NRM SOUTH
NATURAL RESOURCE MANAGEMENT

TasWaste South

Circular Economy Opportunities in Southern Tasmania's Primary Industries





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NRM South acknowledges the Traditional Owners of the land and seas of Lutruwita (Tasmania) on which we live and work. We recognise their strength, resilience and ongoing connection to land, water, culture and community and pay our respects to Elders, past and present.

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1 Executive Summary

Executive Summary

Southern Tasmania's agriculture, aquaculture and forestry sectors generate a diverse range of waste and residual materials that are critical to regional economic activity but often fall outside traditional waste management systems. While many materials are already reused, repurposed or managed through informal networks, consultation undertaken for this project identified ongoing challenges associated with difficult-to-recover materials, fragmented recovery pathways, limited infrastructure, transport costs and uncertain end markets.

This project was commissioned by TasWaste South to better understand the waste and resource recovery challenges facing Southern Tasmania's primary industries and to identify opportunities to improve circular economy and waste management outcomes across the region. The project involved stakeholder consultation with producers, industry representatives, waste and resource recovery operators, government agencies, researchers and regional organisations, supported by a review of existing initiatives, programs and available data.

The findings indicate that waste management challenges are not primarily driven by a lack of willingness among producers. Rather, they are shaped by a combination of economic, logistical and structural constraints. Across all sectors stakeholders consistently emphasised that waste management decisions are largely determined by cost and access to reliable services. Where recovery pathways are expensive, inconvenient or uncertain, stockpiling, burning or landfill disposal often remain the most predictable options.

Several priority material streams were identified through consultation including agricultural plastics, aquaculture infrastructure materials, organic residuals, forestry biomass and treated or composite materials. However, the assessment found that these materials differ significantly in their recovery potential and strategic priorities.

Organic materials, including agricultural by-products, hatchery sludge and forestry biomass, represent some of the strongest near-term circular economy opportunities. These materials already possess recognised value within production systems and offer potential to retain economic value within regional supply chains through nutrient recovery and value-added processing.

In contrast, materials such as silage wrap, ropes, nets and other agricultural and aquaculture plastics remain constrained by transport economics, contamination and limited processing capacity. Consultation highlighted that for many of these materials the immediate opportunity is not necessarily local processing infrastructure but improved coordination, stewardship arrangements, aggregation systems and stronger connections to existing mainland recovery markets.

A key finding of the project is that many waste management challenges are systemic rather than material specific. Stakeholders repeatedly identified fragmented information, limited visibility of material flows, weak coordination between organisations and uncertainty regarding available pathways as barriers that affect multiple waste streams simultaneously. As a result, investment in coordination, data, partnerships and capability building may deliver greater regional benefits in the near term than investment in standalone infrastructure projects.

The project identified five strategic opportunities to improve waste and resource recovery outcomes across Southern Tasmania:

- strengthening regional coordination and collaboration across primary industry sectors
- improving visibility of material flows and resource recovery opportunities
- developing practical pathways for difficult-to-recover materials
- increasing producer capability, confidence and participation and
- leveraging emerging policy, stewardship and circular economy investment opportunities.

> Stakeholders repeatedly identified fragmented information, limited visibility of material flows, weak coordination between organisations and uncertainty regarding available pathways as barriers that affect multiple waste streams simultaneously.

These opportunities provide a framework for progressing circular economy outcomes while recognising the realities of Southern Tasmania's scale, geography and economic conditions.

Importantly, the findings suggest that future success will depend on understanding which materials are best managed locally and which are better integrated into national recovery systems. For some materials, local processing and reuse may offer significant economic and environmental benefits. For others, including many plastics, the most viable pathway may involve aggregation, collection and transport to established processing markets elsewhere in Australia. To support this transition, the report recommends a staged approach focused on three strategic priorities:

1. Build the enabling system through improved coordination, waste education and stronger integration of primary industries into regional waste planning.
2. Improve producer capability and participation through practical information sharing and demonstration projects.
3. Develop material pathways and circular economy markets by strengthening stewardship engagement, supply chain collaboration and identifying procurement opportunities and value chain collaboration.

Collectively these recommendations recognise that improving waste outcomes across Southern Tasmania's primary industries is not simply a matter of building new infrastructure. It requires stronger collaboration across the value chain, better information, improved market signals and coordinated investment in the systems that enable resource recovery.

Southern Tasmania is well positioned to build on existing momentum. The region contains a diverse primary production base, strong industry networks and growing interest in circular economy approaches. By focusing on coordination, market development, strategic investment and practical collaboration the region has an opportunity to improve resource recovery outcomes, strengthen regional resilience and retain greater value from materials that are currently lost through disposal.



Tourism Tasmania & Nick Osborne





2

Introduction

2.1 Context

Primary industries are fundamental to Southern Tasmania's economic prosperity, regional identity and environmental stewardship. Agriculture, aquaculture, fisheries and forestry underpin employment, exports and food production while also managing extensive land, freshwater and marine environments across the region. These sectors generate large and diverse volumes of materials, by-products and residuals that move through complex and often extended supply chains beyond farm, forest and coastal production systems.

Primary industries also play a critical role in managing natural systems upon which production depends. Decisions relating to waste and resource recovery can influence broader outcomes for soil health, water quality, biodiversity and climate resilience. Circular economy approaches also present an opportunity for more sustainable production systems across Southern Tasmania.

As Tasmania advances its transition towards a more circular economy, increasing attention is being directed towards how these material flows can be better understood and leveraged. Materials traditionally treated as waste, including agricultural plastics, aquaculture infrastructure, organic residuals, forestry biomass, oyster shells, scrap metals and treated timber, are increasingly being recognised as potential resources capable of supporting new value creation, reducing environmental pressures and improving resource efficiency across regional supply chains.

Internationally, primary production sectors are becoming central to circular economy strategies, with governments and industries investing in systems that recover nutrients, extend material life, reduce dependency on virgin inputs and create value from by-products. These shifts are being driven not only by environmental objectives but also by competitiveness pressures, supply chain resilience considerations and increasing demand for secondary and bio-based materials.

Within Southern Tasmania there is growing but uneven momentum across this agenda. The introduction of the landfill levy, emerging product stewardship schemes, targeted funding programs and increasing industry-led sustainability initiatives are collectively reshaping the conditions under which waste and resource recovery systems operate. These changes, together with increasing interest in resource security, rising disposal costs and growing demand for recovered materials, are creating new opportunities for materials that were previously considered uneconomic or impractical to recover.

Despite this evolving policy and market context, primary industry material streams remain less visible within traditional waste and resource recovery planning frameworks, which have largely evolved around municipal, commercial and industrial waste systems. This is compounded by the absence of consistent reporting and data collection on primary industry waste and residual materials. As a result, many materials generated across farms, forests, processing facilities and aquaculture operations remain poorly quantified, existing circular practices are inconsistently documented and opportunities for improved recovery and value creation are not well understood at a regional scale.

Strengthening understanding of these material flows, existing practices and system conditions provides an opportunity to improve coordination between producers, processors, councils, service providers and emerging circular economy markets to better align future investment and planning with the realities of primary production systems.



2.2 The Problem

Despite increasing national and state-level focus on circular economy approaches, Southern Tasmania's primary industry waste and resource recovery system remains fragmented, unevenly understood and lacks functional integration into regional planning and investment processes.

Primary industries materials and by-products are diverse, geographically dispersed, and currently managed through a varied and inconsistent combination of informal practices, individual business solutions and limited formalised service pathways. While many effective recovery and reuse practices already exist they are not consistently visible within regional systems making it difficult to understand overall material flows or identify where system-level improvements could have the greatest impact.

This creates several interrelated challenges:

- Limited visibility and understanding of material flows across primary industries reducing the ability to plan infrastructure, target investment or identify scalable opportunities
- Fragmented and uneven recovery pathways with accessibility and viability varying significantly by material type, geography and industry sector
- Economic and logistical barriers to circularity including transport costs, scale limitations, contamination issues and gaps in processing and end-market developments

These constraints mean that while individuals are often actively working to improve outcomes, system-wide progress tends to be incremental, disconnected and difficult to scale. Opportunities for coordination, shared infrastructure and value recovery across sectors are frequently not realised.

Addressing these challenges requires improved visibility of material flows, stronger integration of primary industry perspectives into waste and resource recovery planning and coordinated engagement across producers, processors, councils, service providers and emerging circular economy initiatives.



2.3 Project Purpose

This project was commissioned as a collaborative initiative between TasWaste South and NRM South to improve understanding of waste management challenges and circular economy opportunities across Southern Tasmania's primary production sectors.

TasWaste South has a central role in coordinating strategic waste and resource recovery planning across Southern Tasmania's twelve councils, supporting regional collaboration, infrastructure planning and circular economy initiatives. NRM South works extensively with primary producers, industry groups and regional stakeholders across agriculture, aquaculture, fisheries and forestry with established networks spanning land, freshwater and marine systems.

The project was initiated in recognition that, while primary industries generate significant volumes of materials, by-products and residuals, comparatively limited attention has been given to understanding how these materials flow through systems, where value is lost or retained, and where practical recovery opportunities may exist.

The purpose of this project is to provide a systems-based understanding of primary industry waste streams, resource recovery pathways and circular economy opportunities in Southern Tasmania to inform future regional planning, partnership development and investment decisions.

The project specifically aimed to:

- Identify and characterise key waste and residual material streams across agriculture, aquaculture and forestry
- Document current management, reuse, recovery and disposal pathways
- Identify barriers and constraints to improved circular economy outcomes
- Highlight existing initiatives and emerging opportunities for value recovery and collaboration
- Support future regional planning, investment prioritisation and partnership development

It also supports broader regional development objectives by exploring opportunities to retain greater value from materials already circulating through Southern Tasmania's primary industry supply chain.

This project is intended to inform decision-making rather than provide definitive quantification of all waste streams. It provides a qualitative, systems-based understanding of current conditions, recognising that data availability varies significantly across sectors and material types.



Strategic alignment

This project directly supports priorities in the TasWaste South Strategic Plan, particularly in relation to improving waste data and material visibility, strengthening planning for hard-to-manage materials, informing regional infrastructure investment, and supporting coordinated action on priority waste streams. It also aligns with the Plan's emphasis on collaboration, partnership development, and practical education and engagement across the regional waste and resource recovery system.

From an NRM South perspective, the project also strongly aligns with the intent and direction of Southern Tasmania's Regional NRM Strategy 2030, particularly its focus on integrated landscape-scale outcomes, sustainable production systems, and strengthening the resilience of Tasmania's natural assets through collaborative, cross-sector action. Primary industries sit at the centre of this interface between productive landscapes and environmental systems and their material flows are directly linked to soil health, water quality, biodiversity outcomes and long-term land use sustainability.

Importantly, this work provides a practical evidence base to inform future review and refinement of the NRM Regional Strategy, particularly in relation to how circular economy approaches can more explicitly support natural resource outcomes, regional resilience, and sustainable production systems.

It strengthens the connection between NRM South's mission and emerging resource recovery and circular economy agendas, ensuring environmental stewardship objectives are grounded in the real material systems operating across agriculture, aquaculture and forestry.

Partnership intent

The project reflects a collaborative partnership between TasWaste South and NRM South, combining regional waste planning leadership with deep engagement across primary industries and natural resource management networks.

It establishes a shared foundation for ongoing collaboration between councils, industry, government agencies, research organisations and service providers, recognising that improved circular economy outcomes cannot be delivered by any single organisation or sector.

The intent of this work is therefore not only to inform immediate planning and project development, but to strengthen the enabling conditions for sustained collaboration, targeted investment and future regional initiatives that improve resource recovery and circular economy outcomes across Southern Tasmania's primary industries.

2.4 Scope and Limitations

This project was not intended to generate comprehensive waste generation estimates for all primary industry sectors. Instead, it was designed to identify priority waste streams, understand current management practices, document stakeholder perspectives and identify opportunities for future investigation, planning and investment.

Quantitative data availability varied considerably between sectors, material types and waste streams. This reinforces the importance of combining existing datasets with industry knowledge and operational experience to build a more complete understanding of regional material flows and recovery opportunities.

2.5 Approach

A mixed-methods approach was used combining desktop research, stakeholder engagement, and regional waste system analysis. Recognising that many primary industries waste streams are not comprehensively captured within existing datasets, the project combined available evidence with stakeholder knowledge and operational experience to identify both sector-specific issues and broader system-level themes. The approach was designed to build an understanding of current status of material flows, management practices, infrastructure, markets and opportunities across Southern Tasmania's primary industries.

Findings from the literature review, stakeholder engagement and regional waste system analysis were assessed collectively to identify recurring themes, priority material streams, common barriers and emerging opportunities



Desktop research and literature review

A review of relevant literature, industry reports, policy documents and existing datasets was undertaken to establish a baseline understanding of waste generation, resource recovery and circular economy activity across agriculture, aquaculture and forestry sectors. The review included:

- National and state waste strategies and data, including the National Waste Policy Action Plan, and the Tasmanian Government Waste and Resource Recovery Strategy[1]
- Industry reports relating to agriculture, aquaculture, and forestry (including AgriFutures Australia reports on agricultural waste, plastics, and innovation, WineAustralia vineyard waste, Seafood Industry Australia, and Dairy Australia)
- Existing research on agricultural plastics, organics, and other priority waste streams, including work undertaken by CSIRO and the University of Tasmania
- Product stewardship schemes and recycling initiatives (e.g. drumMUSTER, Agsafe, Planet Ark, APCO, Tyre Stewardship Australia)
- Regional waste and resource recovery plans from Southern Tasmanian council waste strategies and economic development
- The Australian Bureau of Statistics' Waste Account and relevant state-level data
- Relevant sustainability, waste and circular economy initiatives being undertaken by industry and major businesses operating within the region.

Interstate and international case studies were also reviewed to identify approaches that may have application within Southern Tasmania.

Stakeholder engagement

Stakeholder engagement was a central component of this project, providing critical insight into the practical realities, challenges and opportunities associated with waste management and circular economy initiatives across Southern Tasmania's primary industries.

The project adopted a collaborative and evidence-based approach drawing on the expertise of primary producers, industry representatives, waste and resource recovery operators, government agencies, local government and circular economy practitioners. Engagement was designed not only to gather information but to validate findings, identify emerging opportunities and ensure that recommendations reflected regional conditions and industry needs.

Stakeholders consulted throughout the project included:

- Primary producers across agriculture, aquaculture, viticulture and forestry sectors
- Industry bodies and representative organisations
- Waste service providers, recyclers and processors
- Tasmanian Government agencies
- Regional and non-government organisations
- Sustainability and circular economy practitioners; and
- Local government representatives across Southern Tasmania's twelve councils.

