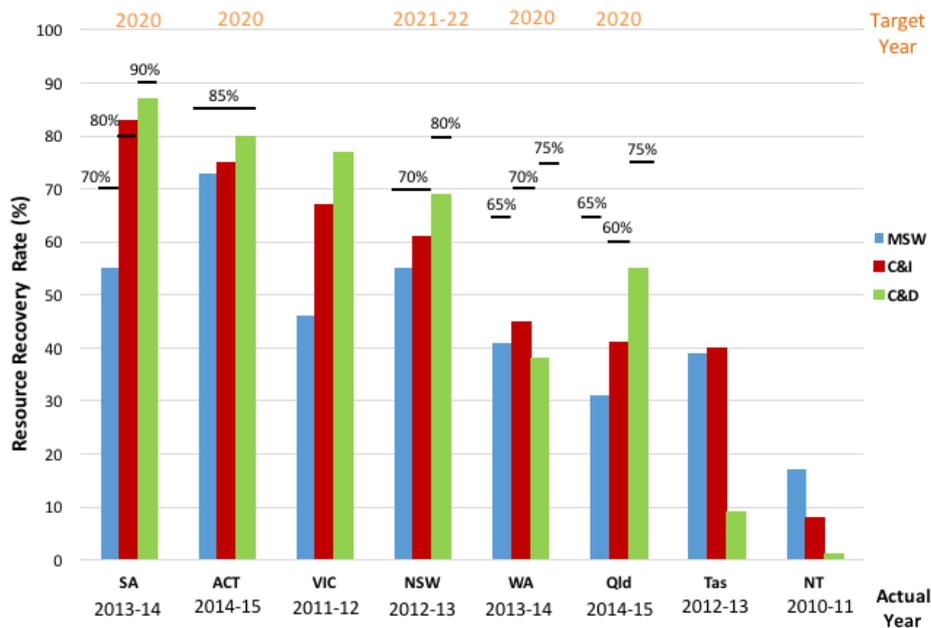


The resource recovery rates across all Australia are shown below for each of the three waste generations sectors being:

- Municipal Solid Waste (MSW);
- Commercial and Industrial (C&I); and
- Construction and Demolition (C&D).

¹ Environment Protection Authority - Annual Report 2014-15(EPA Tasmania)

² Waste generation and resource recovery in Australia (DSEWPac 2014)



Unlike most jurisdictions, Tasmanian has not established clear performance targets for resource recovery. State wide waste resource recovery data collection management systems are required to monitor and evaluate effectiveness of programs and provide public transparency on the progress toward Tasmanian waste and resource recovery goals.

The difference in diversion rates is most significant from industrial sources, i.e. Commercial and Industrial (C&I) and Construction and Demolition (C&D) waste generation. To reduce the amount of C&D waste landfilled and improve diversion, this Strategy identifies the C&D sector requires assistance to decrease waste generation and to implement source separation. Similarly, other industrial waste generators require assistance to use materials efficiently, reuse materials and understand the business case for greater source separated collection, onsite consolidation (baling) and/or processing. An expansion of resource recovery activities and the industry creates more employment opportunities than landfill disposal and has the potential to further boost the economy through investment and productivity gains.

The capacity of Tasmania’s state wide waste and resource recovery system to manage the current and likely future need has been untested. Infrastructure planning is required to:

- Identify the existing critical waste infrastructure required to guarantee delivery of essential waste and resource recovery services;
- Address future infrastructure gaps likely to arise from population and economic growth (including landfill airspace);
- Identify appropriately zoned precincts for future developments and ensure adequate buffers;
- Identify contingency arrangements for emergency events and/or natural disasters; and
- Provide a roadmap to achieve a mix of infrastructure that will maximise the recovery of valuable resources and minimise the environmental and public health impact on Tasmania’s communities.

A range of issues in the current resource recovery system have been identified that prevent greater resource recovery including infrastructure, services and the recovery of priority materials. Significant opportunities exist for improving resource recovery rates which target priority materials such as organics and materials from the C&D sector, optimising kerbside systems, upgrade of local government infrastructure to best practice and addressing more efficient collection of problematic wastes such as Hazardous Household Wastes

The performance of Tasmanian kerbside recycling system lags behind other states in spite of similar collection arrangements. This suggests there is potential to improve landfill diversion through enhanced community education and promotion of recycling. The Strategy proposes actions to improve the effectiveness of recycling awareness programs through increased cooperation and coordination between the state, regional groups and local councils. It is also recognised that community plays a critical role to reduce the amount of waste generated and require greater support to avoid waste generation.

Waste and waste management practices present a risk to and/or negatively impact on public health and the environment. The capacity of the EPA is constrained with respect to being able to adequately undertake compliance and enforcement activities along with the roles, responsibilities and resources available for land managers, i.e. local government and other state agencies, to address illegal dumping and littering.

