Waikato Regional Council Technical Report 2025/06

Social procurement opportunities in organics material management.

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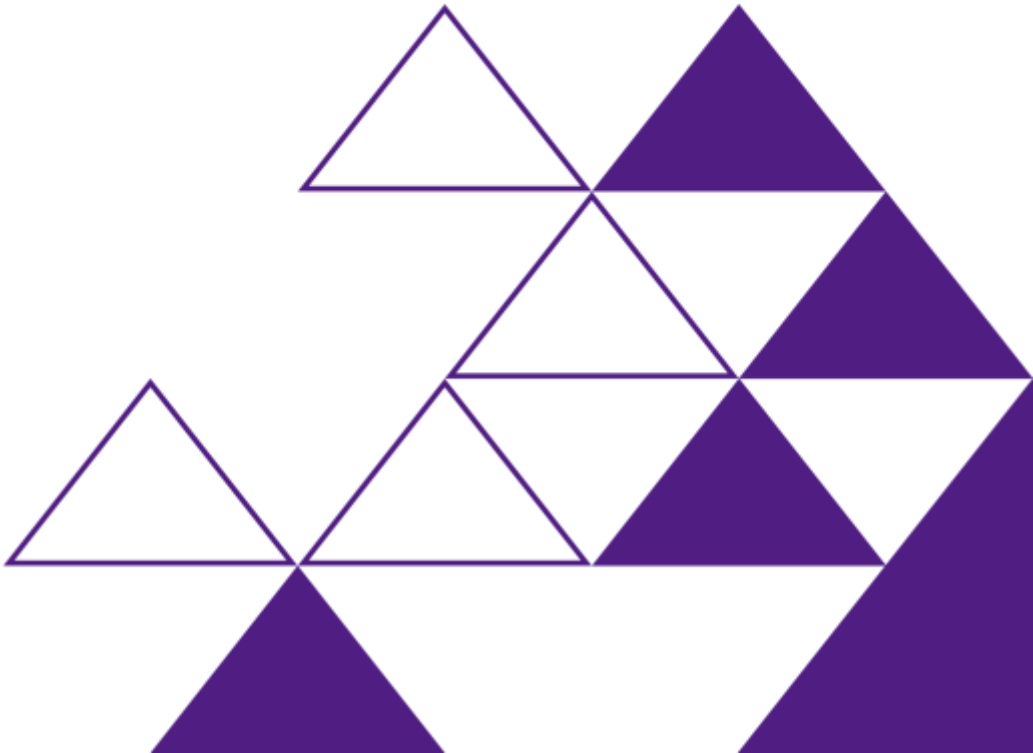

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January 2025

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1. Contents

1.1 Figures

2. Executive summary

This report, prepared for Waikato Regional Council, examines the potential to deliver the region's organic waste needs using a circular economy approach and sustainable procurement practices. Taken together, circular economy and sustainable procurement initiatives can build resilience within both communities and waste management systems.

By aligning organic waste systems with the waste hierarchy and incorporating smaller, localised waste processors, regions can reduce emissions, improve soil health, and enhance food security. Sustainable procurement presents an opportunity to stimulate local job creation, enhance skill development, as well as contributing to emissions reductions. Practices, such as early engagement, proactive contract structuring and targeted employment objectives, also reduce barriers for smaller enterprises, allowing them to participate effectively in council contracts and grow sustainably within the sector.

The research identified several barriers to localised composting, including funding limitations, regulatory challenges, and misalignment between central and local government policies. The report recommends several targeted strategies to support the development of a robust, resilient network of small-scale processors: Regulatory adjustments to streamline processes for smaller operators, expanded funding to support community-based waste processing, and capacity-building programmes to enhance operational expertise.

Complementing this report is a practical Guidance document that provides actionable advice for procurement and waste teams to implement the recommendations and integrate social and circular economy principles into organic waste management. By adopting these practices, local authorities can collaborate with communities to build resilient, community-centred organic waste management systems.

3. Introduction

3.1 Background

A key priority for local and central government in Aotearoa is transitioning from a linear, extractive approach to waste management to a circular economy, where end-of-life products are reintegrated into technical or biological cycles. Although councils are at different stages of this transition, there is widespread recognition that this shift is essential for creating a more sustainable and resilient future.