1 This project was undertaken prior to the release of the Draft Tasmanian Waste and Resource Recovery Strategy 2026–2030 and therefore references the strategy framework available at the time of assessment.

Local government engagement included Brighton, Central Highlands, Clarence City, Derwent Valley, Glamorgan Spring Bay, Glenorchy City, Hobart City, Huon Valley, Kingborough, Sorell, Southern Midlands and Tasman Councils.

Recognising the diversity of industries, business sizes, locations and operational contexts across the region, a range of engagement methods were employed throughout the project. These included:

- One-on-one interviews and informal discussions with primary producers and key stakeholders
- Targeted discussions with key industry stakeholders and specialist organisations
- An online survey seeking input on waste management practices, barriers and circular economy opportunities

Consultation focused on understanding:

- waste streams generated across primary industry operations
- current management and disposal pathways
- seasonal patterns and operational considerations
- infrastructure availability and service access
- economic and logistical barriers
- existing reuse and recovery practices
- previous initiatives and lessons learned
- opportunities for collaboration, circularity and future investment

A key methodological insight from the engagement process was that participation and depth of insight varied depending on the engagement format. One-on-one and targeted discussions were particularly effective in eliciting detailed operational knowledge and candid feedback from primary producers, reflecting the time constraints and sector-specific nature of many businesses.

Partnership-based delivery

This project was delivered in partnership between NRM South and TasWaste South, reflecting a shared commitment to improving waste management outcomes and advancing circular economy opportunities in Southern Tasmania's primary industries.

The project builds on established collaboration between the two organisations, combining TasWaste South's role in regional waste and resource recovery across local government with NRM South's long-standing engagement across primary industries and regional natural resource management networks.

Consistent with this partnership approach, the project was designed to support early engagement, shared learning and collaborative problem-solving. Stakeholders were engaged as contributors to identify opportunities, test findings and shape practical recommendations. This ensured the project reflected regional realities, recognised existing initiatives and investments and identified practical opportunities for future collaboration across sectors.







3

Southern Tasmania's Waste and Resource Recovery Landscape

Southern Tasmania's primary industries operate within a geographically dispersed and structurally fragmented waste and resource recovery system.

Agriculture, aquaculture, and forestry production systems span coastal, peri-urban, and remote inland environments, with material flows moving through long and complex supply chains. While production systems have modernised and intensified over time, waste and resource recovery systems have evolved more incrementally. As a result, many primary producers now manage diverse material streams through a patchwork of formal services, informal arrangements, and on-site practices.

TasWaste South plays a coordinating role across Southern Tasmania and its twelve councils, supporting regional waste planning, infrastructure coordination, and circular economy initiatives. This regional function is particularly important for primary industry waste streams, which frequently:

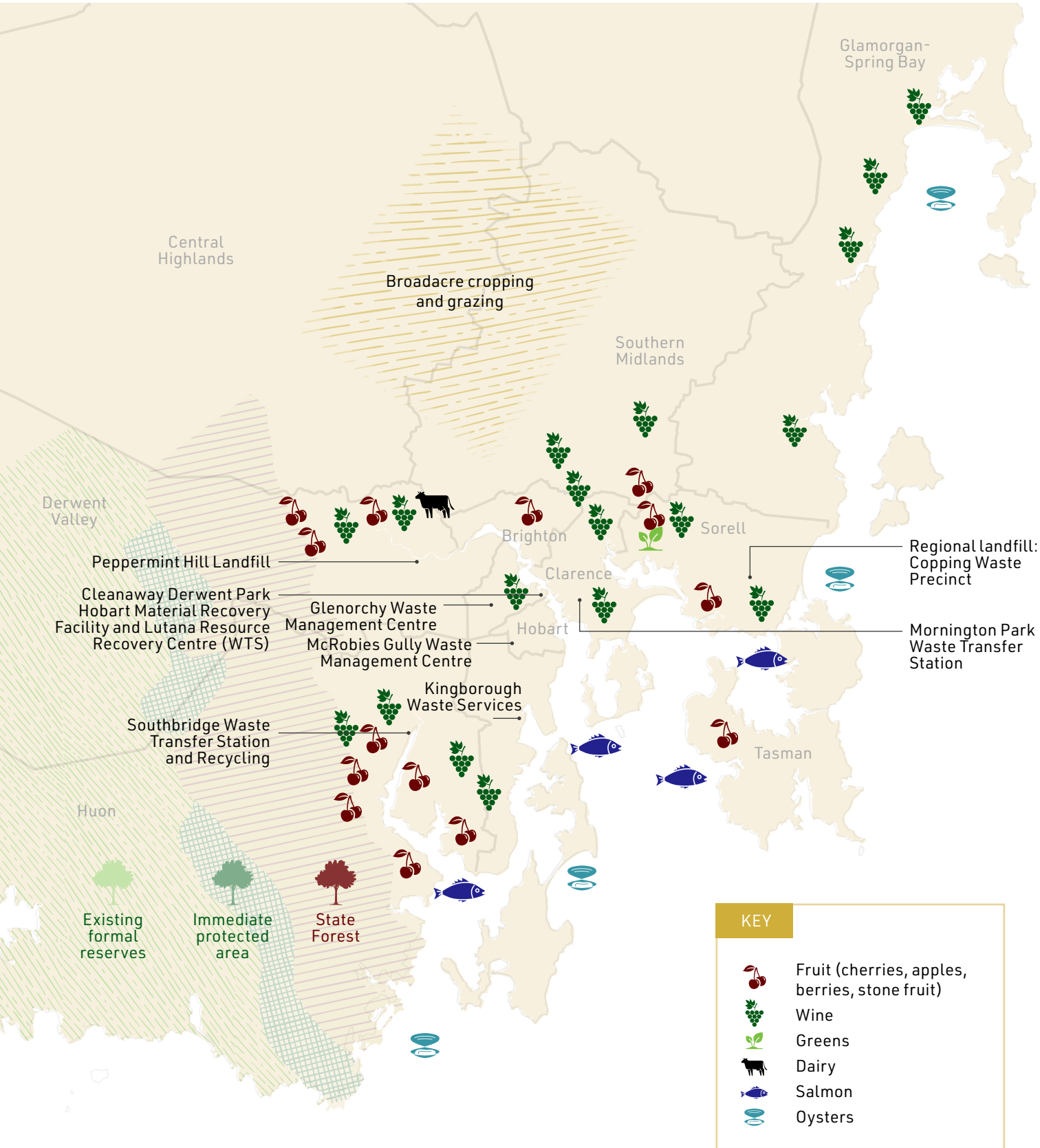
- cross municipal boundaries
- rely on transport-intensive logistics
- depend on aggregation to achieve viability
- fall outside standard municipal waste systems

Access to waste and recovery services is inconsistent across the region. Producers closer to urban centres generally benefit from better access to transfer stations, contractors, and specialist recyclers, while more remote operations face higher transport costs and fewer economically viable recovery pathways. These structural differences strongly influence disposal decisions and recovery behaviours.

The introduction of the Tasmanian landfill levy is beginning to shift disposal economics for some waste streams. However, many primary industry materials are managed outside formal waste systems through on-farm reuse, storage, or other practices, meaning levy impacts will vary considerably between sectors and materials. Increasing disposal costs may strengthen incentives for recovery where practical alternatives exist, but access to affordable collection, processing and end markets remains critical.



FIGURE 1: Primary production and waste management in southern Tasmania



3.1 Infrastructure and resource system overview

A key feature of the regional system in southern Tasmania is that recovery infrastructure is functional but not fully integrated with primary industry material streams.

Recovery pathways exist across multiple infrastructure types including landfills, transfer stations, organics facilities, material recovery facilities, scrap metal processors and stewardship schemes. However, these systems are largely designed around municipal and commercial waste, rather than dispersed primary production inputs.

Table 1 summarises key waste and resource recovery infrastructure relevant to primary industries in Southern Tasmania. While this infrastructure provides a foundation for material recovery, its accessibility and relevance vary significantly depending on location, material type, and production scale.



TABLE 1: **Key waste and resource recovery infrastructure relevant to primary industries in Southern Tasmania**

Infrastructure Category	Key Facilities	Function	Relevance to primary industries
Landfills	Copping Landfill (SWS); McRobies Gully; Dulverton; rural legacy sites	Final disposal of waste streams not recovered	Destination for agricultural plastics, mixed organics, contaminated and low-value materials
Regulated waste facilities	Copping C Cell (SWS); licensed regulated waste transfer points	Containment of hazardous and regulated waste streams	Chemicals, contaminated soils, aquaculture biosecurity-related waste
Council transfer stations (and RCCS)	Network across 12 councils (e.g. Barretta, Mornington, Huonville, Sorell, Tasman, rural sites)	Local aggregation, drop-off, limited sorting	Primary access points for farmers, growers and rural operators
Material Recovery Facility (MRF)	Cleanaway Derwent Park MRF	Sorting of commingled recyclables prior to processing	Limited direct access
Scrap metal and C&D Recovery	Private scrap metal yards; C&D recyclers (various operators)	Recovery of metals, timber	Machinery, infrastructure, fencing, aquaculture components
Organics processing facilities	McRobies Gully composting; Barwicks/ Pure Living Soils; Southern Waste Solutions	Composting and organics processing for soil amendment products	Horticulture, viticulture, aquaculture organics, green waste
Product stewardship schemes	drumMUSTER; bagMUSTER has extended to a few locations across Tasmania in April 2026, ChemClear, Used Oil Product Stewardship Scheme, B-cycle	Take-back and regulated recovery of specific products	Agricultural chemicals, containers, fertiliser bags, packaging, unwanted, expired or obsolete agricultural chemicals, engine oil, hydraulic oil, lubricants, power tool batteries, small equipment batteries.
Vehicle Tyre Pathways	Tyre retailers and collection points; Tasmanian tyre transporters; Tyre Stewardship Australia (TSA) accredited collectors/processors	Collection, aggregation and diversion of end-of-life tyres for reuse, retreading, recycling and alternative uses	Farm machinery tyres, vehicle tyres, earthmoving and forestry equipment tyres. Pathways depend on collection logistics and tyre size with some tyres transported interstate for processing (e.g. Tyrecycle, VIC)
Rural/remote waste access infrastructure	Barwicks Waste Facility; rural transfer stations	Regional disposal access for dispersed communities	Supports remote farming and inland forestry operations

3.2 Data availability and waste visibility

A consistent finding throughout consultation was the limited visibility of waste generation, movement and recovery across Southern Tasmania's primary production sectors.

Unlike municipal waste streams, which are generally captured through formal collection systems, primary industry materials are frequently managed through decentralised arrangements. Producers commonly manage materials through:

- Self-haul disposal (e.g. drumMUSTER, recycling, landfill)
- Direct contractor relationships for larger businesses
- Long-term stockpiling
- On-farm reuse and repurposing
- Mix with household general waste bin
- Historical practices such as burial or burning
- Informal exchanges between neighbouring businesses

As a result, waste generation volumes, material flows, seasonal fluctuations and recovery rates remain poorly understood at both regional and sectoral scales. This lack of visibility creates challenges for infrastructure planning and investment attraction as potential processors and investors often require confidence in the scale/timing and consistency of available feedstocks.

Consultation also revealed that significant volumes of material may never enter formal waste systems. Organic materials are frequently retained and reused on-site, while plastics, tyres, nets, irrigation infrastructure and other durable materials are often stockpiled for extended periods pending future disposal opportunities.

Consequently, materials appearing in landfill or transfer station data represent only a portion of the waste generated across the primary production sector. For this reason, the current assessment focuses primarily on qualitative insights gathered through stakeholder engagement rather than attempting to establish definitive regional tonnage estimates.



3.3 Primary Industries Profile

Table 2 provides a high-level assessment of current material management maturity across Southern Tasmania's primary industry waste streams. It summarises how different categories of materials are generally handled across agriculture, aquaculture and forestry, highlighting where systems are relatively well established and where significant gaps or constraints remain.

TABLE 2: **Current management maturity of key primary industry waste and resource streams in Southern Tasmania**

Material Category	Current Management Maturity
Organic materials	Generally well managed through reuse, composting, livestock feed and land application pathways
Scrap metals and tyres	Often stockpiled despite available recycling pathways
Chemical containers	Strong stewardship pathway through DrumMUSTER, but confusion for other containers
Agricultural plastics	Most problematic material category; limited collection and recycling pathways
Aquaculture Infrastructure	Often retained or stockpiled following decommissioning due to limited recovery options
Forestry biomass	Mostly retained on-site for ecological and operational reasons rather than treated as waste

Agriculture

Agriculture is one of Southern Tasmania's most significant land uses, accounting for approximately 38% of Tasmania's farmland and supporting more than 500 farm businesses. Production systems range from broadacre livestock and mixed farming enterprises in the Southern Midlands and Central Highlands through to intensive horticulture, viticulture and specialty agricultural operations concentrated in the Huon Valley, Coal River Valley, Derwent Valley and Tasman Peninsula.

The sector is characterised by a high degree of diversity in production systems resulting in a wide range of material streams. Unlike many industrial sectors, agricultural waste generation is strongly influenced by seasonality, weather conditions, harvest cycles and biological production processes. Material generation often occurs across geographically dispersed properties, with individual waste streams produced in relatively small volumes at any one location.

Consultation identified that agricultural waste management is generally decentralised, with most materials managed directly by producers whether through on-farm management, contractor services, or disposal at transfer stations or landfills.



Aquaculture

Aquaculture is a major contributor to Southern Tasmania's economy and is concentrated primarily within the Huon Valley, Channel, Tasman Peninsula and south-east regions. The sector is dominated by salmon production, which is largely undertaken by three major companies operating across hatcheries, freshwater facilities and marine grow-out sites. Oyster production represents a smaller but regionally important industry consisting of numerous independent operators distributed throughout estuarine and coastal waterways.

Compared with agriculture, aquaculture operates within a more concentrated industry structure and a highly regulated operating environment. Material management practices are influenced by environmental approvals, biosecurity requirements, certification schemes and increasing public scrutiny. Stakeholders consistently noted that waste management and resource recovery practices are closely linked to maintaining social licence to operate, particularly within the salmon industry.

The sector relies heavily on specialised infrastructure designed to withstand harsh marine environments, resulting in a waste profile that contains a significant proportion of engineered plastic products, marine infrastructure and long-life assets.