The Strategy identifies a suite of program initiatives for inclusion in the new Tasmanian Waste and Resource Management Strategy and includes a roadmap of activities to be implemented over the next five years in collaboration with local government. The initiatives with the highest priority and recommended for immediate implementation, within the first 2 years of the new TWRMS, are detailed below:

Theme	Actions
1. Policy & Strategy	1.1 Introduce a landfill levy for material disposed at all Tasmanian landfills.
	1.2 Working towards a circular economy - establish clear objectives, performance indicators and targets for waste and resource recovery.
Theme	Actions
2. Leadership & Governance	2.1 Establish a Tasmania wide organisation to lead/champion and implement state waste and resource recovery strategies.
Theme	Actions
3. Evidence Base	3.1 Implement a state waste data management system to record and report landfill disposal and resource recovery.
	3.2 Implement a system to monitor and report on the movement of controlled wastes.
Theme	Actions
4. Infrastructure Planning	4.1 Develop a Tasmanian waste and resource recovery infrastructure plan that provides a roadmap to meet the future waste disposal needs and resource recovery objectives of the state.

Theme	Actions
5. Resource Recovery	5.1 Support councils to implement best practice kerbside bin systems and organics collections that service the needs of their communities.
	5.2 Support the upgrade existing local government resource recovery centres/transfer stations to best practice and recovery of specific materials e.g. colour sorted glass and mattresses.
Theme	Actions
6. Industry Support	6.1 Support industry to use materials efficiently, reuse materials and to understand the business case to improve resource recovery, create jobs and boost the economy.
Theme	Actions
7. Community Engagement	7.1 Develop a Tasmanian household awareness and waste avoidance program targeting foodwaste.
	7.2 Develop a Tasmanian schools waste awareness education and accreditation program.
Theme	Actions
8. Public Health & Environment	8.1 Provide additional resources to bolster the capability of the regulator to provide improved regulation and compliance. (e.g. via landfill levy).

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1. Introduction and background

The purpose of this report, the Local Government Association of Tasmania (LGAT) Waste Management Strategy (Strategy), is to inform the development of the Tasmanian Waste and Resource Management Strategy (TWRMS) being prepared by the Environmental Protection Authority (EPA) Tasmania.

This Strategy considers the current key issues from within each of three regions in Tasmania and identifies what needs to occur over the next 5 years to ensure a progressive and sustainable approach to waste management in terms of projects/initiatives, governance and administration. The Strategy also details key statewide issues which should be considered as part of the development of a new state strategy.

1.1 Background

MRA undertook a review of key regional strategic documents, provided by LGAT, to identify current issues and barriers, from a local government perspective, which impede the objectives of the current Tasmanian Waste and Resource Management Strategy (TWRMS). The outcome of the review was compiled into a consultation draft, for the LGAT Waste Reference Group. The consultation draft detailed:

- Current waste issues in a statewide context;
- Policies and objectives relevant to the three waste regions of Tasmania;
- Initiatives and programs for the TWRMS; and
- A preliminary strategy action plan.

The LGAT Waste Reference Group reviewed of the consultation draft and through a workshop refined the key state wide issues and prioritised the strategic actions presented in this Strategy. The strategic actions were prioritised as high, medium or low and an included an indicative timeframe for implementation being:

- Immediate – within 2 years.
- Short term – 2- 5 years; and
- Long term – 5 years plus.

1.2 Themes

The key state wide issues identified as part of the review and consultation process are grouped into eight thematic areas. A description of the types of issues considered within each theme are shown in Table 1-1.

Table 1-1 Issue thematic descriptions

Thematic Area	Description
1. Policy & Strategy	<ul style="list-style-type: none"> • Tasmanian policy levers, signals and their support of strategic objectives; and • Alignment with national policies; and • Delivery of national product stewardship schemes.
2. Leadership & Governance	<ul style="list-style-type: none"> • The roles and responsibilities of government organisations to lead/champion and deliver a new state strategy; and • Providing greater transparency to the performance of waste and resource recovery system.
3. Evidence Base	<ul style="list-style-type: none"> • The quality, timeliness and accessibility of data used to inform decision making and measure performance.
4. Infrastructure Planning	<ul style="list-style-type: none"> • Planning for the future need for residual waste disposal and resource recovery infrastructure.
5. Resource Recovery	<ul style="list-style-type: none"> • Opportunities to improve resource recovery including infrastructure, services and programs to support the recovery of priority materials.
6. Industry Support	<ul style="list-style-type: none"> • Enabling industry to generate less and recover more waste; and • Supporting the expansion of the market for recovered resources and products derived from recovered resources.
7. Community Engagement	<ul style="list-style-type: none"> • Assisting the community to reduce the waste they generate and to effectively use the resource recovery system.
8. Public Health & Environment	<ul style="list-style-type: none"> • Reducing risk and/or negative impact of waste and waste management practices on public health and the environment; and • The capacity of the EPA to improve regulatory compliance.