To support this goal, Waikato Regional Council has initiated an extensive programme of research and action-based projects to accelerate the transition to a circular economy through the Waikato Regional Council Waste Prevention Action Plan. Under the Waste Prevention Action Plan, a study on how local government might pilot projects to better understand how to support the transition to a circular economy was conducted (Bianchi and Yates (2022). As part of the journey to a circular economy in the Waikato region (Bianchi and Yates 2022) stakeholders were consulted to identify pilot projects to advance Waikato's movement towards a circular economy. Further investigation into procurement practices and organic waste processing were among the top priorities. Following on from this, research was carried out on how organic material can be part of a resilient system through the Circularising Organics (CO) project.

The Circularising Organics project aims to consider the whole cycle with an over-arching objective to develop a robust organic material system through informed decision-making. It covers:

- The implications of different types and methods of collection and processing of organic material
- Mitigating contamination
- Te ao Māori perspectives and market opportunities
- The role of community organisations
- End-markets for quality product

The project sets out a Waste Hierarchy for Organics which places small-scale, locally based service providers above both medium-scale locally based service providers and large-scale regional providers. Key benefits of this model include reduced transport and greenhouse gas emissions, new jobs and increased mana as well as improved soil health, growth of healthy food and stronger community cohesion.

To advance this work, Waikato Regional Council commissioned Height Project Management to identify best practices and key learnings around the use of social procurement and circular economy principles in the procurement of organic materials waste services. These findings are detailed below and form the basis for the practical guidance material for procurement and waste teams in the accompanying Guidance document.

This work will serve as a case study for other waste categories, demonstrating how circular economy principles can be integrated with social procurement to eliminate waste from the system while creating positive social and economic outcomes for our communities. With nationwide rollout of mandatory kerbside organic materials collections expected by 2030, this will provide timely resources and guidance for waste officers and procurement teams to embed social procurement and circular economy principles into their procurement processes.

Figure 1 Organic Waste Processing Hierarchy

3.2 Scope

Key Objectives

The key objectives for the project are to:

- Review and summarise the literature on circular economy, decentralised waste processing systems, and social procurement practices in relation to organic waste.
- Identify potential end use for compost, and/or other end products from organic waste within local government, including regional councils and territorial authorities (both directly and through contractors).
- Create guidance for procurement teams on how to leverage their procurement to deliver social outcomes, and implement circular economy and/or decentralised processing systems in the context of organic waste

Exclusions

To focus the research, we will not be including the following:

- Scoping additional sources of organic waste
- Procuring any services
- Community education
- Commercial waste streams

3.3 Method

A literature review was conducted to identify existing use of social procurement and circular economy principles in organic waste both nationally and internationally.

Interviews were conducted with Council Waste Officers, Procurement specialists and Parks and Recreations teams to identify their current approach to organic waste, and identify any barriers they face with regard to implementing social procurement or embedding circular economy principles in organics within their council.

Central North Island Waste Officers were invited to online focus groups. These were split into two groups: Those with existing kerbside collection of food-waste, and those without.

Waste Processing Organisations and composting experts were interviewed about the barriers they face or foresee with regards to working with councils, scaling up their operations, or partnering with other organisations as part of a networked model.

3.4 Definitions

Defining sustainable procurement

Sustainable procurement refers to the use of procurement activity to generate secondary benefits above and beyond acquisition of the intended goods or services. These secondary benefits include outcomes such as improving community wellbeing, connection to culture, or generating a positive environmental impact. In some cases, these ‘benefits’ are a reduction in negative impacts such as a reduction in emissions.