Forestry

Forestry is a significant industry in Southern Tasmania, encompassing plantation forestry, native forestry and a range of associated processing and forest management activities. The sector operates across extensive areas of the Huon Valley, Derwent Valley, Central Highlands and other inland regions, contributing to regional employment, export earnings and value-added manufacturing.

Forestry operates across long time horizons and large geographic areas, involving plantation and native forest systems.

Material flows are dominated by biomass residues and timber processing by-products. Many of these materials are either retained on-site for ecological reasons or processed through existing value chains where economically viable. Despite significant material volumes, much of the sector's residual biomass remains outside formal recovery markets due to dispersed generation and limited local processing capacity.

Across all primary industries, consultation identified a set of common material streams and management patterns. These cut across sector boundaries and are more useful for understanding circular economy opportunities than sector-based classifications alone.



3.4 Organic material streams

Organic materials are the most circularly managed waste stream across Southern Tasmania's primary industries, with many materials already retained within productive systems. They include a diverse range of biological materials associated with agricultural production, aquaculture operations and forestry activities.

Table 3 summarises the main organic material streams across agriculture, aquaculture and forestry, including typical composition and current management practices.

TABLE 3: **Key organic waste streams generated by primary industries in Southern Tasmania and current management practices**

Waste Stream	Typical Material Composition	Primary Industries	Current Management Practices
Fruit waste (cherries, apples, berries, stone fruit)	Organic biomass	Horticulture	Animal feed, composting, mulching, land application, burial (occasionally), transformation into other products
Grape marc	Skins, seeds, stalks	Viticulture	Composting, livestock feed, mulching, direct land application
Vineyard and orchard prunings	Woody biomass	Viticulture, horticulture	Mulched and returned to rows, composted
Crop residues	Organic biomass	Broadacre cropping	Retained in-field, composted, incorporated into soil
Manure	Organic biomass	Livestock enterprises	Land application, nutrient cycling, fertiliser product creation
Animal mortalities	Organic biomass	Livestock enterprises	Composting, burial
Whey	Liquid organic by-product	Dairy enterprises	Livestock feed, land application
Hatchery sludge	Fish waste and feed residues	Salmon aquaculture	Dewatered and land applied under approvals
Fish mortalities	Organic biomass	Salmon aquaculture	Approved disposal and recovery pathways, composting, landfill
Biofouling	Shells, algae, marine growth	Aquaculture	Removal and disposal, limited reuse
Oyster shells	Calcium carbonate shell	Oyster aquaculture	Stockpiling, limited reuse opportunities
Forestry residues	Wood fibre, bark, branches, slash	Forestry	Retained on-site, limited recovery

Agriculture

Agricultural organic materials are often managed as resources rather than waste due to their nutrient value and potential reuse within farming systems. Common organic materials include:

- Fruit waste and out-of-spec produce
- Apple pomace
- Grape marc
- Vineyard and orchard prunings
- Crop residues
- Walnut shells and husks
- Animal mortalities
- Manure and effluent-derived materials
- Dairy by-products such as whey

Consultation identified numerous examples of circular management practices already operating at farm scale.

Fruit residues across the systems reviewed are managed through a combination of on-farm reuse and return to soil systems. In some cases, unharvested or excess fruit is left in-field where it contributes to natural decomposition and soil organic matter, although most material is actively redirected into productive uses. Apple waste and pomace are commonly used as livestock feed, particularly in cattle and pig systems, while grape marc is typically composted, mulched, or incorporated into animal feed depending on seasonal and operational needs.

Several farms reported strong circular integration with neighbouring industries, particularly one farm which utilises external organic by-products such as whey, distillery mash, pot ale, bakery waste, and seasonal fruit residues within livestock feed systems. Walnut systems similarly retain shells and husks for mulch and weed suppression, with lower-grade nuts redirected to animal feed, reflecting established localised circular nutrient and material flows.

Animal mortalities are managed through a variety of approaches including composting systems and burial. One producer described composting mortalities through inoculated compost systems before returning the resulting material to orchard soils.

Aquaculture

Organic materials generated by aquaculture differ substantially from agricultural organics due to the biological nature of fish production and marine growing systems. Key materials include:

- Hatchery sludge
- Fish mortalities
- Biofouling materials
- Excess feed residues
- Blood water and biological residues

Consultation indicates that hatchery sludge is one of the most significant organic streams in the salmon industry. In modern hatcheries it is routinely collected, dewatered, and then directed into established land application programs. Interviewees consistently described the material as a nutrient resource rather than a waste product, with nearby farmers actively using it as fertiliser due to its nitrogen and phosphorus content.

Fish mortalities are generally managed through established biosecurity and disposal protocols, with routine incidents handled via collection, secure storage, and transfer to licensed rendering or approved disposal facilities. However, stakeholders highlighted that mass mortality events introduce a higher level of operational complexity.

Forestry

Forestry organic materials are dominated by biomass residues generated during harvesting and forest management activities. Key materials include:

- Harvest slash
- Branches and treetops
- Bark
- Woody biomass
- Low-grade timber
- Sawdust and woodchip fines

Consultation indicated that slash, branches and lower-value residues are commonly left on-site to support nutrient cycling, habitat provision and soil protection. Some material is managed through controlled burning programs associated with fire risk management. Sawmill residues such as bark and offcuts may be utilised in biomass boilers, mulch products or other timber processing applications where markets exist.

3.5 Plastics and infrastructure materials

Plastics and engineered infrastructure materials represent the most significant challenge across all primary industries, primarily due to their durability, dispersion, and limited end-of-life recovery pathways. Plastics were identified as the most consistently discussed material category across consultations and represent the most common non-organic material stream generated across primary industries.

Agriculture

Agricultural plastics include both short-life consumable products and longer-life infrastructure materials. Common materials are outlined in Table 4.

TABLE 4: **Common agricultural plastic polymer types and typical applications within primary industries**

Material	Typical Applications
LDPE / LLDPE	Silage wrap, bale wrap, pallet wrap
HDPE	Irrigation pipe, drums, chemical containers
PVC	Irrigation pipes
Polypropylene (PP) (woven for bags)	Feed bags, fertiliser bags, bulk bags, twine
Mixed polymers (PP, PE)	Bird netting, orchard netting, rain covers

Consultation consistently identified silage wrap as one of the most significant agricultural plastic streams generated throughout Southern Tasmania. Silage systems generate ongoing volumes of wrap, twine and associated plastic materials that are typically accumulated on farms following use. Stakeholders reported that these materials are commonly stockpiled for extended periods before being buried, burned or disposed of in landfill. The closure of Envorinex in 2022 removed one of Tasmania's only dedicated recycling pathways for agricultural plastics, including silage wrap. Prior to its closure, the company processed both soft and rigid plastics and provided a free collection service for agricultural plastics, supported by significant government investment. Its closure, attributed to financial pressures exacerbated by the COVID-19 pandemic, has left producers with limited local recycling options. Stakeholders reported that, in the absence of viable recovery services, many producers have been forced to stockpile materials for extended periods or rely on landfill and other disposal pathways, further highlighting the vulnerability of Tasmania's agricultural plastics recovery infrastructure.

Fruit growers identified rain covers, hail netting and bird netting as significant long-life infrastructure materials. These products often remain in service for many years before replacement and represent substantial material volumes once they reach end-of-life. Stakeholders noted that removed infrastructure is frequently stockpiled on-farm due to limited recycling opportunities and the cost associated with transporting bulky materials to mainland processors. Producers also shared that materials are often buried or burned.

Irrigation systems were also highlighted by orchard growers, with one producer reporting removal of several kilometres of ageing drip irrigation infrastructure during orchard renewal activities. Similar to other agricultural plastics, irrigation materials are often retained on-farm, stockpiled or disposed of through landfill where recycling pathways are unclear or uneconomic.

AgVet chemical containers are commonly managed through DrumMUSTER, representing one of the most established and widely utilised stewardship programs within the sector. In parallel, ChemClear provides a national stewardship pathway for unwanted, expired and obsolete agricultural

chemicals, complementing DrumMUSTER's focus on empty chemical containers. Consultation highlighted challenges for HDPE containers and drums that fall outside drumMUSTER including containers used for organic fertilisers, soil amendments and other agricultural products. Stakeholders reported that these containers are often reused on-farm for storage and operational purposes, but there is limited awareness of end-of-life recycling options once they are no longer required. As a result, many are stockpiled or retained indefinitely, reflecting a broader gap between stewardship-supported and non-stewardship material streams.

Many farms also reuse fertiliser bags, bulk bags and containers for storage and operational purposes before eventual disposal, although stakeholders noted that end-of-life recovery options for these materials have historically been limited. The recent announcement of the expansion of bagMUSTER into Tasmania represents a significant development for the sector, providing an industry-led stewardship scheme for eligible woven polypropylene (PP) bags and establishing a structured collection and recycling pathway. However, stakeholders noted that the program is still in the early stages of implementation, with only a limited number of collection locations currently available. While the scheme has been introduced to Tasmania, not all existing DrumMUSTER collection sites are currently participating as bagMUSTER drop-off points, meaning accessibility remains limited in many areas. As the network expands, the program has the potential to significantly improve recovery pathways for eligible agricultural bags across the state.

Table 5 provides a consolidated overview of key plastics and infrastructure materials across the agriculture sector, including typical applications and current end-of-life practices.

TABLE 5: Key agricultural plastic waste streams generated by primary industries in Southern Tasmania and current management practices

Waste Stream	Typical Material Composition	Primary Industries	Current Management Practices
Silage wrap	LDPE / LLDPE	Livestock enterprises	Stockpiled, landfill, burning, burial
Bale wrap	LDPE / LLDPE	Livestock enterprises	Stockpiled, landfill, burning, burial
Bale twine	Polypropylene (PP)	Livestock enterprises	Stockpiled, landfill
Fertiliser bulk bags	Polypropylene woven bags (PP)	Agriculture	Reuse, storage, stockpiling, disposal
Feed bags	Polypropylene (PP)	Agriculture, aquaculture	Reuse, stockpiling, disposal
Chemical bags	Mixed plastics	Agriculture	Limited pathways, landfill or storage
Bird netting	Mixed polymers (HDPE, PP, nylon blends)	Horticulture, viticulture	Reuse, repair, stockpiling, burning, burial, disposal
Rain covers	Polyethylene films	Horticulture	Stockpiling, burial, burning
Irrigation pipe	HDPE, LDPE	Agriculture, horticulture, viticulture	Repair, reuse, stockpiling, landfill at end-of-life
Drip irrigation line	Mixed plastics (LDPE, emitters, fittings)	Horticulture	Often landfilled due to contamination and mixed materials



Aquaculture

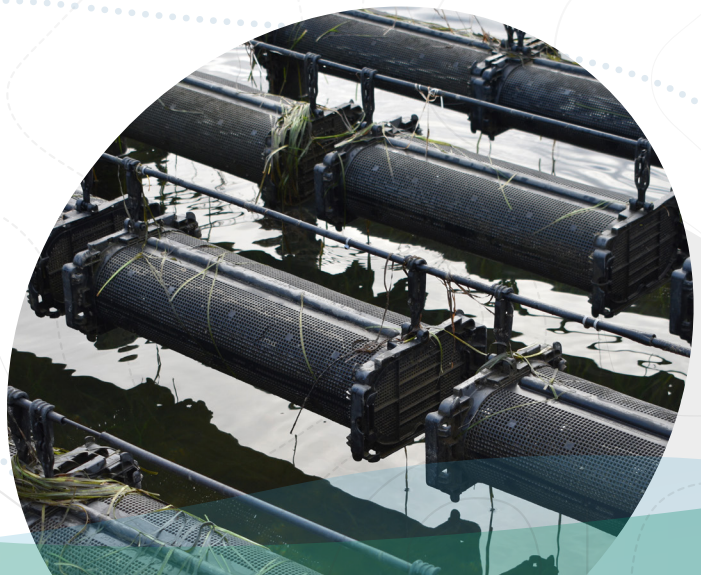
Aquaculture relies heavily on engineered plastic products designed for marine environments. Common materials are outlined in Table 6.

TABLE 6: Common aquaculture plastic polymer types and typical applications within primary industries

Material	Typical Applications
HDPE	Pipes, floats, marine infrastructure
Polypropylene (PP)	Feed bags
Nylon and mixed polymers	Nets, ropes, mooring systems
Expanded Polystyrene (EPS)	Insulation, floating pens, and packaging
LDPE	Oyster baskets, trays, growing infrastructure

Consultation identified end-of-life infrastructure as the dominant plastic waste stream within the sector. Salmon operations generate substantial quantities of HDPE pipes, floats, drums, feed bags, nets and ropes. While these materials often have long operational lives, stakeholders reported that large volumes of end-of-life infrastructure are currently stockpiled due to limited recycling options and the high cost of transport to mainland processing facilities. In some cases, materials are aggregated and transported interstate for recycling, however this is generally dependent on achieving sufficient volumes and favourable market conditions.

Several stakeholders identified plastic pallets as a particularly challenging waste stream due to the lack of established recovery pathways. Feed bags are more commonly recycled through existing contractor networks.



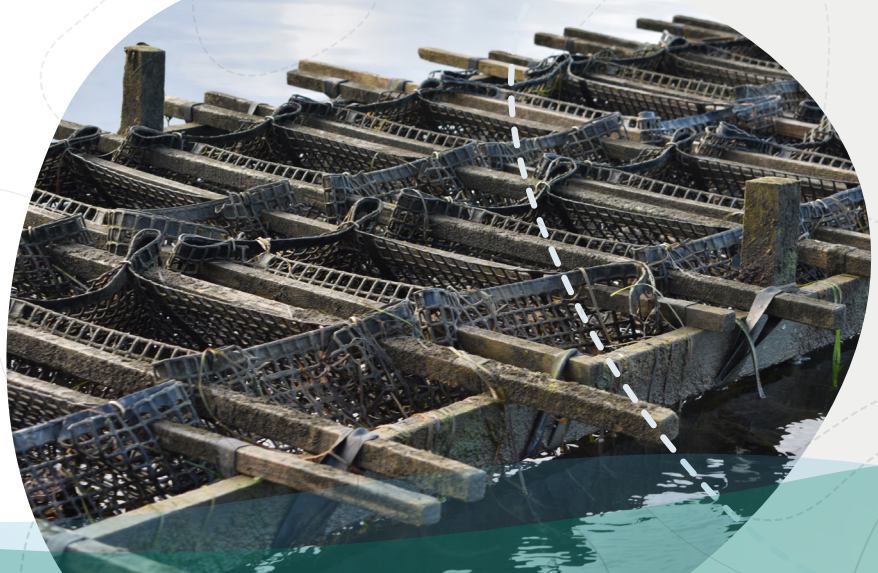
Within the oyster industry, plastics are primarily associated with baskets, trays, mesh bags and growing systems. These materials typically remain in service for many years and are often retained on farms at end-of-life while operators seek recycling or disposal options. One oyster producer described stockpiling large numbers of end-of-life oyster baskets after being advised that the available quantities were too small to justify collection by recyclers. The cost of transporting the material to mainland recycling facilities was also considered prohibitive, highlighting the challenges that smaller operators face in accessing viable recovery pathways.