2. Current statewide waste Issues

The new TWRMS provides an opportunity to rephrase the classic linear model of waste and resource management and to embrace the concept of a circular economy whereby materials are kept in circulation through reuse and recycling, industrial symbiosis and other efforts to divert materials from landfill.

The circular economy vision provides for greater jobs and investment in resource recovery and directly addresses a potential future state where increasing waste generation might outstrip improvements in landfill diversion rates. A range of issues and barriers have been identified as gaps which if addressed would support this vision

2.1 Policy & Strategy

The issues discussed in this section relate to:

- The need for additional policy levers e.g. landfill levies and/or bans;
- The alignment of state policies with national policies and implementation of product stewardship schemes; and
- The need for stronger policy signals e.g. strategies, objectives and targets.

2.1.1 Landfill levy

The lack of a statewide landfill levy has created a market environment where resource recovery has a limited capacity to compete with landfill. The low landfill diversion rates in Tasmania result in a low economic benefit from the waste and recycling sector and the loss of the value of recoverable resource. Resource recovery operations employ more people and require greater investment in infrastructure per tonne of material processed compared to landfills.

Due to low landfill pricing in Tasmania, there is a financial barrier to recycle, invest in resource recovery and implement practices which reduce waste generation. Regional/local government levies are not adequate to significantly encourage investment in resource recovery. Additionally, these are applied inconsistently across the state, and consequently waste is being transported greater distances than necessary in order to realise gate fee savings. In some instances, long term contracts are a barrier to regional/local government landfill operators implementing and/or altering levies.

The absence of strict planning and regulatory controls for the development and operation of privately operated inert landfills means that the establishment of these landfills is not limited. These facilities do not collect levies, and provide a market barrier to the implementation of relatively low cost and simple recovery processes for C&D material at regional and local government operated landfill facilities.

Action 1.1	Timeframe	Priority
Introduce a landfill levy for material disposed at all Tasmanian landfills.	Immediate	High

2.1.2 Performance indicators and targets

The new Tasmanian Waste and Resource Management Strategy provides an opportunity to establish objectives, performance indicators and statewide targets which reflects the degree of transparency, commitment to and investment in waste and resource recovery objectives by the state and the vision of a circular economy.

Measuring progress towards circular economy requires a rethink of the traditional indicators and the evidence base required. Whilst it will be essential to ascertain how materials are kept in circulation through reuse and recycling, industrial symbiosis and other efforts to divert materials from landfill it is also important to recognise and measure the economic benefits such as the greater jobs, investment in resource recovery and productivity improvements.

The current absence of data and targets inhibits comparison of performance of regions and municipalities against state objectives and/or to identify a need for support or targeted programs.

As a minimum data management systems and resources to collect, quality check and disseminate data are required to establish statewide waste baseline data (e.g. waste generation and recovery rate) and to monitor against performance targets.

Action 1.2	Timeframe	Priority
Working towards a circular economy - establish clear objectives, performance indicators and targets for waste and resource recovery.	Immediate	High

2.1.3 National Waste Policy and product stewardship schemes

A clear policy commitment is required to evaluate and implement national product stewardship schemes which provide a cost/benefit to the state. State leadership, support and co-ordination is required to ensure the success of extended producer responsibility programs.

A lack of state government advocacy and support for implementation of national product schemes has resulted in additional costs to local government and poor outcomes for the state. For example, Local Governments are shouldering a significant cost burden to support the National Television and Computer Recycling Scheme. Similarly, the National Container Deposit Scheme (CDS) has been modelled to provide a significant benefit to Local Government in Tasmania, \$28m NPV³, but requires the commitment and support of the state government to implement.

Action 1.3	Timeframe	Priority
Support statewide implementation of national product schemes where there is cost benefit to Tasmania e.g. Container Deposit Scheme and the TV and Computer Recycling Scheme.	Short term	Medium

³ Cost Benefit Study of a Tasmanian Container Deposit System – Final Report, Marsden Jacob (2014)

2.1.4 Organics Strategy

Organics is the largest category of potentially recoverable material currently in the residual waste stream. Up to 60% of the kerbside waste bin content has been identified as organics. Over 244,000⁴ tonnes of organic waste was generated in Tasmania in 2010/11, and in excess of 180,000 tonnes of this was landfilled, approximately 75%.

This is a common issue faced in all jurisdictions and represents environmental, economic and public health issues for the state and in turn an opportunity to increase organics recovery for beneficial use. For example, new irrigation schemes coming online in Tasmania, the dairy, fruit, wine and vegetable production and processing sectors will likely expand the amount of organic waste material sourced from the industrial sector but also present an ideal market for recovered organic material. The recovery of organic material is a complex system and requires the alignment of a range of factors including:

- Supply chain and feedstocks (e.g. kerbside systems, contamination);
- Logistical support- transfer station network for the consolidation of material;
- Processing facility gate fees comparative to landfill;
- Public health and environmental risks from transportation and processing;
- Appropriate siting and community acceptance of new organics facilities; and
- Market development to develop and promote recycled organics products to viable markets.