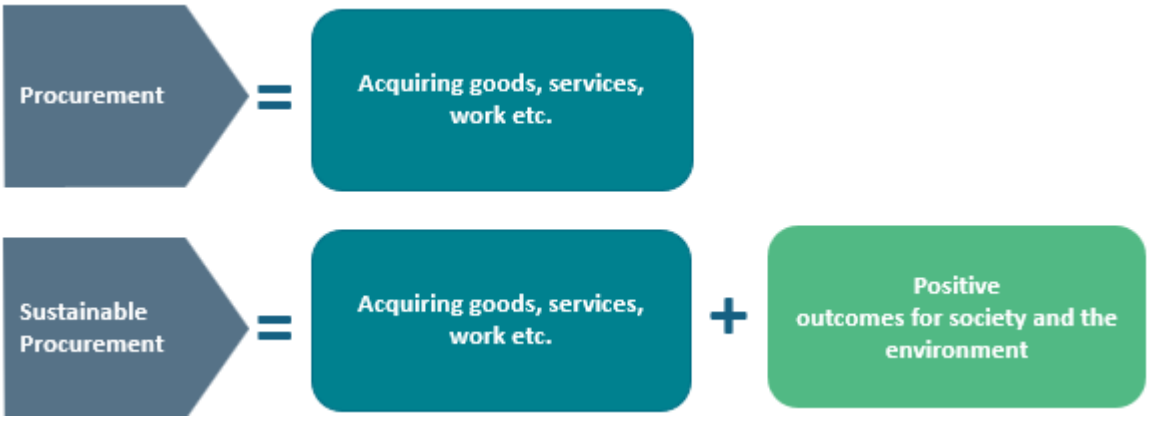

Figure 2 Defining Sustainable Procurement

In this report, we refer to these secondary benefits collectively as 'sustainable outcomes'. Achieving sustainable outcomes, alongside the traditional procurement goals of quality and cost-effectiveness, is viewed as maximising Public Value (see **Error! Reference source not found.**).

There are levers that can be used during each stage of the procurement process to generate sustainable outcomes such as intentional sourcing of products from social enterprises or Māori/Pasifika suppliers, or prioritising suppliers with strong environmental and social practices. These levers are further explored in the accompanying Guidance report.

Figure 3 Public Value

Defining organic waste

New Zealand's Emissions Reduction Plan (2022) defines organic waste as wastes containing carbon compounds that are capable of being readily biologically degraded, including by natural processes, such as paper, food residuals, wood wastes, garden and plant wastes. Diverting organic waste from landfills is a key priority due to its potential to emit harmful greenhouse gases, such as methane and carbon dioxide, when left to decompose in landfills. Instead of contributing to emissions, organic waste can be transformed into valuable resources, such as compost, mulch, or biogas, through sustainable, cost effective processing methods.

Bastein (2013) makes a distinction between three organic waste streams:

1) Primary waste streams: Generated during harvesting, storage and transport prior to primary processing;

2) Secondary waste streams: Generated during primary processing within the agrofood industry; and

3) Tertiary waste streams: Generated during production or consumption by end users.

This report primarily focuses on case studies within the tertiary waste streams, specifically on residential food and garden organics collections managed by local councils, as opposed to business collections, which are typically handled by private entities. However, many of the findings are applicable across all organic waste streams, offering insights that can inform broader waste management practices.

Defining circular economy

The circular economy marks a significant departure from the traditional "take-make-dispose" system, which depletes resources and creates waste. It aims to eliminate waste, pollution, and emissions at the source by redesigning how we produce, consume, and manage resources (Blumhardt, 2023). Instead of discarding materials after use, circular strategies focus on reuse, regeneration, and restoring natural systems.

In the context of organics, a circular economy recognises the value of organic materials such as food scraps, garden waste, and cropping residues, viewing them not as waste but as valuable resources. These materials play a key role in the biological cycle, or bioeconomy, where renewable resources are reused through regenerative practices like composting and mulching and anaerobic digestion.

As highlighted in the Ellen MacArthur Foundation's "butterfly diagram," the biological cycle ensures that organic matter returns to the environment, enriching soil health, reducing environmental impact, and even producing valuable by-products like compost, mulch, and biogas. These outputs reintegrate into natural systems, maintaining a continuous regenerative cycle that supports both environmental sustainability and resource efficiency. Expanding these practices requires collaboration and strong networks, with partnerships across industries and communities critical to success.

In Aotearoa New Zealand, the integration of Te ao Māori —the Māori worldview— is critical to circular economy models. This continuous cycle of organic materials not only conserves resources but also supports sustainable outcomes, encouraging a holistic approach that emphasises interconnectedness between the land, environment, people, and communities. By incorporating this view, the circular economy in New Zealand prioritises social well-being, equity, and community resilience alongside environmental and economic goals, creating an inclusive and culturally responsive approach to sustainability.