Expanded polystyrene (EPS or polyfoam) from aquaculture and packaging applications has historically been a difficult material to manage due to its bulk and low transport value. However, EPS has an established recycling pathway in Tasmania through Polyfoam's StyroCycle program.

As shown in Table 7, aquaculture plastics are dominated by long-life infrastructure materials, with end-of-life aggregation and transport constraints being the primary barrier to recovery.

TABLE 7: Key plastic waste streams generated by aquaculture industry in Southern Tasmania and current management practices

Waste Stream	Typical Material Composition	Primary Industries	Current Management Practices
Feed pipes	HDPE	Salmon aquaculture	Reuse, stockpiling, interstate recycling
Nets	Nylon, polypropylene, monofilament blends	Salmon aquaculture	Repair, reuse, stockpiling, interstate recycling where available
Ropes	Polypropylene, nylon, Dyneema	Salmon aquaculture	Reuse, stockpiling, limited recycling
Floats	HDPE	Salmon aquaculture	Reuse, replacement, recycling where available
Feed liners and bulk bags	Polypropylene (PP)	Salmon aquaculture	Aggregation and recycling where possible
Plastic drums	HDPE	Aquaculture, agriculture	Reuse, DrumMUSTER (where eligible), recycling
Oyster baskets	Mixed polymers	Oyster aquaculture	Long-term use, stockpiling at end-of-life
Oyster trays	HDPE / mixed polymers	Oyster aquaculture	Reuse, stockpiling
Oyster mesh bags	HDPE / polyethylene mesh	Oyster aquaculture	Reuse, stockpiling, disposal
Packaging	EPS	Salmon Aquaculture	Recycled through the StyroCycle program
Plastic pallets	HDPE	Aquaculture	Stockpiled, recycled mainland, desire to recycle on the island



3.6 Operational and maintenance materials

Operational and maintenance materials are generally supported by established recovery pathways, but behaviour is influenced by cost, confidence in recycling systems, and geographic accessibility. Operational wastes are generated across all primary industries through machinery maintenance, infrastructure management and routine business activities. Common materials include:

- Oils and lubricants
- Scrap metal
- Machinery components
- Tyres
- Batteries
- Electrical equipment
- Personal protective equipment

Stakeholders reported significant stockpiling of metal materials on farms and operational sites. Several participants noted uncertainty regarding available recycling pathways and a lack of confidence in some collection and recycling arrangements, leading many businesses to retain materials until sufficient volumes accumulate or a trusted recovery option becomes available.

Tyres were commonly reported across agriculture and forestry operations and are typically stored on properties until disposal (recycling, landfill, or on roads due to the cost of disposal).

While workshop wastes were generally considered less problematic than plastics, several stakeholders identified treated timber as an ongoing challenge. Unlike scrap metal, batteries and used oils, which typically have established recovery pathways, treated timber remains difficult to reuse or recycle due to contamination concerns and regulatory requirements. This reflects broader national findings that treated timber continues to present long-term end-of-life management challenges across primary industries.

Table 8 summarises operational and maintenance materials across primary industries. While many of these materials have established recovery pathways, behavioural and logistical barriers continue to influence actual recovery outcomes.

TABLE 8: **Key operational waste streams generated by primary industries in Southern Tasmania and current management practices**

Waste Stream	Typical Material Composition	Primary Industries	Current Management Practices
Chemical containers	HDPE	All sectors	DrumMUSTER, reuse, storage
Oil containers	HDPE	Agriculture, forestry	Disposal, limited recycling
Used oils and lubricants	Hydrocarbons	All sectors	Landfill, stockpile, recycling through the Used Oil Recycling Scheme
Tyres	Rubber, steel reinforcement	Agriculture, forestry	Stockpiling, disposal, recycling through Tyre Product Stewardship Scheme limited due to cost (Tyrecycle's Bridgewater facility)
Scrap metal and machinery components	Steel, aluminium, plastics	All sectors	Stockpile, landfill. scrap metal recycling
Trellis wire	Galvanised steel	Viticulture	Stockpile, landfill, scrap metal recycling
Posts	Timber, treated timber, steel	Viticulture, agriculture	Reuse, landfill
Treated timber	Treated wood products	Agriculture, forestry	Stockpile, landfill

CASE STUDY

Treated timber and whole-of-life costs

Treated timber is widely used across Australian primary industries, including vineyards, orchards, aquaculture operations and agricultural fencing systems. Products treated with preservatives such as copper chrome arsenate (CCA) are valued for their durability, resistance to rot and relatively low upfront cost. However, they also present ongoing end-of-life management challenges.

Unlike many other construction and infrastructure materials, treated timber has limited recovery options once it reaches the end of its useful life. Due to the chemical preservatives contained within the material, recycling opportunities are restricted, and disposal pathways are often limited to landfill. As waste levies and disposal costs increase, the long-term management of treated timber is becoming an increasingly important consideration for both producers and asset owners.

National research has highlighted that while treated timber may appear cost-effective at the point of purchase, whole-of-life costs can tell a different story. Studies undertaken within the horticulture sector have found that alternative materials such as galvanised steel posts may deliver comparable or lower lifetime costs once maintenance, longevity and end-of-life disposal requirements are considered. Other emerging alternatives include recycled plastic encased timber products and wood-plastic composite posts, which may offer additional circular economy benefits where suitable for the intended application.

The challenge highlights a broader consideration relevant across many waste streams identified in this project. Waste outcomes are often influenced long before a material reaches the end of its useful life. Decisions relating to product design, material selection, durability and procurement can significantly affect future recovery opportunities and disposal costs.

For Southern Tasmania, the case of treated timber reinforces the importance of considering whole-of-life outcomes alongside upfront costs. While recycling and recovery infrastructure remain important, opportunities may also exist to reduce future waste generation through procurement choices, product stewardship, material substitution and circular design principles.



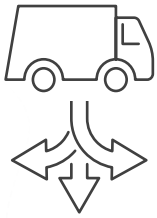
Cross-cutting findings across primary industry waste systems

Across sectors and material streams, several consistent system-wide themes emerged:



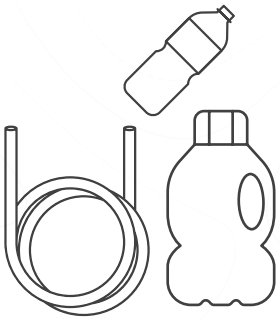
1 Limited visibility of material flows

Waste and resource streams are often managed through informal or on-farm practices, including reuse, storage and stockpiling. This creates gaps in understanding material volumes, movement and recovery opportunities.



2 Infrastructure exists but access varies

While recovery pathways and facilities are available for a range of materials, access is influenced by geography, transport distances, collection logistics, aggregation requirements and processing economics. For many producers, practical accessibility and cost determines whether recovery is feasible.



3 Plastics remain the key systemic challenge

Plastic materials present the greatest recovery challenge due to their dispersed generation, mixed compositions, contamination risks and costs. While stewardship and recycling pathways exist for some materials, including chemical containers, agricultural bags and expanded polystyrene, many agricultural and aquaculture plastics continue to face limited end-of-life options. The key challenge is often not technical recyclability but the economics of collection, aggregation, transport and market access for geographically dispersed material streams.



4 Organic materials are already partly circular

Organic waste streams generally have established reuse pathways, including composting, land application and livestock feed. However, practices are variable and opportunities remain to improve consistency and value recovery.



5 Management decisions reflect operational realities

Current practices are shaped by cost, convenience, distance, confidence in available pathways and operational constraints. Improving outcomes requires solutions that are practical, accessible and aligned with producer needs.



» Caption



4

Barriers to Improved Waste Management

Consultation findings identified a range of barriers affecting waste management across Southern Tasmania's primary production sectors. While individual waste streams and operational contexts differ between agriculture, aquaculture and forestry, stakeholders consistently described many of the same underlying challenges. Importantly, interviews revealed that waste management challenges operate at two interconnected levels.

Producers experience practical barriers associated with cost, time, logistics and access to services. Beneath these sit broader system-level constraints, including infrastructure gaps, fragmented material supply chains, limited end markets and regulatory complexity. As a result, many waste management decisions that appear to be individual business choices are often shaped by structural conditions beyond the control of producers themselves.



4.1 Decision making in practice

Waste management decisions in primary industries are operational decisions made within the everyday constraints of running a farm, aquaculture operation, or forestry enterprise. These decisions are shaped by time, cost, labour availability, seasonal pressure and the reliability of available services, rather than by waste policy settings in isolation.

In practice, waste is managed as part of broader business operations rather than as a standalone activity. Producers are continuously balancing competing priorities such as production demands, workforce constraints, weather conditions, logistics, animal welfare and market pressures. Within this context, waste is addressed when it can be efficiently integrated into existing workflows, rather than as a dedicated management function in its own right.

Across consultation, three consistent drivers emerged that shape how waste decisions are made in practice.

Operational considerations

The most immediate constraint is whether a waste management option fits within existing operational systems. Producers are more likely to adopt approaches that align with established workflows, require minimal additional handling, and do not compete with peak seasonal activity.

Waste handling is therefore often secondary to core production tasks such as harvesting, feeding, planting, pruning, processing or harvesting. Where waste solutions require additional labour, storage, segregation, cleaning or transport steps, they are less likely to be consistently implemented, even where environmental intent is strong.

As a result, practicality and ease of integration into daily operations are often more influential than long-term sustainability considerations.

Cost certainty

The second key driver is economic viability, but more specifically cost certainty and predictability. Producers are able to manage known costs within their business models; however, waste systems often involve variable or uncertain costs across transport, aggregation, processing and disposal.

This includes freight costs to mainland processors, fluctuating recycling charges, labour requirements for material preparation, and inconsistent pricing structures across service providers. In many cases, landfill remains the most financially predictable option, even where it is not the preferred environmental outcome.

Consultation indicated that decisions are not driven solely by low cost, but by the need for clear, stable and transparent cost structures that can be reliably incorporated into business planning.

Risk and reliability (trust in the system)

The third driver is the perceived reliability of waste management pathways. Producers must have confidence that materials separated for recovery will actually be collected, accepted and processed as expected.

Previous negative experiences (such as closed facilities, rejected loads due to contamination, discontinued programs, or inconsistent service availability) have a lasting influence on future behaviour. Once confidence is lost, producers are significantly less likely to engage again, even if new or improved systems are introduced.

This creates a high sensitivity to system performance. Reliability is not only about environmental outcomes but also about operational certainty: whether services are available when needed, whether instructions are clear, and whether materials will be accepted without unexpected barriers.

These findings suggest that participation in improved waste management systems depends less on environmental awareness and more on whether recovery pathways are practical, affordable and trusted. Producers are most likely to engage where systems align with operational realities and provide certainty that materials will be managed as intended.

4.2 Producer experiences across the region

Waste management competes with core business priorities

Across all sectors, waste management was rarely viewed as a standalone business priority. Producers are primarily focused on their operations, managing labour, maintaining profitability and responding to seasonal pressures.

While most interviewees expressed a genuine desire to manage waste responsibly, decisions are ultimately made within the realities of day-to-day operations. Waste management solutions are most likely to be adopted when they are practical, reliable and fit within existing workflows. Where solutions introduce additional labour, administration, storage requirements or operational complexity, uptake becomes significantly more challenging.

Several producers described waste as something that is managed when time allows, rather than as a dedicated business activity. During peak harvest, vintage, lambing or production periods, waste handling often becomes secondary to operational priorities.

Economics drive behaviour

Consultation consistently identified economics as the primary factor influencing waste management decisions across all sectors. While many stakeholders expressed a strong interest in improving resource recovery outcomes, waste management decisions ultimately need to be operationally practical and financially viable. This was true for both smaller producers and larger businesses. Even organisations with dedicated sustainability commitments and greater internal capacity noted that waste recovery options must compete with other operational priorities and demonstrate reasonable cost-effectiveness. As one stakeholder summarised, waste management decisions are often "economic first, environmental second".

This was particularly evident for low-value and/or difficult-to-recycle materials such as silage wrap, bale twine, feed bags, nets and ropes. Even where recycling pathways exist, collection, preparation and transport costs frequently exceed the perceived value of the recovered material. Examples raised during consultation included:

- agricultural plastics requiring costly freight to mainland processors
- transport costs exceeding the value of recovered materials
- labour required to sort, clean and prepare materials for collection
- specialised equipment needed to reuse organic materials or by-products
- paid collection services that were viewed as unreliable or inconsistent

Many stakeholders noted that landfill, stockpiling or on-site management remains the simplest, lowest-cost and most predictable option for a range of waste streams. At the time of consultation, the prevailing landfill levy was generally not viewed as sufficient to fundamentally alter disposal behaviours. While subsequent increases in landfill levy rates may improve the relative economics of resource recovery for some materials, their influence is likely to remain limited where materials are primarily managed on-site or where viable recovery pathways do not exist. For many primary industry waste streams, transport, aggregation, processing requirements and market demand remain the more significant determinants of whether recovery options can be practically implemented.

Producers are often unsure what options exist

A recurring theme across consultations was uncertainty regarding available waste management pathways. Many producers reported difficulty identifying:

- which materials can be recycled (in Tasmania or on the mainland)
- where materials can be taken
- how materials need to be prepared
- who is responsible for particular waste streams
- whether services remain active

This uncertainty was particularly evident for agricultural, treated timber, non-drumMUSTER containers, feed bags, galvanised steel and other scrap metals.

Several stakeholders noted that information is available from multiple sources, including councils, industry organisations, stewardship schemes and private operators, but is often fragmented, difficult to navigate or inconsistent between regions. Producers frequently described not knowing where to start, particularly when managing less common materials.

The result is often inaction. Materials are stored until a solution becomes more evident, added to existing stockpiles or disposed of through the most accessible pathway, which in some cases results in landfill disposal.