Action 1.4	Timeframe	Priority
Develop a Tasmanian organics strategy to support an increase in the recovery of organic material.	Short term	High

2.1.5 Landfill bans

A number of waste streams present a public health and environmental risk or greenhouse gas impact when landfilled, e.g. e-waste and organics. Investment in alternative processing methods, in particular for e-waste, is currently not viable and unlikely to result without government intervention.

The precedent of landfill bans has been established for some materials, such as whole tyres, and are an alternative to imposing levies, e.g. the pending implementation of an e-waste ban in Victoria. Similarly, other priority materials such as organics, due to degradation and emission characteristics when placed in landfill, have been banned in the UK and flagged for possible future bans in other jurisdictions if landfill diversion objectives are not achieved.

2.1.6 Energy from waste (EfW)

Tasmanian lacks a policy and/or guidelines for how the Environment Management and Pollution Control Act, associated policies and regulations are applied to the assessment of proposals that recover Energy from Waste (EfW). Industry, government and the community are lacking high level guidance on the EPA's expectations and requirements for the siting, design, construction and operation of EfW facilities.

⁴ Waste generation and resource recovery in Australia 2010/11, DSEWPaC (2014)

Action 1.5	Timeframe	Priority
Establish an energy from waste policy and guidelines.	Long term	Low

2.2 Leadership and Governance

The issues discussed in this section relate to the need for new organisations or the reform of the structure, function, roles and responsibilities of existing government organisations.

2.2.1 Statewide oversight TWRMS

A new TWRMS requires an organisation to lead and provide oversight of the implementation of the strategy and funding to deliver programs and or strategic actions. Tasmania does not have a dedicated body with capacity to provide advice on statewide waste issues to the Tasmanian Government, which has the resources to deliver statewide programs. For example, Sustainability Victoria, Green Industries South Australia and the Western Australian Waste Authority all have a strategic planning and program delivery roles with guaranteed core funding hypothecated from a landfill levy.

Action 2.1	Timeframe	Priority
Establish a Tasmania wide organisation to lead and implement state waste and resource recovery strategies.	Immediate	High

2.2.2 Regional groups

The three waste management groups generally have a common purpose however their governance arrangements differ significantly across the state as does their function, resources and funding sources. Currently regional activities focus primarily on the waste generated from the Municipal Solid Waste (MSW) sector as it is the focus of and directly within the sphere of influence of their member councils.

Delineating between function, roles and responsibilities of the regional groups and State government would support greater collaboration and coordinated delivery of statewide strategies and programs. The introduction of a landfill levy would provide an opportunity for a funding source for the groups and scope to broaden their capability to support collaborative procurement activities for waste infrastructure and services as well as to focus on the recovery of materials from industrial sources.

Action 2.2	Timeframe	Priority
Clearly define the functions, roles and responsibilities of regional groups and state government organisations to support state waste and resource recovery strategies.	Short Term	High

2.2.3 Transparency of landfill operations

Many local governments have fully accounted for landfill lifetime costs in their landfill gate fee to ensure the liability for rehabilitation, after care and asset replacement are taken into account in

landfill gate fee pricing. However differing approaches have been used and not all waste management facilities are structuring gate fees on a full users pay basis, an underlying principle of the TWRMS. Artificially low landfill gate fees at council operated facilities are a barrier to investment in resource recovery, create a competitive neutrality issue between private and public sector operators and can result in waste travelling greater distances than is necessary.

Action 2.3	Timeframe	Priority
Develop standard accounting practices for the “Full life” costing of landfills.	Short Term	High

Similarly, differing levels of transparency are provided across private and public sector managed landfill in terms of public disclosure and reporting environmental performance and the impact on neighbouring communities.

Action 2.4	Timeframe	Priority
Require greater transparency of the environmental performance standard of all landfills through reporting requirements and public disclosure.	Short Term	High

The consolidation and or sharing of larger regional facilities between councils presents an opportunity to provide efficiency gains and opportunities for greater resource recovery. Greater transparency on cost and environmental performance of public sector landfills may encourage the early closure and /or mothballing of smaller landfills which in turn may provide contingency landfill airspace with the system.

2.3 Evidence base

The issues discussed in this section relate to the collection, quality, timeliness and accessibility of data used to inform decision making and measure performance.

2.3.1 Statewide waste and resource recovery data

Accurate and readily available state waste data is required to establish a baseline to inform decision making and to monitor and evaluate the effectiveness of strategies and program delivery. Key annual state indicators collected on a statewide basis in other jurisdiction include:

- Waste generation;
- Residual waste landfilled; and
- Materials reprocessed; and
- Quantities of material types landfilled and recovered.