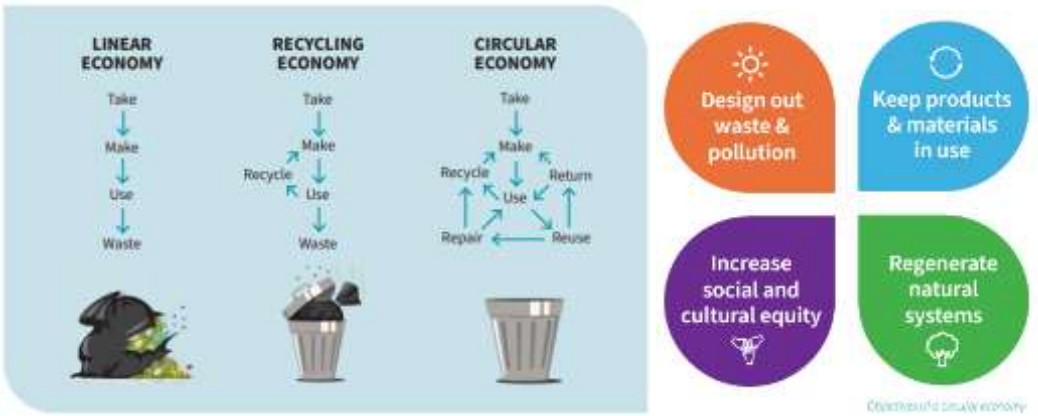

Figure 4 Circular economy models. Source: Waikato Waste Prevention Action Plan

3.5 Legislative context in Aotearoa

In Aotearoa New Zealand, waste management, particularly organic waste diversion, is a priority for all levels of government, as outlined in key legislative and policy frameworks. The Emissions Reduction Plan (2022), Te Rautaki Para | Waste Strategy (2023) and the potential for an upcoming mandatory roll-out of kerbside organic material collections between 2027 and 2030 signal the growing focus on organic waste diversion.

Territorial Authorities have responsibilities under several key laws, including the Local Government Act 2002, Waste Minimisation Act 2008, and Resource Management Act 1991. These plans play a critical role in aligning local policies with national goals for waste reduction and resource circularity.

The New Zealand Waste Strategy (2023) sets six principles to guide waste management, including delivering equitable and inclusive outcomes, and ensuring that waste systems are financially sustainable. The strategy also highlights the need for local coordination in resource recovery, which is vital for the country's transition to a circular economy.

See the Situational Overview chapter of the Circularising Organics report (Waikato Regional Council, 2024) for more detail of relevant regulations in both a national and regional context. Since the report's 2023 release, the waste levy has continued to increase, reaching $75 per tonne for Municipal Class 1 landfills by July 2027. The allocation of levy funds has also broadened, supporting more waste management initiatives. The upcoming Emissions Reduction Plan 2024 will likely place a stronger emphasis on reducing carbon emissions from organic waste.

In the Waikato region, efforts focus on reducing waste and recognising any waste generated as a valuable resource. However, in New Zealand, the production and use of products derived from organic materials are largely unregulated. There is no mandatory regulatory framework requiring producers to adhere to specific standards to support the uptake and use of these end products. Instead, the existing standards are voluntary, covering aspects such as production, processing, storage, transportation, and labelling of organic material-derived products.

4. Enhancing circularity through decentralised resource recovery networks

4.1 The case for small-scale locally based organic waste processing

A major driver for the Circularising Organics project was to provide evidence-based research into how to circularise organic waste. A key output was a waste hierarchy to support council decision-making. The hierarchy (see Figure 5), was designed to provide an evidence-based tool to assess whether proposed waste infrastructure opportunities would help councils move towards a circular economy.

As with any waste hierarchy, the priority is to reduce the source of food waste. This is followed by edible food rescue for people, then animals. On-site processing and use is the third and final option within the preferred group.

For any remaining organic waste, this hierarchy places small-scale, locally-based service providers above both medium-scale locally-based service providers, and large-scale regional providers. A network of small to large scale options is deemed to provide the greatest system resilience.

Small-scale locally based initiatives typically involve low-tech equipment (e.g. compost boxes, bays, open piles/windrows, worm farms) that are manually operated. They can be wholly managed by volunteers, or more commonly, by a mix of paid staff and volunteers. They occur at sites such as community gardens, schools, marae, parks, multi-unit dwellings.