Confidence in recovery pathways is fragile

Consultation findings highlighted that trust plays a significant role in waste management behaviour. Several producers questioned whether materials separated for recycling are ultimately recovered as intended. Others described frustration following unsuccessful attempts to use recycling services, including arriving at collection sites that were closed, finding collection cages full for drumMuster containers, discovering preparation requirements were different than expected, or seeing previous recovery initiatives and recycling businesses cease operation. Stakeholders frequently referenced past agricultural plastics programs and the closure of Environex as examples of experiences that reduced confidence in the long-term reliability of recovery pathways. For producers operating under significant time constraints, failed experiences create lasting impacts.

Stakeholders repeatedly noted that if a recycling pathway proves unreliable, difficult or unsuccessful, they are unlikely to attempt it again. Trust therefore extends beyond environmental outcomes and includes confidence that services will be available, convenient and operationally efficient when needed.

Historic practices remain influential

Consultations also highlighted the influence of established habits and long-standing waste management practices. Many producers operate within systems where burial, burning, stockpiling or long-term storage have historically been accepted methods of managing difficult materials (scrap metals, tyres, plastics, etc.). While awareness of environmental impacts has increased considerably, these practices remain embedded in some parts of the sector, particularly where alternative pathways are unavailable or economically unattractive.

Several stakeholders observed generational differences in attitudes toward waste management. Younger producers were often described as more willing to trial new approaches or explore circular opportunities, while longer-established operators were generally more likely to continue familiar practices unless practical alternatives were clearly demonstrated. Importantly, interviewees suggested this is less about resistance to change and more about confidence that alternatives are affordable and practical.

4.3 System-level constraints limiting waste recovery

While producers experience waste management challenges through daily operational decisions, consultations indicate that many barriers originate from broader structural conditions within Southern Tasmania's waste and resource recovery system.

Geographic scale and logistics challenge recovery

Southern Tasmania's geography presents one of the most significant structural barriers to improved waste management outcomes. Waste generation occurs across a highly dispersed landscape, with producers often located considerable distances from processing facilities, transfer stations and recovery infrastructure. This creates substantial transport costs and logistical challenges for both waste generators and service providers.

Examples raised during consultation included:

- producers in Tasman, the Southern Midlands and more remote districts travelling two or more hours to access recovery facilities
- Bass Strait freight making transport to mainland recycling facilities prohibitively expensive
- waste contractors estimating plastic baling and freight costs of approximately $125–145 per tonne before processing costs are considered
- transport representing a significant proportion of total project costs for recovery initiatives (e.g. rotten fruit from the Huon to composting facility)

The challenge is compounded by the mismatch between how waste is generated and how recovery systems operate. Many materials accumulate slowly over time, requiring months or years of storage before sufficient volumes exist to justify collection or sending to the mainland to waste operators. Conversely, harvest periods, vintage seasons and mortality events can generate sudden spikes in material that exceed available recovery capacity.

Several stakeholders noted that Tasmania often produces insufficient volumes to support dedicated processing infrastructure, while simultaneously generating too much material to ignore as a waste issue.

Infrastructure and service provision have not kept pace with industry needs

A consistent finding across consultations was that many primary industries waste streams fall between existing service models. While Southern Tasmania has established infrastructure for municipal waste, landfill disposal, scrap metal recovery and some stewardship programs, producers frequently reported limited options for commercial-scale agricultural and aquaculture materials. Key gaps identified included:

- limited and inconsistent local collection pathways and processing capacity for agricultural and aquaculture plastic, particularly silage wrap, bale wrap, netting and mixed plastic products
- emerging stewardship pathways for some materials (e.g. drumMUSTER and bagMUSTER), but significant gaps remain for many plastic waste streams
- limited recovery options for ropes, nets and mixed polymer aquaculture materials
- constrained organics processing capacity
- dependence on interstate facilities for a range of recyclable materials

This creates what several stakeholders described as a "no-man's land" between household waste systems and commercial-scale waste services. Producers are often generating volumes too large for council systems but too small or geographically dispersed to attract dedicated commercial collection. As a result, stockpiling becomes a rational response rather than a preferred outcome.

Fragmented supply volumes and underdeveloped end markets constrain circular material viability

Consultations consistently indicated that constraints to material recovery are not solely driven by limited end-market demand, but by a broader structural mismatch between available feedstock and the operational requirements of viable recycling and reprocessing systems. Across agriculture, aquaculture and forestry sectors, many material streams are characterised by small, dispersed and often seasonal quantities, which are difficult to aggregate at the scale required to support commercially sustainable processing infrastructure.

Stakeholders highlighted that while end markets for recovered materials are often limited or uncertain, a parallel constraint lies in the inability to achieve consistent throughput volumes. For example, stakeholders noted that even if dedicated plastic reprocessing infrastructure was established in Tasmania, available local feedstock volumes may only support intermittent operation on a limited schedule (e.g. approximately two days per week), undermining both economic viability and investment certainty.

Specific material streams where these dynamics are most pronounced include:

- agricultural plastics, particularly low-value soft plastics with dispersed generation points
- forestry residues and biomass, which are geographically distributed and logistically costly to consolidate
- mixed aquaculture plastics and niche infrastructure items (e.g. oyster baskets) generated in small quantities
- seasonal organic materials, with pronounced peaks and troughs in availability

This combination of fragmented supply and uncertain offtake conditions creates a dual barrier to investment. Processors on the mainland typically require stable, high-volume, and consistent feedstock inputs, whereas Tasmania's waste profile is characterised by variability, seasonality and spatial dispersion. The resulting mismatch limits the scalability of recovery infrastructure and reinforces a cycle in which circular economy initiatives remain largely at pilot or small-scale demonstration phase rather than progressing to commercially mature systems.

Material complexity creates technical challenges

Many of the priority materials identified through consultation possess characteristics that make collection, transport, processing and recovery more difficult. While these materials may be technically recyclable, reusable or recoverable, their physical properties, contamination levels and handling requirements often increase costs and reduce the viability of recovery pathways.

Examples raised by stakeholders included:

- silage wrap contaminated with soil, moisture and organic matter, often mixed with bale twine and netting
- aquaculture ropes, nets and infrastructure comprising multiple polymers and composite materials that are difficult to separate and process
- agricultural and aquaculture plastics consisting of multiple polymer types, making sorting and processing difficult
- biofouling on marine infrastructure requiring cleaning prior to reuse or recycling
- highly seasonal material generation patterns that make aggregation and processing more challenging
- fruit waste with high moisture content limiting transport distances and increasing handling requirements
- biosecurity risks associated with the movement and reuse of organic materials and agricultural by-products
- bulky, lightweight materials where transport costs can exceed the value of the recovered resource

These challenges highlight that the barriers to recovery are often not solely related to the availability of recycling infrastructure. The characteristics of the materials themselves can significantly influence whether recovery pathways are practical, scalable and economically viable.

Regulatory complexity can discourage innovation

Stakeholders frequently identified regulatory complexity as a barrier to developing new recovery pathways. While regulations play an important role in protecting environmental and public health outcomes, several interviewees described difficulties navigating approval processes for innovative reuse and recovery projects. Examples included:

- uncertainty regarding EPA approval pathways
- environmental assessment requirements
- biosecurity restrictions
- animal by-product regulations
- inconsistent interpretation of requirements across agencies
- uncertainty around acceptable on-farm reuse practices

Several stakeholders noted that disposal pathways are generally well understood, whereas reuse pathways often require additional approvals, technical assessments and compliance obligations. This can create a perception that disposal is lower risk than innovation, even where recovery opportunities may exist.



Waste challenges are often determined beyond the farm gate

Consultation highlighted that many waste outcomes are influenced by decisions made beyond individual producers. Product design, packaging choices, procurement requirements, stewardship arrangements and end-market demand are often determined by manufacturers and suppliers. Consequently, improving outcomes for many priority materials will require shared responsibility approaches involving the broader supply chain rather than relying solely on individual waste generators. Existing programs such as drumMUSTER, ChemClear and bagMUSTER demonstrate how product stewardship can improve recovery outcomes when responsibility is distributed across the supply chain.

CASE STUDY

Silage wrap

Silage wrap has emerged as one of the most visible and operationally challenging waste streams across Australian agricultural systems. Widely used within dairy, livestock and fodder production industries, silage wrap plays an essential role in preserving feed quality through anaerobic fermentation processes. However, the material's widespread use has also created a growing waste management challenge, particularly in regional and rural areas where recovery infrastructure remains limited.

Silage wrap is typically manufactured from low-density polyethylene (LDPE/LLDPE) and is designed to withstand UV exposure, punctures, moisture and other harsh environmental conditions. While technically recyclable, the material presents significant logistical and operational barriers once used on-farm.



Agricultural plastics are estimated to account for approximately 100,000 tonnes of plastic use annually across Australian agriculture and forestry sectors, excluding fisheries and aquaculture industries.

Silage wrap presents a particularly difficult waste stream due to several interacting factors:

- contamination from organic material and soil
- high transport costs relative to material value
- limited domestic recycling infrastructure
- inconsistent collection systems between regions
- fragmented responsibility across producers, councils, recyclers and manufacturers
- lack of stable end markets for recovered plastics
- limited product stewardship and recovery systems

While silage wrap is technically recyclable, successful recovery depends heavily on material quality and contamination control. To be accepted by recyclers, silage wrap generally requires:

- separation from net wrap and twine
- removal of organic contamination
- relatively dry storage conditions
- aggregation into sufficient volumes to justify transport and processing

Unlike rigid plastics or container-based recycling systems, silage wrap is lightweight and bulky, meaning transport costs can quickly exceed the material's market value. This creates a strong dependence on regional aggregation systems and economies of scale.

Additionally, Australia currently has limited recycling capacity capable of processing heavily contaminated agricultural plastics. Dairy Australia identified that, during recent trials, practical recycling pathways were largely confined to Victoria due to the location of suitable processing infrastructure as Plastic Forest in NSW is no longer accepting silage wrap.

This highlights a broader structural issue within regional circular economy systems: recyclable material does not necessarily equate to economically recoverable material without supporting infrastructure and market development.

Historical recovery efforts in Tasmania further illustrate these challenges. Stakeholders referenced a trial undertaken in northern Tasmania in which silage wrap was aggregated for recycling through a commercial recovery program. While the trial demonstrated industry interest in finding alternatives to disposal, it reportedly took approximately two years to accumulate sufficient material to fill a shipping container, highlighting the difficulty of generating viable recovery volumes across a dispersed agricultural landscape.

When the material was ultimately exported for processing, contamination and moisture issues resulted in biological growth within the container during transport. The shipment was subsequently rejected and required disposal through a biosecurity-approved landfill pathway. Stakeholders also referenced the subsequent closure of Envorinex in 2022, which removed one of the few Tasmanian recycling pathways for agricultural plastics, including silage wrap and further reduced confidence in long-term recovery options.

Stakeholders noted that the experience reinforced several persistent barriers associated with agricultural plastics recovery, including the challenges of maintaining material quality, limited storage capacity on farms, contamination risks, and the difficulty of achieving sufficient scale to support cost-effective collection and transport. The experience also contributed to some scepticism regarding future recycling initiatives, with several interviewees highlighting the importance of reliable systems, clear preparation requirements and confidence that recovered materials will ultimately be processed as intended.



Dairy Australia Silage Plastic Recycling Trial

One of the most significant Australian initiatives addressing this issue has been Dairy Australia's Silage Plastic Recycling Project, supported through the Commonwealth Government's National Product Stewardship Investment Fund. Commencing in 2022, the project aimed to investigate practical and commercially viable pathways for recovering silage plastics from farms, with the dairy industry establishing a target of recycling 100% of silage wrap by 2030. The project involved a large-scale pilot trial across western Victoria involving approximately 90 participating farms from dairy and livestock industries.

Over the course of the trial:

- more than 70 tonnes of silage plastic were diverted from landfill
- approximately 50,000 silage bales worth of plastic were recovered
- multiple storage and collection models were tested
- both drop-off and on-farm collection systems were trialled.

Participating farmers were required to prepare plastics to "recycle-ready" standards, including separating net wrap from silage film, shaking off excessive contamination, storing material in lined bins or bulk bags, and consolidating plastics prior to collection.

The project demonstrated several important findings:

- producers were generally willing to participate where practical systems existed
- contamination management was critical to viability
- regional aggregation substantially improved logistics efficiency
- transport and processing costs remained a major barrier

Importantly, Dairy Australia concluded that current recycling capacity across Australia remains insufficient to support widespread agricultural plastics recovery without substantial infrastructure expansion and regional coordination.



Lessons relevant to Tasmania

The findings from the Victorian trial are highly relevant to Tasmania. Many of the barriers identified through the project closely reflect issues raised by Tasmanian stakeholders. Lower population density and smaller dispersed material volumes can make commercial recovery systems difficult without coordinated regional approaches. At the same time, Tasmania's strong agricultural and aquaculture sectors create concentrated material streams that may provide future opportunities for aggregation and circular economy development.

The silage wrap challenge also highlights a broader systems issue within regional waste management: individual producers are often expected to solve structurally complex material recovery problems without sufficient infrastructure, coordination or market support. This reinforces the importance of shifting from isolated disposal-based approaches toward shared regional systems involving industry collaboration, stewardship models, local government support and infrastructure planning.

Together, these experiences illustrate that the fundamental challenge is not whether silage wrap can be recycled, but whether collection, aggregation, transport and processing systems can operate reliably and economically at the scale required across Tasmania.

4.4 Material-specific challenges

While many barriers are systemic, consultation identified that different material streams face distinct challenges that influence recovery outcomes.

Table 9 outlines these material-specific constraints. This context is important because solutions that may work for one waste stream are unlikely to be effective for another.

TABLE 9: **Key barriers influencing recovery and management of primary industry waste streams in Southern Tasmania**

Material	Key barriers identified through consultation
Silage wrap and bale wrap	High contamination from soil, moisture and organic matter; dispersed generation across farms; no collection pathways; transport costs often exceed material value
Feed bags and fertiliser bags	Lightweight and bulky to store; collection and recovery pathways have historically been limited; bagMUSTER provides an emerging stewardship pathway for eligible polypropylene bags, although participation and collection coverage are still developing.
Irrigation pipe and drip line	Long-life infrastructure removed infrequently; mixed materials including soft plastics, hard plastic emitters and sediment contamination; difficult to clean and recycle.
Bird netting and rain covers	Large, bulky materials with mixed polymer compositions; difficult to handle and transport; limited recovery pathways at end-of-life, particularly for mixed-polymer products; handling, transport and processing costs often exceed material value.
Chemical containers	drumMUSTER provides a recovery pathway for eligible containers, while ChemClear provides a collection pathway for unwanted and obsolete agricultural chemicals. Participation relies on awareness, preparation requirements and access to collection points. Containers outside stewardship programs often remain stockpiled or landfilled.
Nets and ropes	Mixed polymer construction, biofouling contamination and limited domestic recycling pathways; materials are durable and long-lived but difficult to process once retired.
HDPE pipes and aquaculture infrastructure	Large volumes generated during replacement cycles; recovery pathways exist but often require aggregation of sufficient volumes and, in many cases, interstate transport. Emerging Tasmanian recycling and remanufacturing initiatives may improve future recovery opportunities for some HDPE materials.
Oyster baskets, trays and growing equipment	Long service life but limited end-of-life recovery options; materials are generated across many dispersed operators rather than a small number of large sites making aggregation and collection more difficult.
Oyster shells	Potential reuse opportunities exist, but current volumes, transport costs and market demand limit commercial recovery.