A state based waste data management system is required to enable collection of waste data, analysis an evaluation of progress against state strategy objectives.

Action 3.1	Timeframe	Priority
Implement a state waste data management system to record and report landfill disposal and resource recovery.	Immediate	High

2.3.2 Controlled waste

A system to monitor and report on the movement of controlled wastes from the producers (consignors) to approved treatment, resource recovery or disposal facilities is yet to be implemented. Feedback suggest that stockpiles of controlled wastes are occurring illegally across the state.

Action 3.2	Timeframe	Priority
Implement a system to monitor and report on the movement of controlled wastes.	Immediate	High

2.3.3 Local government data

Waste data is not being recorded in a standardised manner across local government waste facilities for example:

- Definitions of type, quantity of material and units of measure; and
- Destination of material (i.e. landfill vs recovery)

Smaller landfill facilities may not have weighbridges and/or mechanisms to collect and report accurate data. Standardised collection methods and a statewide reporting system of council waste services are required to support the decision making for investment in upgrades and/or improvements to services.

Action 3.3	Timeframe	Priority
Support standard waste and resource recovery data collection and reporting by local government.	Short Term	High

2.4 Infrastructure planning

The issues discussed in this section relate to planning for the future need for residual waste disposal and resource recovery infrastructure for example due to population and economic growth, emergency events and/or natural disasters.

2.4.1 Planning for the future

The capacity of existing waste and resource recovery infrastructure across the state is unknown and the future requirements to manage the expected volume and mix of waste resulting from population and economic growth have not been established.

2.4.1.1 Planning

Waste management facilities and/or precincts which exist which are critical to the state for the operation of the statewide waste management system need to be identified. Planning for the ongoing use of these precincts is required to mitigate the risk from future urban encroachment and enable expansion and or new developments to occur at these sites. Similarly, the impact on neighbouring communities and their social license to operate requires assessment to determine the future suitability of these sites.

2.4.1.2 Statewide landfill scheduling

Whilst at a local government and regional level the available landfill airspace and life of landfills is known the overall statewide capacity and impact of inter-regional material flows are unknown. The

future need and timing for the provision of additional future airspace within the statewide landfill network is unknown.

2.4.1.3 Contingency arrangements

Statewide contingency plan arrangements for waste management in the instance of restricted access to key waste management assets do not exist. Similarly, the impact of waste resulting from emergency events on the transfer station network and available landfill airspace is unknown.

Action 4.1	Timeframe	Priority
Develop a Tasmanian waste and resource recovery infrastructure plan that provides a roadmap to meet the future waste disposal needs and resource recovery objectives of the state.	Immediate	High

2.4.2 Transfer station network

Local government transfer stations play a critical role in realising efficiency in consolidation and transport of waste for disposal and resources for recycling and/or reprocessing. The consolidation and or sharing of larger regional facilities between councils presents an opportunity to remove duplication and provide efficiency gains and opportunities for greater resource recovery. However, there may be a reluctance at community and council level to reduce the number and availability of transfer stations.

Action 4.2	Timeframe	Priority
Support development and upgrade of local government transfer stations facilities to improve efficiency and capacity of the transfer station network.	Short Term	Medium

2.5 Resource recovery

The issues discussed in this section relate to existing deficiencies in the current resource recovery system including infrastructure, services and programs to support the recovery of priority materials.

The role of local government is critical in the Tasmanian waste and resource recovery system as it provides essential kerbside collection services and operates nearly all the infrastructure in the absence of private sector participation. The ratio of public owned waste infrastructure to private sector is significantly higher in Tasmania than in other jurisdictions hence supporting local government waste and resource recovery operations is a priority.

2.5.1 Optimising council kerbside systems

Communities are demanding upgraded kerbside collection services from councils, and significant environmental benefits can result from the expansion of kerbside systems to include organics and yield more recyclables. The diversion rate of the current kerbside system is restricted by the ability to recover organic material, in particular food organics from the residual waste bin. Whilst improvements may be made through universally adopting smaller 80L or 120L garbage and 240L recycling bins, a step changes would result if councils were supported to implement kerbside organic collection either as garden organics (GO) or the combination of food organics and garden organics (FOGO).

Councils require information and tools to assess the costs and benefits to their communities of new kerbside services and support to implement best practice collection systems.

Action 5.1	Timeframe	Priority
Support councils to implement best practice kerbside bin systems and organics collections that service the needs of their communities.	Immediate	High

2.5.2 Best practice local government resource recovery facilities

All regions have identified a need for the assessment of the operation of transfer stations to best practice. The upgrade of facilities and the transfer station network, in particular smaller sites, is required in order to improve usability and site safety, recover more materials of differing types and improve site management including data collection.