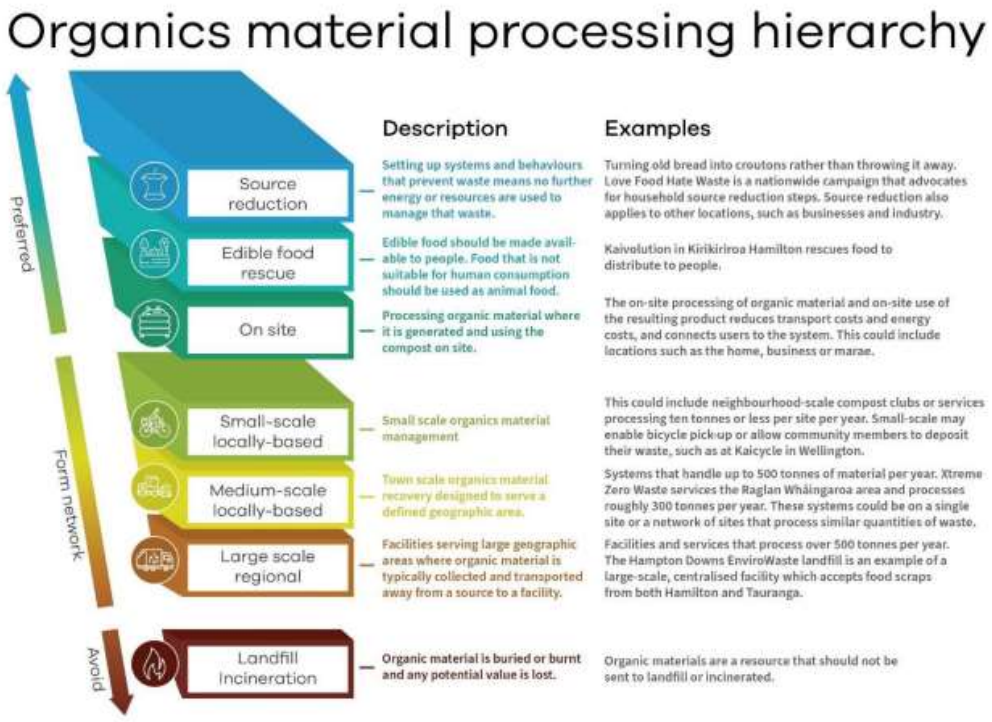

Figure 5 Organics material process hierarchy - Circularising Organics

The key benefits of the network approach as evidenced by the literature and our interviews include:

- Added resilience by adding to the overall system's processing capacity. This avoids an overreliance on only one or two large facilities, which can create vulnerabilities.
- Greater opportunity to embed social procurement, creating local jobs and social cohesion (as discussed in Section 0

- Sustainable)
- Reduced infrastructure costs
- Reduced implementation timeframe
- Greater flexibility/scalability compared to larger processors
- Ability to co-locate with or near producers of feedstock
- Greater control of contamination due to the smaller quantities of material flowing through each facility, combined with the higher degree of manual labour required in low-tech systems, enable more thorough and targeted manual screening and removal of contaminants
- Improved soil health through local application of the end products
- Reduced emissions and costs through reduced transportation and maintaining proximity between generators and processors of organics
- Community-based organics management can also support participation rates (see for example the work of the Institute for Local Self-Reliance (ILSR)).

The Waikato situation

Food scraps alone make up 22% of landfill emissions in Aotearoa (MfE 2022a). The Waikato and Bay of Plenty Regional Waste Stocktake (Eve et al 2022) found that organic material comprised 48% of kerbside rubbish destined for landfill. Further research conducted as part of the Circularising Organics project indicated that there is more than 370,000 tonnes of organic waste materials generated per year in the Waikato (Circularising Orgs).

Approximately 93% of waste sent to landfill in the Waikato and Bay of Plenty regions goes to either Hampton Downs or Tirohia landfills, (2021 Recycling Stocktake). While both are located within the Waikato region, they are on the outskirts and do require significant transportation of material. These landfills both have high gas capture rates and can avoid 75%-90% of the ETS costs, however, there is still much room for improvement.

Organic collection services vary across the Waikato and Bay of Plenty regions in both the type of service provided and the material types and quantities. Not all areas currently have kerbside collection services and those that do are met by a mixture of both public and private sector operators. Typically, the residential kerbside collections are provided by local councils while private businesses tend to meet the needs of other commercial businesses.