Material	Key barriers identified through consultation
Forestry residues and slash	High-volume, low-value biomass generated in dispersed locations; transport costs typically exceed the value of recovered material; market demand and processing pathways remain geographically constrained.
Treated timber	Regulatory and processing constraints associated with chemical treatment; limited reuse and recycling pathways compared with untreated timber.
Expanded polystyrene (EPS/polyfoam)	Bulky and difficult to transport economically; prone to fragmentation; recycling pathways exist through specialist programs, but access and collection logistics remain constraints for some operators.
Scrap metal and machinery components	Established recovery markets exist, but materials often accumulate until sufficient volumes justify transport.

Implications for Southern Tasmania

The barriers identified through consultation suggest that waste management challenges within Southern Tasmania's primary production sector are not primarily driven by a lack of willingness from producers. Rather, they reflect a system in which waste generation patterns, infrastructure provision, market demand and regulatory settings are often poorly aligned.

Producers are frequently expected to manage materials within a system that offers limited recovery options, uncertain economics and inconsistent service availability. Consequently, practices such as stockpiling, burning and landfill disposal should be understood not simply as behavioural choices, but as responses to existing system conditions.

Addressing these challenges will therefore require interventions that extend beyond awareness and education alone. Improvements will depend on coordinated action across infrastructure development, market creation, service delivery, policy settings and industry collaboration to create recovery pathways that are both environmentally beneficial and commercially viable.

International Circular Economy Case Studies

Circular economy systems for primary industries rarely emerge without assistance; they are designed through coordination, infrastructure and shared responsibility.

International experience shows that agricultural, aquaculture and forestry waste systems face remarkably similar constraints across countries: dispersed production, contamination, high transport costs, and fragmented responsibility across supply chains.

Despite these constraints, many regions have successfully shifted from disposal-based systems to circular material flows. These transitions have not occurred through individual business action alone. Instead, they have been enabled through coordinated industry participation, stewardship mechanisms, infrastructure investment, and the development of stable end-markets.

Tasmania is not dealing with a unique problem; it is dealing with a globally recognised systems challenge. This creates an opportunity to adapt proven models rather than design solutions from first principles.

Stewardship systems (shared responsibility models)

Where producers, manufacturers and governments share responsibility, recovery rates for agricultural plastics increase significantly.

New Zealand: Agrecovery

New Zealand's Agrecovery program provides nationwide collection and recycling services for agrichemical containers, farm plastics, silage wrap, bale wrap, fertiliser bags and selected agricultural packaging streams. Funded through industry stewardship, participating manufacturers contribute to collection and recovery costs, reducing the burden on individual producers.

Ireland: Farm Plastics Scheme

Ireland's national system (IFFPG) uses regulated producer responsibility to coordinate nationwide collection of silage wrap, fertiliser bags and farm plastics. It has recovered more than 500,000 tonnes of material and is considered one of the most successful agricultural plastics recovery programs globally.

What this means for Tasmania

Both systems show that agricultural plastics recovery only becomes scalable when responsibility is shared across the supply chain rather than placed solely on producers or councils.

For Tasmania, this directly supports consideration of:

- stewardship models for silage wrap and bale wrap and other agricultural soft plastics
- coordinated collection and aggregation infrastructure
- producer +manufacturer co-funding arrangements
- stronger integration with existing stewardship programs such as drumMUSTER and bagMUSTER



Aquaculture circular systems (high-value industrial re-use)

Aquaculture waste becomes economically valuable when treated as a coordinated industrial resource stream, not a disposal issue.

Norway: SirkAQ & SEA2LAND

Norway has developed coordinated systems to recover aquaculture plastics and convert fish sludge into fertiliser inputs. Large-scale salmon infrastructure is being designed for reuse, repair and recycling, with end-of-life materials reintegrated into aquaculture-grade products or agricultural systems.

Canada: Indigenous-led aquaculture innovation

In Newfoundland and Labrador, emerging initiatives are developing recycling and reuse systems for aquaculture nets, ropes and feed bags in remote coastal communities facing similar geographic constraints to Tasmania.

What this means for Tasmania

Tasmania's aquaculture sector is structurally similar to Norway and Atlantic Canada:

- concentrated production clusters
- large engineered plastic material flows
- strong regulatory and social licence pressures

This creates potential for industry-led circular design standards, regional aggregation hubs, nutrient recovery from organic aquaculture streams and improved recovery pathways for HDPE infrastructure, nets and ropes.



High-value reuse over recycling (new product systems)

The highest value circular outcomes come from reuse and product redesign, not just recycling.

Scotland: Polycrub

In Shetland, discarded salmon aquaculture pipes are repurposed into greenhouse structures designed for extreme coastal conditions. This is a direct reuse model rather than material recycling.

Philippines & Cameroon: Net-Works™

Discarded fishing nets are collected from coastal communities and converted into nylon feedstock (ECONYL®), re-entering global manufacturing supply chains for carpet production.

What this means for Tasmania

These examples highlight a shift from "waste management systems" to "regional material innovation systems". For Tasmania this opens pathways such as:

- aquaculture infrastructure and HDPE pipe reuse in agriculture
- marine plastics into industrial feedstocks
- local fabrication and secondary manufacturing opportunities

5

Priority Waste Streams

Consultation identified a wide range of waste streams across Southern Tasmania's agriculture, aquaculture and forestry sectors. However, not all waste streams present the same challenges, opportunities or strategic importance for future investment. While the barriers described in the previous chapter affect waste management across the entire primary production sector, they do not affect all materials equally. Some waste streams are already supported by established recovery pathways, stewardship schemes and end markets, while others remain difficult to recover due to contamination, dispersed generation patterns, transport costs, material complexity, fragmented supply volumes or the absence of commercially viable processing markets. This assessment focuses on those material streams most consistently identified through consultation as requiring further attention.

These materials were selected based on their regional significance, current management outcomes, frequency of mention during consultation, circular economy potential and alignment with TasWaste South's strategic objectives.

Importantly, consultation highlighted that future solutions will differ between materials. For some waste streams, the greatest opportunity may lie in improved collection, aggregation and transport systems that connect Tasmania to established interstate markets. For others, opportunities may exist to strengthen local reuse pathways, expand industry stewardship schemes, improve procurement practices, support product redesign or develop new regional markets and manufacturing opportunities. The purpose of this assessment is therefore not to prescribe specific solutions, but rather to identify the material streams that warrant further investigation, collaboration and investment over the coming five years.

5.1 Agricultural plastics

Agricultural plastics were the most consistently identified waste management challenge across consultations.

This category includes silage wrap, bale wrap, bird netting, rain covers, irrigation infrastructure, feed bags and mixed-materials bags. While these materials differ significantly in composition and contamination levels, they share common characteristics: they are generated across hundreds of dispersed sites, accumulate gradually over time and often require transport to markets beyond Tasmania.

Consultation suggested that the key question is not whether these materials can technically be recycled, but whether viable systems can be developed to aggregate sufficient volumes, maintain material quality and connect them with stable end markets. While stewardship pathways now exist for some agricultural packaging streams, significant gaps remain for many agricultural plastics, particularly soft plastics and mixed-material products.

Future investigation may focus on:

- understanding which plastic streams have viable interstate or international recovery markets
- assessing aggregation, collection and transport models
- evaluating stewardship opportunities for products such as silage wrap, bale wrap and other agricultural soft plastics
- identifying opportunities to increase material standardisation and reduce contamination at source
- understanding whether regional collection hubs could improve recovery economics
- exploring opportunities for local recycling, remanufacturing or secondary manufacturing where suitable feedstocks exist

For several agricultural plastics, the priority may be system design rather than processing infrastructure. Long term success is likely to depend on coordination, aggregation, stewardship and market development rather than recycling technology alone.

5.2 Aquaculture infrastructure

Aquaculture infrastructure emerged as a distinct priority because of its scale and industry structure. Unlike agriculture, where waste generation is highly dispersed, much of Tasmania's aquaculture infrastructure is owned by a small number of major companies. Materials such as HDPE feed pipes, nets, ropes, floats and growing systems are generated through planned replacement and decommissioning cycles, creating opportunities for more coordinated approaches.

Consultation also highlighted the importance of social licence within the aquaculture sector. Waste infrastructure is often highly visible and directly linked to industry reputation, creating additional incentives to improve circular outcomes. While HDPE products may offer stronger recovery potential, nets, ropes and mixed-polymer infrastructure continue to present significant recycling and end-of-life management challenges.

Future investigation may focus on:

- industry stewardship and supplier take-back models
- opportunities to incorporate recycled-content products into procurement frameworks
- cross-sector reuse opportunities for infrastructure materials
- product redesign and material standardisation
- aggregation and recovery models for HDPE infrastructure, nets and ropes
- collaborative recovery initiatives involving major industry participants (e.g. Michel Plastic Welding)

For aquaculture infrastructure, procurement and stewardship may ultimately prove as important as waste collection and recycling.

5.3 Organic residuals

Organic materials, in many cases, already circulate within existing production systems. Unlike plastics and infrastructure materials, consultation suggested that the challenge is generally not disposal, but maximising value capture and improving coordination between material generators and potential users. Examples include lower-grade fruit, orchard residues, grape marc, aquaculture sludge and forestry biomass.

Many of these materials already have established beneficial uses, including livestock feed, composting, land application and nutrient cycling. There are opportunities to improve visibility, coordination and value across industries and supply chains.

Future investigation may focus on:

- identifying opportunities to strengthen existing reuse pathways
- improving visibility of available material streams and potential users
- evaluating regional processing opportunities where sufficient scale exists
- understanding the role of emerging markets such as biochar and nutrient recovery products
- assessing opportunities for cross-sector material exchanges
- identifying higher-value applications that retain more economic value within regional supply chains

For many organic materials, future gains may come from better coordination rather than entirely new infrastructure. Opportunities are likely to complement, rather than replace, existing reuse pathways that already operate effectively across the region.

5.4 Forestry biomass and residues

Forestry residues represent one of the largest biomass resources identified through consultation. However, stakeholders consistently noted that the challenge is not waste disposal. Large volumes of biomass already remain within forest systems where they provide important ecological and operational benefits. The strategic question is whether additional value can be captured from a proportion of this material without undermining these existing functions.

Future investigation may focus on:

- understanding realistic and sustainable feedstock availability
- assessing transport and logistics constraints
- evaluating potential bioenergy and biochar opportunities
- exploring links with broader bioeconomy development initiatives
- identifying circumstances where higher-value applications may be viable
- understanding the economic, environmental and operational trade-offs associated with biomass recovery

The key challenge for forestry residues is therefore market development, supply chain economics and identifying appropriate applications rather than waste management.

5.5 Long-life infrastructure materials

Several waste streams identified through consultation do not fit neatly within existing recovery systems but are generated across multiple industries. Examples include treated timber, galvanised steel, mixed-material products and other long-life operational materials. These materials often remain in service for many years before reaching end-of-life and can be difficult to recover due to material complexity, contamination concerns, uncertain markets or lack of viable disposal alternatives.

Future investigation may focus on:

- improving understanding of material volumes and composition
- exploring opportunities for infrastructure reuse and repurposing
- assessing alternative recovery and recycling pathways
- identifying opportunities for procurement and product design improvements
- supporting industry collaboration around end-of-life management
- evaluating whole-of-life costs and circular design considerations when selecting replacement infrastructure.

5.6 Strategic implications

Consultation suggests that Southern Tasmania's highest-priority waste streams are not necessarily those generating the largest volumes of waste, but those where there is the greatest mismatch between material generation and available management pathways.

Importantly, stakeholders consistently indicated that future solutions are unlikely to rely solely on new processing infrastructure. Instead, progress will depend on a combination of improved data, material aggregation, market development, stewardship arrangements, procurement initiatives and targeted feasibility assessment.

The assessment also highlighted that different material streams require different responses. For some materials, the greatest opportunity may lie in strengthening existing stewardship schemes, collection systems and connections to interstate markets. For others, opportunities may exist through local reuse, value-added processing, procurement reform or emerging bioeconomy and manufacturing initiatives.

This suggests that the next phase of activity should focus on understanding which interventions are most appropriate for different material streams and where TasWaste South can play a role in enabling collaboration, reducing uncertainty and supporting the development of practical recovery pathways.







6

Opportunities

The findings and opportunities identified through this project have been informed by stakeholder consultation, analysis of existing initiatives and consideration of the broader operating environment for primary industries, waste and resource recovery across Southern Tasmania.

Across the agriculture, aquaculture and forestry sectors, consultation highlighted that significant work is already underway to improve waste outcomes. Producers are trialling reuse approaches, councils are considering infrastructure needs, industry bodies are progressing stewardship initiatives, government agencies are developing policy responses and researchers are exploring new opportunities for resource recovery, value creation and circular economy innovation.

However, stakeholders also identified several common barriers that currently limit the ability of these activities to achieve broader impact. These include limited visibility of existing initiatives, fragmented information sharing, uncertainty around available pathways, challenges connecting materials with potential users, challenges aggregating sufficient volumes, and difficulty moving promising ideas from individual efforts into wider adoption.

Importantly, these challenges do not reflect a lack of innovation, commitment or willingness to improve outcomes. Instead, they reflect the complexity of coordinating action across multiple industries, organisations, geographic locations and supply chains.

The analysis suggests that the greatest opportunities for progress are likely to come from strengthening the connections, information, capability, market pathways and recovery pathways that enable circular economy initiatives to succeed.



6.1 Key findings

Consultation identified several recurring themes that influence the ability of Southern Tasmania's primary industries to improve waste reduction, resource recovery and circular economy outcomes.

While stakeholders identified significant opportunities across agriculture, aquaculture and forestry, they consistently highlighted that progress is often constrained by common challenges relating to coordination, information, capability, pathways and markets.

The following themes represent the key issues and opportunities emerging from consultation.