Action 5.2	Timeframe	Priority
Support the upgrade existing local government resource recovery centres/transfer stations to best practice and recovery of specific materials e.g. colour sorted glass and mattresses.	Immediate	High

2.5.3 Organics

The introduction of new kerbside organics collection systems is dependent on the capacity of organics processing infrastructure and development of end markets for recycled organics. Incentives which support the investment in new and/or expanded facilities that will support the kerbside system and /or process other organic wastes which are currently going to landfill are required.

Action 5.3	Timeframe	Priority
Support investment in organics processing infrastructure.	Short Term	High

2.5.4 Industrial waste

Relatively low diversion rates are reported from the industrial sector in Tasmania, attributed to limited market development, unregulated inert facilities, retrieval inefficiencies, a lack of centralised processing and quality control/contamination. However, the C&D sector in particular, presents a significant opportunity for the recovery of materials from industrial sources at landfill sites. For example, using separate drop off zones at the landfill and rudimentary sorting processes to separate concrete, metals, timber, cardboard, plasterboard and other recyclables.

Action 5.4	Timeframe	Priority
Support the investment in industrial waste sorting - in particular construction and demolition waste.	Short Term	High

2.5.5 Other Priority Materials

The absence of baseline data inhibits a detailed analysis of the quantity and source of materials being landfilled across the state. However, common issues particularly with regards to problematic materials such as Tyres, Household Hazardous Waste and glass are prioritised as they have been identified as problematic across the state.

2.5.5.1 Household Hazardous Waste (HHW)

It is costly and inefficient for local government and the three regions to implement HHW programs due to economies of scale. A centralised arrangement for a state wide network of permanent drop-off sites for High Volume Low Toxicity (HVLTL) items such as paint, batteries, gas bottles, fluoro tubes and aerosols, would allow for greater economies of scale. This would reduce the cost per kilo for transport and treatment and provide greater opportunity for direct reuse (e.g. paint) via resource recovery operations. Similarly, state wide promoted and coordinated mobile drop-off services targeting Low Volume High Toxicity (LVHT) materials would ensure greater effectiveness and allow better planning and higher quality of service with reduced overheads.

Action 5.5	Timeframe	Priority
Support a state wide implementation of household hazardous waste collection programs.	Short Term	Medium

2.5.5.2 E-waste

The national TV and Computer Recycling scheme is not operating effectively in Tasmania with local government and regional groups funding the collection and transport costs of e-waste. State leadership, support and co-ordination is required to ensure the success of this and other extended producer responsibility programs, refer Action 1.3.

2.5.5.3 Tyres

In Tasmania, whole tyres are a controlled waste and are only allowed at landfills that have specific approval. However, due to lack of alternatives it is believed that these regulations are not always followed and significant stockpiles presenting both a public health and environmental risk exist. Recent announcements for the investment in tyre shredding and crumbing in both the north and south of the state may provide new pathways for end of life tyres, however orphaned stockpiles will remain an issue.

2.5.5.4 Concrete and bricks

Concrete and bricks from C&D source are being landfilled, often in privately operated inert landfills due to the lower gate fees charged as compared to local government and regionally operated landfills. To address this issue either government support for the investment in sorting processes is required or a combination of a landfill levy and tighter regulatory controls on inert landfills, refer Action 5.4.

2.5.5.5 Glass

The absence of a local glass reprocessor and the lack of infrastructure to colour sort glass to the desired specification has been a barrier to recycling glass collected through the kerbside system in Tasmania. The pathway for resource recovery has traditionally been to lower order civil construction applications or into pavers. Recent investments in colour sorting technologies are enabling export and realisation of a positive value for material collected in the North of the State; local governments could be supported to exploit this opportunity by better sorting coloured glass separately collected at transfer stations, refer Action 5.2.

2.5.5.6 Mattresses

Mattresses are problematic in landfill by taking up valuable airspace and potentially damaging compacting equipment. In the absence of a product stewardship arrangement or the private sector providing a service, local government and regional groups are being forced to implement mattress

stripping infrastructure. Infrastructure could be accommodated at transfer stations, refer Action 5.2.

2.6 Industry Support

2.6.1 Engagement with Industry

The estimated amount of waste diverted from landfill from industrial sources is significantly lower in Tasmania compared with other jurisdictions. To reduce the amount of C&D waste landfilled and improve diversion, the C&D sector requires assistance to decrease waste generation and to implement source separation. Similarly, other industrial waste generators require assistance to use materials efficiently, reuse materials and understand the business case for greater source separated collection, onsite consolidation (baling) and/or processing.

An expansion of resource recovery activities and the industry creates more employment opportunities than landfill disposal and has the potential to further boost the economy through investment and productivity gains.