Due to the cost of transporting organic materials over long distances, competition between collection services across territories is limited. Most operations are located near sites of significant raw material outputs such as cities or primary sector processing plants to reduce transportation.

Figure 6 Waikato Regional Waste Ecosystem - Waikato Regional Waste Prevention Action Plan

Examples of smaller-scale processing facilities in the Waikato that accept organic waste from the community include:

- The Fairfield Project (Hamilton)
- Western Community Centre (Hamilton)

- Moanataiari School (Thames)
- Enrich+ (Te Awamutu)
- Marae
- Why Waste

While some farms are operating on-site systems, there is little evidence of these farms accepting organic waste from other sources currently (Waikato Regional Council, 2024). These farms, alongside existing networks such as schools, community resource recovery centres and community centres therefore represent an untapped resource that could play a greater role in a distributed composting network.

Challenges in implementing the preferred waste-hierarchy

Unfortunately, despite the many benefits outlined above, large-scale, centralised processing and collection systems continue to receive the majority of support and attention from decision-makers, with smaller-scale organisations seen as difficult to procure (Pai et al. 2019). We explore below, some of the real and perceived barriers to working with smaller-scale operations and how procurement methods may exacerbate the bias towards larger-scale centralised processors. First though, we detail some of the key challenges these organisations face.

Challenges for smaller-scale processors

The small-scale processors spoken to as part of Circularising Organics (Waikato Regional Council, 2024) felt that the changing public perceptions, combined with increasing landfill costs and demand for outputs was providing a strong opportunity for them to grow. Despite the opportunity, they did report significant barriers to growth and greater participation in the organic waste ecosystem.

The barriers faced by small-scale processors included:

- Insufficient funding for operations,
- Government policies and procurement processes favouring large-scale models
- Resource consenting challenges, and
- A lack of understanding within government regarding the comparative social, environmental, and cultural benefits of different composting methods and models.

The composters we spoke to expressed frustration that organic waste was being transported from sites like parks and reserves where it could easily be processed and reused onsite. Sustainably transporting the composter to the waste in these scenarios so that the biological loop can be achieved onsite was seen as a much more efficient use of resources than transporting the waste offsite and then transporting compost back to the park.

Funding for operations in particular provides a major barrier to growth. While funding for infrastructure was more readily available, funding to take on paid staff was harder to secure. Building capability and expertise through paid staff was seen a key enabler to growth for their operations. This challenge was further compounded by the emerging nature of the industry in Aotearoa which has led to a shortage of expertise in commercial composting.

In a similar vein, some operators expressed frustration that ‘innovation funding’ through their council could be used to deliver a successful pilot, with no further funding available to continue the successful programme.

Another key issue for these organisations is the relative ambiguity of consent requirements, and the way in which they are applied. The Circularising Organics report (Waikato Regional Council, 2024) described an example of a community organisation that was close to securing an agreement with the council to compost on a green space adjacent to a community centre, but were classified as a 'commercial activity' instead of a 'recreational activity,' which led to the activity being disallowed on council land, with no opportunity for further discussion.

Smaller-scale processors were typically in favour of working in a network with other providers, however had limited capacity (and funding) to devote to setting up such arrangements. In a live tender, where there is no specific communication from the council that this approach is welcomed, the risk of committing resources to this process often leads to a decision not to bid.

Together, these financial, regulatory and other barriers make it difficult for the organisations interviewed to expand their services and activities, or to successfully tender for council contracts.

Challenges for Councils

In the current economic climate, councils are under pressure to minimise costs for ratepayers, while also juggling competing priorities with minimal staffing levels. Because of this, many councils that are not already doing so, will not prioritise collecting and processing organic waste, without a government mandate to do so.

Two of the councils spoken to for this research had put forward recommendations for food scrap collections in their most recent Long-term Plans but did not secure funding. These challenges seem particularly acute for rural areas, where the costs for collection are high, and more households have existing food scrap solutions including home compost as well as feeding pigs and chickens on their own or neighbouring properties.

Many of the councils expressed concern about the low uptake of kerbside foodscrap collections and the need to have education and marketing to increase uptake. Research commissioned by the Ministry for the Environment (Sunshine Yates Consulting, 2023) found that the key barriers to using food scraps collection included confusion over what can be composted, low awareness or motivation, hygiene concerns, and the perceived inconvenience of the service.