What we heard	What this means	Opportunity area
Significant activity is already occurring, but initiatives are often disconnected and not widely visible.	Existing effort and investment could achieve greater impact through stronger connection and visibility	Strengthen collaboration and shared understanding
Information, data and practical knowledge exist, but is fragmented across organisations and sectors	Better consolidation of knowledge is needed to support planning and investment decisions	Improve material flow intelligence
Many materials have recognised value, but pathways to market are unclear or undeveloped	Viability depends on logistics, markets, transport, aggregation and end users	Develop practical material pathways
Producers are willing, but confidence in systems varies depending on reliability, simplicity and clear outcomes	Participation depends on trust, clarity and practical support	Build capability and confidence
Circularity is influenced by decisions made throughout supply chains	Waste outcomes cannot be addressed only at end-of-life	Engage supply chains and markets

The analysis indicates that no single intervention will address these challenges in isolation. Instead, progress requires progress across a combination of activities that:

- improve coordination and visibility
- strengthen knowledge and capability
- support practical trials and demonstrations
- improve connections between materials and potential users
- build stronger links across supply chains

The recommendations in Chapter 7 translate these opportunities into practical actions that can support improved circular economy outcomes across Southern Tasmania's primary industries.

6.2 Opportunity areas

1 Strengthen collaboration and shared understanding

Consultation consistently highlighted that significant activity is already underway across Southern Tasmania to improve circular economy outcomes in primary industries. Producers are trialling reuse and recovery approaches, councils are progressing infrastructure and planning responses, industry bodies are advancing stewardship initiatives, government agencies are developing policy settings, and research organisations are exploring new recovery and value opportunities.

However, this activity is often occurring in parallel independently rather than in a connected or visible way through a coordinated visible regional framework. Stakeholders consistently described limited awareness of who is doing what, where pilots and trials are occurring, and how different initiatives relate to each other. This fragmentation reduces opportunities for collaboration, leads to duplication of effort and limits the ability to build on successful projects and emerging opportunities.

Importantly, the identified issue is the lack of visibility, coordination and connection between existing effort (not a lack of interest, innovation or willingness or activity).

There is therefore an opportunity to strengthen collaboration by improving visibility of existing projects, pilots, research activity, infrastructure planning, emerging investment proposals, and by creating more structured ways for stakeholders to share information and stay connected over time.

Improved coordination would not replace existing initiatives but would increase their collective effectiveness by enabling shared learning, reducing duplication, identifying opportunities for collaboration, and improving alignment between industry needs, government priorities and investment decisions.

2 Improve visibility of material flows and recovery pathways

Stakeholders identified that limited visibility and fragmented understanding of material generation, movement and recovery pathways are key constraints on effective planning and investment and market development.

This gap does not necessarily reflect a lack of data but rather the absence of a consolidated, decision-useful picture of how materials move through regional primary industry systems. Existing information is often dispersed across organisations, industries and programs, while other knowledge remains informal and is held by individual producers, processors and service providers. As a result, it is difficult to identify priorities, assess opportunities and coordinate action at a regional scale.

Consultation highlighted the need for clearer understanding of:

- what materials are generated across agriculture, aquaculture and forestry
- where and when they arise
- how they are currently managed, reused, recovered or disposed of
- what formal and informal recovery or reuse and stewardship pathways already exist
- where intervention could most effectively improve outcomes
- where aggregation opportunities may occur

Importantly, consultation also identified that a range of informal and semi-formal reuse practices already occur across the region (for example, on-farm reuse of organic materials and cross-enterprise exchanges). These activities are not consistently captured in formal systems, meaning current understanding likely underestimates existing circular economy activity.

Improving visibility of material flows would strengthen infrastructure and investment planning, improve prioritisation of interventions, enable stewardship and market development initiatives, and support more targeted and efficient allocation of resources across government, industry and potential investors.

3 Capture greater value from organic and residual materials

Organic materials and other residual streams already play a significant role in Southern Tasmania's circular economy, particularly through livestock feed, composting, land application and other beneficial reuse pathways. These approaches remain important, practical and cost-effective, and are likely to continue as core components of regional material management systems.

However, consultation and supporting research suggest there may be opportunities to retain greater value within regional supply chains for some of these materials.

For example, recent analysis of fruit waste and by-products in Tasmania identified that substantial volumes of second-grade fruit, processing residues and seasonal surpluses continue to flow into lower-value uses such as animal feed, composting, or disposal. While these pathways retain utility, they may not always capture the highest potential economic value available from these materials. In some cases, this may reflect limited pathways to market for second grade produce that remains suitable for human consumption, while in others it reflects a lack of commercially viable processing opportunities for converting residual materials into higher-value products.

The key constraints are often not simply technological, but structural and logistical, including:

- limited market pathways for both second-grade produce suitable for human consumption and higher-value processed products
- contamination and quality constraints
- transport and aggregation challenges
- lack of stable demand for higher-value outputs
- limited processing capacity for some higher-value applications

This suggests opportunities to explore additional value-adding pathways where viable, including higher-value processing, secondary markets and bio-based product development. These opportunities will differ by commodity and scale but point to a broader shift in thinking (from managing organic residuals as waste streams toward recognising them as potential feedstock for regional value creation).

This also indicates that future circular economy opportunities may increasingly focus on economic value retention, market creation and regional development outcomes alongside traditional waste diversion goals.

4 Improve pathways for difficult-to-manage materials

Several key material streams were consistently identified as lacking reliable, scalable recovery pathways, particularly agricultural plastics, aquaculture infrastructure materials, forestry residues and selected processing by-products.

Consultation suggests that these challenges are not driven by a single barrier, but by a combination of interacting constraints, including:

- high collection and transport costs across dispersed regions
- contamination and material quality issues
- inconsistent or seasonal supply volumes
- limited processing infrastructure within the region
- weak or unstable end-market demand
- challenges aggregating sufficient volumes to support commercial recovery

As a result, viable solutions are unlikely to emerge from technology alone. Instead, they will depend on broader system conditions, including stewardship arrangements, aggregation models, shared infrastructure, procurement approaches, and stronger coordination across supply chains.

Consultation also highlighted that improved outcomes may require upstream changes, not only end-of-life solutions. These include procurement decisions, product substitution and design improvements that reduce waste generation or improve recoverability. Examples raised included longer-life infrastructure components and alternatives to materials that are currently difficult to recover.

Different material streams are likely to require different intervention models. For some materials, the greatest opportunity may lie in connecting Tasmania to established interstate recovery markets. For others, opportunities may exist through local reuse, remanufacturing, higher-value processing or alternative product design.

As national stewardship initiatives continue to evolve, there is an opportunity for Southern Tasmania to better position itself to participate in and help shape emerging approaches to these material streams, ensuring regional needs and conditions are reflected in their design and implementation.

5 Engage supply chains and strengthen end markets

Consultation consistently indicated that many waste outcomes are shaped across entire supply chains, not just at end-of-life. Decisions made by suppliers, processors, manufacturers, retailers and procurement bodies influence material types, volumes, durability, repairability and recoverability.

While collection and processing systems are important enablers, their long-term viability is often constrained by weak or inconsistent demand for recovered materials. This is particularly evident in agricultural plastics, forestry biomass, aquaculture-derived materials and other mixed residual streams where recovery potential exists, but market pull is insufficient to support sustained investment and commercial-scale recovery.

There is therefore a clear opportunity to strengthen engagement across supply chains to support more circular outcomes. This includes:

- improving product design to enable reuse and recyclability
- strengthening procurement practices that favour recovered -content, recyclable or low-impact materials
- supporting shared responsibility and stewardship approaches across industries
- developing stable and scalable markets for recovered materials
- connecting regional production systems to emerging national circular economy and stewardship initiatives

Strengthening these linkages would improve the economic viability of recovery systems, reduce investment risk and support more durable participation by both public and private actors.

Importantly, this shifts the focus from waste management alone toward shared responsibility across the full value chain, where upstream decisions made at the design, manufacturing and procurement stages often play a central role in determining downstream recovery outcomes.



CASE STUDY

Fruit waste report

Fruit waste demonstrates how circular economy opportunities extend beyond waste diversion and recycling to include value creation, product innovation and regional economic development.

Recent Tasmanian research examined opportunities to increase the value derived from second-grade fruit, processing residues and seasonal surpluses that are currently directed to lower-value uses such as livestock feed, composting and disposal.

The study found that Tasmania's fruit industry generates more than $400 million in farm-gate value annually, with significantly higher economic value created through downstream processing activities such as wine production, food manufacturing and tourism.

While many organic materials are already beneficially reused, opportunities may exist to further increase value retention through products such as:

- nutraceutical ingredients
- food additives and extracts
- dried fruit products
- natural colourings
- fermented products
- seed oils
- bio-based materials

The report explained that opportunities will vary significantly between commodities. For example, apples generate substantial volumes of by-products and lower-grade fruit each year, while cherries can experience highly variable waste volumes depending on seasonal conditions.

Climate-related impacts, including extreme rainfall events, heat stress and changing weather patterns, may further increase the importance of developing alternative pathways for fruit that cannot access premium markets.

This highlights a broader circular economy opportunity across Southern Tasmania's primary industries. Rather than focusing solely on diverting materials from landfill, there may be opportunities to retain greater economic value within regional supply chains through value-added processing, secondary markets and bioeconomy development.

The findings also demonstrate that future circular economy opportunities may increasingly focus on value creation and regional economic development rather than waste diversion alone.





7

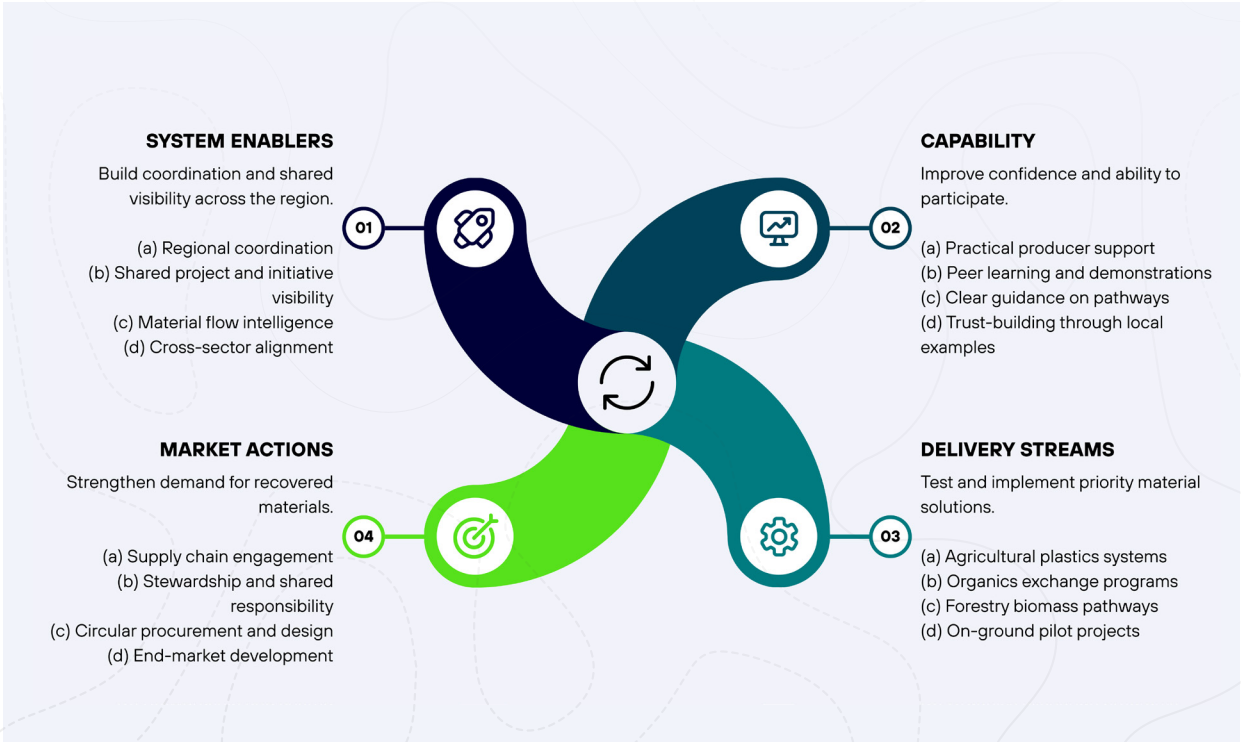
Recommended response

This chapter outlines a coordinated package of recommendations designed in direct response to the constraints and opportunity domains identified in Chapter 6.

The recommendations are structured as an integrated response framework rather than a set of standalone initiatives. Together they address the interconnected factors influencing circular economy outcomes, including information, coordination, capability, market development and practical delivery. They reflect the need to address multiple parts of the circular economy transition at once (from coordination and information, through to capability, practical delivery, and the development of viable markets).

They are structured around four interconnected areas of action: system enablers; capability building delivery streams; and market actions (Figure 2). Together, these response actions are intended to shift the Southern Tasmania region from fragmented, opportunity-driven activity toward a more connected, practical and investable approach to circular economy development in Southern Tasmania.

FIGURE 2: **Strategic framework for strengthening primary industry waste and resource recovery systems in Southern Tasmania**



The recommendations have also been prioritised using five criteria developed through consultation and regional analysis:

- System impact: the extent to which an action addresses multiple barriers across materials, sectors or actors rather than a single issue.
- Regional relevance: applicability across Southern Tasmania's diverse primary industries and local government areas.
- Feasibility: ability to be implemented within existing operational, regulatory and resource constraints.
- Stakeholder support: level of alignment and interest expressed by producers, councils, industry bodies and service providers.
- Strategic alignment: consistency with TasWaste South priorities, Tasmania's Waste and Resource Recovery Strategy, and emerging circular economy initiatives.

7.1 Response Priority 1 – Enabling coordination and shared direction

Establish a Southern Tasmania Primary Industries Circular Economy Coordination Platform

Consultation consistently identified that a wide range of circular economy activity is already underway across Southern Tasmania's agriculture, aquaculture and forestry sectors. However, many initiatives remain largely disconnected, limiting opportunities for shared learning, collaboration and regional-scale impact. Producers are trialling reuse approaches (including agricultural plastics handling improvements and on-farm organic reuse), councils are progressing infrastructure planning, stewardship organisations are implementing product responsibility schemes, and research organisations are actively exploring recovery and bioeconomy opportunities.

However, these activities are largely occurring in parallel. Stakeholders described limited visibility across initiatives, weak awareness of who is doing what and a lack of structured mechanisms for sustained collaboration. This leads to duplication in some areas, while other opportunities are not progressed beyond isolated pilots or remain disconnected from broader regional effort.