Action 6.1	Timeframe	Priority
Support industry to use materials efficiently, reuse materials and to understand the business case to improve resource recovery.	Immediate	High

2.6.2 Market Development

Tasmania faces the challenges of geographical isolation and lack of local markets for recycled products. The demand to recycle from the supply side (e.g. kerbside recycling) and a lack of demand for some recovered materials can cause economic, community, environment and public health impacts (e.g. stockpiling of glass fines and tyres). Market development aims to address the challenges and barriers for recovered resources by stimulating the right market conditions. This could be achieved through the development of state wide strategy which guided the implementation of interventions in the areas of:

- Research and development;
- Product specifications;
- Product procurement; and
- Product stewardship.

Developing the market for recovered resources supports the expansion of the resource recovery industry which provides benefits of employment opportunities and economic growth.

Action 6.2	Timeframe	Priority
Develop a Tasmanian market development strategy to increase the market demand for recovered resources and promote investment in recovery of priority materials e.g. organics, tyres and glass.	Short Term	Medium

2.7 Community engagement

Issues discussed in this section relate to waste avoidance, waste reduction and the community effectively using the resource recovery and waste collection system.

2.7.1 Household education

The performance of Tasmanian kerbside recycling system lags behind other states in spite of similar collection arrangements. This suggests there is potential to improve landfill diversion through enhanced community education and promotion of recycling. The effectiveness of recycling awareness programs would be enhanced through increased cooperation and coordination between the state, regional groups and local councils. Similarly, increased involvement with community groups and schools on correct recycling and waste avoidance behaviours would support improvements in household practices.

Whilst, community education programs should address improved recycling practice there is also a need to deliver waste avoidance programs in particular food organics. An example of a state based waste avoidance program delivered in NSW and Victoria is the “Love Food Hate Waste” campaign.

Action 7.1	Timeframe	Priority
Develop a Tasmanian household awareness and waste avoidance program targeting foodwaste.	Immediate	Medium

Action 7.2	Timeframe	Priority
Develop a Tasmania wide schools waste awareness education and accreditation program.	Immediate	Medium

2.8 Public health and environment

Issues discussed in this section relate to the risk of and/or negative impact of waste and waste management practices, regulation and enforcement on public health and the environment.

2.8.1 EPA regulatory enforcement

The implementation and enforcement of regulations is subject to EPA resourcing capabilities. It is claimed by local government and facility operators that EPA resources are limited and regulation is not being evenly enforced. This results in an un-level playing field where operators observing best practice and full compliance are at competitive disadvantage and results in increased environmental risk from poorly managed waste and resource management activities. The introduction of landfill levy would provide an opportunity to bolster the capability of the regulator to provide improved regulation and enforcement activities.

Action 8.1	Timeframe	Priority
Provide additional resources to bolster the capability of the regulator to provide improved regulation and compliance. (e.g. via landfill levy).	Immediate	High

2.8.2 Littering & illegal dumping

Little information is available to consistently measure littering behaviours across the state and to identify hotspots. A combination of standardised practices, data collection and management are required in order to:

- More efficiently evaluate litter and illegal dumping program and interventions at a local

- scale; and
- Support cost benefit analyses to improve local litter prevention projects.

Management of littering and illegal dumping is spread between multiple agencies and stakeholders. Clearer policies are required to clarify the roles and responsibilities and obligation to clean up illegal dumping by differing land managers. Greater state co-ordination and support to deliver programs, clean-up activities and implement enforcement are required.

Action 8.2	Timeframe	Priority
Provide support for state wide coordination of litter and illegal dumping strategies, the responsibilities of and activities by state agencies councils and land managers.	Short Term	High

The national Container Deposit Scheme presents an opportunity to assist council and other agencies to address littering by providing an incentive to the public to either to avoid littering and or collect redeemable containers littered, refer Action 1.3.

2.8.3 Public place recycling

A common issue identified across local government strategies is the need to assess and upgrade public place recycling infrastructure to best practice and/or expand the network of public place recycling bins.

Action 8.3	Timeframe	Priority
Support the upgrade of public place litter and recycling bins to best practice and expand the network of public place recycling bins.	Short Term	Medium

3. Strategy actions summary

The range of initiatives which address Tasmanian statewide waste and resource recovery issues are presented, below in Table 3-1.

Table 3-1 State waste and resource themes and initiatives

Theme	Action Areas	Timeframe	Priority
1. Policy & Strategy	1.1 Introduce a landfill levy for material disposed at all Tasmanian landfills.	Immediate	High
	1.2 Working towards a circular economy - establish clear objectives, performance indicators and targets for waste and resource recovery.	Immediate	High
	1.3 Support statewide implementation of national product schemes where there is cost benefit to Tasmania e.g. Container Deposit Scheme and the TV and Computer Recycling Scheme.	Short term	Medium
	1.4 Develop a Tasmanian organics strategy to support an increase in the recovery of organic material.	Short term	High
	1.5 Establish an energy from waste policy and guidelines.	Long term	Low
Theme	Action Areas	Timeframe	Priority
2. Leadership & Governance	2.1 Establish a Tasmania wide organisation to lead/champion and implement state waste and resource recovery strategies.	Immediate	High
	2.2 Clearly define the functions, roles and responsibilities of regional groups and state government organisations to support state waste and resource recovery strategies.	Short term	High
	2.3 Develop standard accounting practices for the “Full life” costing of landfills.	Short term	High
	2.4 Require greater transparency of the environmental performance standard of all landfills through reporting requirements and public disclosure.	Short term	High

Theme	Action Areas	Timeframe	Priority
3.Evidence Base	3.1 Implement a state waste data management system to record and report landfill disposal and resource recovery.	Immediate	High
	3.2 Implement a system to monitor and report on the movement of controlled wastes.	Immediate	High
	3.3 Support standard waste and resource recovery data collection and reporting by local government.	Short Term	High
Theme	Action Areas	Timeframe	Priority
4. Infrastructure Planning	4.1 Develop a Tasmanian waste and resource recovery infrastructure plan that provides a roadmap to meet the future waste disposal needs and resource recovery objectives of the state.	Immediate	High
	4.2 Support development and upgrade of local government transfer stations facilities critical to the statewide network to improve efficiency and capacity.	Short term	Medium
Theme	Action Areas	Timeframe	Priority
5. Resource Recovery	5.1 Support councils to implement best practice kerbside bin systems and organics collections that service the needs of their communities.	Immediate	High
	5.2 Support the upgrade existing local government resource recovery centres/transfer stations to best practice and recovery of specific materials e.g. colour sorted glass and mattresses.	Immediate	High
	5.3 Support investment in organics processing infrastructure.	Short term	High
	5.4 Support the investment in industrial waste sorting - in particular construction and demolition waste.	Short term	High
	5.5 Support a state wide implementation of household hazardous waste collection programs.	Short term	Medium
Theme	Action Areas	Timeframe	Priority
6. Industry Support	6.1 Support industry to use materials efficiently, reuse materials and to understand the business case to improve resource recovery.	Immediate	High
	6.2 Develop a Tasmanian market development strategy to increase the market demand for recovered resources and promote investment in recovery of priority materials e.g. organics, tyres and glass.	Short term	Medium

Theme	Action Areas	Timeframe	Priority
7. Community Engagement	7.1 Develop a Tasmanian household awareness and waste avoidance program targeting foodwaste.	Immediate	Medium
	7.2 Develop a Tasmanian schools waste awareness education and accreditation program.	Immediate	Medium
Theme	Action Areas	Timeframe	Priority
8. Public Health & Environment	8.1 Provide additional resources to bolster the capability of the regulator to provide improved regulation and compliance. (e.g. via landfill levy).	Immediate	High
	8.2 Provide support for state wide coordination of litter and illegal dumping strategies, the responsibilities of and activities by state agencies councils and land managers.	Short term	High
	8.3 Support the upgrade of public place litter and recycling bins to best practice and expand the network of public place recycling bins.	Short term	Medium

4. Strategy action timeframe

The timetable and priority for the range of initiatives which address Tasmanian statewide waste and resource recovery issues are presented, below in Table 4-1.

Table 4-1 Strategy action timetable

Theme	Action	0-2 Years	2- 5 Years	5 Years +
1. Policy & Strategy.	1.1 Landfill Levy	■		
	1.2 Strategy Targets	■		
	1.3 Nations Product Stewardship Scheme (CDS)		■	
	1.4 Organics Strategy	■		
	1.5 EfW Policy/Guidelines			■
2. Leadership & Governance	2.1. State wide organisation	■		
	2.2 State/regional roles & responsibilities		■	
	2.3 Landfill Costing		■	
	2.4 Landfill Performance reporting		■	
3. Evidence Base	3.1. State wide data management	■		
	3.2. Standard waste collection/reporting	■		
	3.3. Standard waste collection/reporting		■	

Theme	Action	0-2 Years	2- 5 Years	5 Years +
4. Infrastructure & Planning	4.1. State Wide Infrastructure Plan			
	4.2 Transfer Station Network upgrade			
5. Resource Recovery	5.1. best Practice kerbside organics			
	5.2. Best Practice Resource Recovery Centres			
	5.3. Organics Infrastructure Support			
	5.4 Industrial Pre-sort			
	5.5 State Wide Hazardous Household Waste Collection			
6. Industry Support	6.1. Business Onsite Resource Recovery Support			
	6.2 Tasmanian Market Development Strategy			
7. Community Engagement	7.1 Household Waste Avoidance Program			
	7.2 Tasmanian Schools Waste Education			

Theme	Action	0-2 Years	2- 5 Years	5 Years +
8. Public Health & Environment	8.1 Bolster EPA Resources			
	8.2 Litter & Illegal Dumping Support			
	8.3 Public Place Recycling Upgrades			

Legend:

Priority	Colour Coding
High – Blue with Grid	
Medium – Blue	
Low - Light blue	