This fragmentation is particularly significant in relation to priority material streams identified through consultation. Focused on agricultural plastics, aquaculture infrastructure materials, organic residuals and forestry residues, these streams require coordinated action across multiple actors to be effectively addressed.

Response

Establish a long-term Southern Tasmania Primary Industries Circular Economy Coordination Platform to provide a stable, regionally embedded mechanism for alignment, collaboration and shared direction-setting.

The platform would not deliver services or infrastructure. Instead, it would function as a regional coordination and enabling mechanism, supporting stronger alignment between producers, industry bodies, councils, government agencies and research organisations.

Core functions

- Maintain visibility of active projects, pilots and stewardship initiatives
- Identify duplication, gaps and collaboration opportunities
- Support cross-sector collaboration and joint initiatives
- Align industry needs with policy and investment priorities
- Coordinate funding opportunities and partnerships
- Track regional circular economy progress
- Facilitate material-specific working groups where required
- Monitor emerging policy, stewardship and market developments
- Maintain a regional register where organisations can identify current projects, material recovery initiatives, areas of expertise and collaboration interests, improving visibility of activity and opportunities across the sector.

Governance and delivery

Primary Industries Circular Economy Roundtable comprising industry, councils, stewardship bodies, government agencies, research organisations, NRM South and TasWaste South, supported by an online regional register of projects, initiatives and collaboration opportunities

Outcome

A more connected regional operating environment where existing effort is better aligned, collaboration is easier to initiate, and investment decisions are informed by a shared understanding of activity, and successful initiatives can be scaled more effectively across the region.

Establish a Regional Circular Economy Intelligence and Material Flow Capability

Consultation identified that one of the most significant constraints to planning and investment is the limited understanding of how materials actually move through Southern Tasmania's primary industries.

Rather than a simple 'lack of data', this reflects the absence of a coordinated capability to translate dispersed operational knowledge into usable intelligence for infrastructure planning, procurement decisions and investment prioritisation.

Stakeholders highlighted uncertainty around:

- what materials are generated and in what volumes
- where they arise geographically
- how they are currently managed
- where recovery pathways already exist informally
- where value is being lost or missed

This includes recognition that many effective reuse practices already exist but are not formally captured (e.g. on-farm reuse of organic materials and informal exchange of residuals between neighbouring enterprises).

Response

Develop an ongoing regional material intelligence capability to understand and track material flows across primary industries.

Core functions

- Map priority material streams (plastics, organics, aquaculture, forestry)
- Analyse spatial and sectoral material flows
- Identify bottlenecks and recovery inefficiencies
- Capture informal and semi-formal reuse pathways
- Support infrastructure and investment planning
- Maintain visibility of stewardship schemes, collection systems and emerging recovery opportunities
- Support evidence-based feasibility assessments and investment planning

Governance and delivery

Coordinated regional function supported by government, industry and research partners.

Outcome

Improved transparency of material flows and stronger evidence for planning and investment decisions.

Strengthen integration of primary industries into circular economy planning

Consultation highlighted that primary producers often feel under-represented in waste and resource recovery planning processes, despite managing large and complex material streams across the region.

Councils and agencies also noted that primary industry materials often fall outside traditional municipal waste planning frameworks while representing significant resource recovery opportunities and infrastructure requirements, creating a disconnect between regional waste strategies and on-ground operational realities.

Response

Embed primary industry perspectives into regional waste and circular economy planning processes.

Core functions

- Structured engagement with primary producers in planning processes
- Integration of industry needs into regional strategies
- Improved communication between government, councils and industry
- Recognition of primary industry material streams in planning frameworks
- Ensure primary industry considerations are reflected in future waste infrastructure, circular economy and resource recovery planning

Governance and delivery

Formal engagement mechanisms embedded within regional waste planning structures.

Outcome

Improved alignment between strategic planning processes, infrastructure investment decisions and operational realities

7.2 Response Priority 2 – Capability, participation and demonstration

Regional Producer Capability and Engagement Program

Consultation consistently highlighted that many producers are willing to improve circular economy outcomes but face uncertainty about practical implementation.

Key barriers include:

- unclear recovery pathways
- inconsistent information on services and costs
- uncertainty about logistics and storage requirements
- lack of clarity on what materials are accepted and where

Stakeholders emphasised that generic awareness campaigns are insufficient. Producers require practical, locally relevant, and operationally specific guidance grounded in Tasmanian conditions.

Response

Deliver a practical, place-based capability program to increase confidence and reduce participation barriers.

Core functions

- Practical guidance on material handling and recovery pathways
- Peer-to-peer learning between producers
- Field demonstrations and site-based learning
- Local case studies of successful practice
- Navigation of stewardship and collection systems
- Provide practical guidance on material preparation requirements and contamination management
- Promote available stewardship schemes and collection programs (e.g. drumMUSTER, ChemClear, bagMUSTER)
- Develop simple decision-support resources for priority waste streams

Governance and delivery

Delivered in partnership between TasWaste South, NRM South, ReThink Waste Tasmania and industry organisations.

Outcome

Increased participation, improved confidence in recovery pathways, reduced uncertainty, and improved uptake of circular economy practices.

Circular Economy Demonstration and Pilot Program

Stakeholders consistently identified that practical demonstration is critical to building confidence in circular economy solutions.

This recommendation establishes a structured pilot program to test and validate approaches under real Tasmanian operating conditions before broader investment or scale-up.

Priority pilot areas include agricultural plastics aggregation models, organics exchange systems, aquaculture by-product reuse pathways, forestry biomass applications, and regional collection hubs for difficult materials.

Response

Establish a structured pilot program to test and validate circular economy solutions in real-world conditions.

Core functions

- Agricultural plastics aggregation and recovery pilots
- Organics exchange and redistribution systems
- Aquaculture by-product reuse trials
- Forestry biomass utilisation pilots
- Regional collection hub trials
- Document and share lessons learned across the region
- Evaluate operational, economic and environmental performance of pilot projects

Governance and delivery

Jointly coordinated pilot investment program with industry and government partners.

Outcome

Validated, scalable and evidence-based models that reduce investment risk, support broader adoption and build system confidence.

7.3 Response Priority 3 – Material systems and recovery pathways

Agricultural Plastics Recovery Feasibility and System Design

Agricultural plastics were consistently identified as one of the most significant and complex waste challenges across Southern Tasmania's primary industries.

Consultation highlighted that while recovery potential exists, current constraints include transport economics, contamination, aggregation challenges, storage limitations, processing requirements and uncertain end-market demand.

These constraints mean that infrastructure investment without system design clarity risks repeating previous fragmented or unsuccessful recovery efforts.

Response

Build on existing material flow intelligence, state-led agricultural plastics initiatives and stewardship programs to develop a regionally appropriate agricultural plastics recovery system for Southern Tasmania.

Drawing on the outputs of regional material flow analysis and existing feasibility work, undertake targeted system design and implementation planning to determine the conditions under which agricultural plastics recovery could be economically and operationally viable within Southern Tasmania.

Core functions

- Use regional material flow intelligence to identify priority agricultural plastics and recovery opportunities.
- Validate logistics, aggregation and contamination requirements where additional regional information is required.
- Assess collection, transport and processing models appropriate to Southern Tasmania.
- Assess end-market requirements and alignment with existing processing capability.
- Identify infrastructure, governance and commercial arrangements required for viable recovery.
- Assess how existing stewardship schemes (e.g. bagMUSTER) can support broader agricultural plastics recovery.
- Identify agricultural plastics that remain outside existing stewardship and recovery pathways.
- Identify priority actions to address remaining gaps in the recovery system.

Governance and delivery

- Collaborative system design process led through regional coordination, building on existing work undertaken by TasWaste South, the Department of Natural Resources and Environment Tasmania, the Waste and Resource Recovery Board, industry and stewardship organisations.
- Input from industry, agricultural suppliers, waste operators, councils and state agencies
- Alignment with national stewardship and recycling initiatives

Outcome

A coordinated, evidence-based approach to agricultural plastics recovery that builds on existing initiatives, reduces duplication, and supports targeted investment in infrastructure, stewardship and recovery systems.

Regional Organics Circularity Program

Organic residuals represent one of the strongest near-term opportunities to improve circular economy outcomes across Southern Tasmania's primary industries.

Consultation identified that many beneficial reuse pathways already exist, including composting, livestock feed and soil application.

However, these pathways are fragmented and often rely on informal relationships rather than coordinated systems.

At the same time, emerging opportunities exist to improve value retention through better coordination and potential higher-value applications.

Response

Establish a coordinated regional organics circularity program to improve the recovery, exchange and value creation of organic residuals across primary industries.

Core functions

- Map supply and demand for organic residuals across sectors
- Enable cross-sector exchange of organic materials (e.g. feed, compost, soil application)
- Improve coordination between producers, processors and end users
- Support optimisation of composting and soil regeneration systems
- Explore higher-value bio-based and processing opportunities where viable
- Strengthen regional resource efficiency in organic streams
- Identify opportunities for higher-value processing and emerging bioeconomy applications.

Governance and delivery

- Delivered through collaboration between industry, councils, NRM South and TasWaste South
- Strong integration with agricultural and land management networks
- Opportunity for pilot-based implementation and scaling

Outcome

More efficient and coordinated use of organic residuals across Southern Tasmania, resulting in higher value retention within regional supply chains, reduced disposal volumes, improved soil health outcomes, and stronger linkages between organic material generators and users.

Forestry Biomass and Circular Bioeconomy Pathways

Forestry residues represent a significant resource with potential for additional value recovery within Southern Tasmania.

Consultation highlighted that barriers to utilisation are not primarily resource availability, but rather transport costs, aggregation challenges, market uncertainty and infrastructure limitations.

Interest is growing in bioenergy, biochar and other bio-based applications, but there is currently limited clarity on where viable opportunities exist.

Response

Build on existing research, feasibility studies and industry initiatives to identify priority opportunities for forestry biomass utilisation within Southern Tasmania and address remaining regional knowledge gaps.

Core functions

- Map availability, distribution and characteristics of forestry residues
- Assess transport, handling and aggregation constraints
- Analyse market demand for biomass-derived products and energy
- Evaluate bioenergy, biochar and bio-based product opportunities
- Identify regulatory, environmental and feasibility constraints
- Compare alternative pathways and their relative regional benefits
- Evaluate opportunities for biochar, engineered wood products, bioproducts and other higher-value bioeconomy applications.

Governance and delivery

- Collaborative assessment with forestry sector, state agencies and research partners
- Industry-informed feasibility approach rather than single-solution selection
- Alignment with broader bioeconomy and regional development initiatives

Outcome

A clearer understanding of viable and realistic pathways for forestry residues, enabling informed decisions about whether and where biomass utilisation can support regional economic diversification, while avoiding investment in unviable or fragmented processing approaches

7.4 Response Priority 4 – Markets, supply chains and demand

Supply Chain Engagement and Market Development Program

Consultation identified that many circular economy outcomes are constrained not by material supply, but by weak, inconsistent or underdeveloped demand for recovered materials.

While collection and processing systems are important, they are often not viable without stable end markets. This is particularly evident for agricultural plastics, forestry biomass, aquaculture materials and other low-value residual streams.

Response

Establish a structured supply chain engagement and market development program to strengthen demand for recovered materials and improve alignment across value chains.

Core functions

- Engage manufacturers, processors, suppliers and major buyers across key sectors
- Identify opportunities for product stewardship and shared responsibility approaches
- Support circular procurement practices and recovered material demand across public and private sectors
- Actively engage with emerging stewardship opportunities
- Facilitate development of stable end markets for recovered materials
- Align regional initiatives with national and state stewardship schemes
- Support product redesign opportunities that reduce downstream waste impacts

Governance and delivery

- Cross-sector engagement program coordinated through regional partnership structures
- Involvement of industry associations and major market participants
- Strong linkage to procurement agencies and stewardship bodies

Outcome

More stable and reliable demand for recovered materials across Southern Tasmania, creating the market conditions necessary to support long-term investment in recovery infrastructure. This shifts circular economy outcomes from supply-constrained systems to demand-enabled systems, improving financial viability and reducing market risk for recyclers and processors.



8 Conclusion

This assessment highlights both the complexity of waste management across Southern Tasmania's primary production sectors and the significant opportunity to improve resource recovery outcomes over time.

Consultation confirmed that agriculture, aquaculture and forestry generate a diverse range of waste materials, each with different characteristics, recovery challenges and market opportunities. While individual waste streams vary, stakeholders consistently identified a common set of barriers including transport costs, limited economies of scale, fragmented recovery pathways, information gaps and uncertain end markets.

Importantly, the findings suggest that many waste management challenges are not primarily the result of individual business decisions but rather reflect broader structural conditions within Tasmania's waste and resource recovery system. Producers generally expressed a willingness to adopt improved practices where practical and economically viable solutions exist. However, the availability, reliability and affordability of recovery pathways remain critical determinants of behaviour.

The assessment also highlights that future progress will require a more strategic approach to resource recovery. Not all materials are suited to local processing, nor will every waste stream support a commercially viable circular economy solution within Southern Tasmania. For some materials, particularly organics, opportunities exist to retain value locally through reuse, nutrient cycling, improved coordination and regional processing of existing material pathways. For others, the greatest opportunity may lie in improved aggregation, logistics and connections to established mainland markets. In some cases, further investigation will be required before viable recovery pathways can be identified.

As a result, future investment decisions should be guided by a clear understanding of material flows, market conditions and regional economics. Strengthening coordination, improving visibility of material flows, supporting feasibility assessments and fostering collaboration across supply chains are likely to deliver greater long-term benefits than focusing solely on infrastructure development.

Encouragingly, the consultation identified strong interest from industry, government, councils and supporting organisations to work collaboratively on these challenges. Existing examples of material reuse, stewardship initiatives, research activities and circular economy projects demonstrate that important foundations are already in place.

The opportunities identified throughout this report should therefore be viewed as part of an ongoing transition towards a more connected, resilient and resource-efficient circular economy system. While many challenges remain, Southern Tasmania is well positioned to build on existing momentum and develop practical solutions that reflect the unique characteristics of its primary production sectors, regional communities and resource recovery landscape.

Ultimately, the most significant opportunity is not simply to divert more material from landfill, but to make better use of the resources already circulating through the region's agricultural, aquaculture and forestry systems. Achieving this will require continued collaboration, targeted investment, improved understanding of material flows and market conditions, and a focus on solutions that deliver environmental, economic and regional benefits over the long term.



Appendix

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