The research revealed a gap between reported behaviours and actual practices. While many people claimed to compost, analysis of their rubbish found that a significant amount of food scraps still ended up in general waste, indicating that actual composting practices were much less prevalent than reported.

While some of the councils interviewed had successful community gardens and other smaller scale operators within their area, there was a resistance to contracting directly with these organisations. The key reasons for this resistance included perceptions that smaller operators:

- Are overly reliant on volunteers and therefore vulnerable to failure when key volunteers are no longer able to drive the kaupapa
- Have limited knowledge of Health and Safety and a higher potential for poor management
- Are more labour intensive to manage by councils. "*They're very hard to manage from our perspective, it's easier for us to manage one contractor than it is to manage 20 when we've got limited resources"*

However, as noted by the Zero Waste Network, many of these features can be influenced by other factors as much as (if not more than) the scale and most can be addressed with appropriate equipment (e.g. in-vessel composters), education and good process (e.g. achieving sufficient temperatures).

Councils also mentioned fear of investing in tech that becomes obsolete or unused if a contractor no longer wishes to use it.

There is a need to act swiftly to support smaller organic waste processing options that align with the top of the waste hierarchy. As more contracts with larger, centralised processors are secured, they will capture significant feedstock, leaving smaller operators without the necessary materials to sustain their businesses, potentially driving them out of the market before they have the chance to scale up.

4.2 Decentralised Case studies

Xtreme Zero Waste

Xtreme Zero Waste (XZW) has developed a successful model of localised waste management in partnership with Waikato District Council. It illustrates how piloting in a smaller community can allow a council to grow the skills and capabilities of local processing organisations who can then form part of a network approach.

Timeline

- 2000 – XZW was established, with an initial 3 year contract from Waikato District Council (WDC). In 2007 – negotiated a 7 year contract
  2010 – a feasibility study into organics was funded by WDC.
- 2017 – Food waste collection service began in Raglan
- 2021 – Successful application to the Ministry for the Environment to build a new processing plant
- 2022 – WDC rolls out food waste collection across other targeted areas

Key Lessons from Xtreme Zero Waste

XZW credit their success in part to their deep connection with the local community. Their strong focus on community education has led to low contamination rates. Prioritising engagement with residents has resulted in strong participation and better sorting practices.

The visibility of their operations, such as the collection trucks and staff interacting with the community, is also thought to reinforce the presence and reliability of the service. This visibility builds trust and leads to the community feeling directly involved and invested in the waste management process. This sense of accountability is not thought to be as strong with larger, less locally-rooted companies or when organics are transported out of the region.

Local waste processors often have a better understanding of community habits, which can lead to more efficient services. XZW designed their food waste collection service with the local community's behaviours in mind. They feel this flexible, tailored approach led to higher participation rates than generic solutions might achieve.

Ensuring that council priorities align with the goals of local waste processors can be challenging, particularly in new or innovative areas like organic waste processing. They did find there was initial resistance from the council to fully back certain waste management initiatives, which required persistent advocacy from Xtreme.

XZW highlighted that complex council procurement processes can be a major barrier for smaller organisations. They advocate for tailored and simplified procurement processes, such as phased contracts, that allow local processors to scale up gradually.

Support measures

The key challenges XZW see for organisations like theirs are the difficulty in securing land or capital investment upfront, which is often expected by councils but can be a significant barrier for smaller organisations. They recommend the following support measures to help smaller-scale processors:

- Longer contract terms to provide financial stability and allow for investment in infrastructure alongside grants.
- Supporting the use of council-owned composting equipment to enable them to handle larger waste streams.

- Providing land at affordable rates or under more favourable terms, to help overcome one of the major hurdles they face in scaling their operations
- XZW identified their future role as potentially supporting composters in other regions by providing business development, operational assistance, and guidance in critical areas such as health and safety, contingent on the availability of appropriate funding. This support would be aimed at helping other composters across the Waikato grow and succeed in their operations to support more localised composting solutions.

XZW support the idea of embedding a buy-back clause for compost into council contracts. This approach would keep the benefits of the compost within the community and provide a more sustainable and closed-loop system while also providing stability and support to the processor by ensuring a consistent demand for their compost products.

Besançon

This case study[1] demonstrates the environmental and economic benefits that localised composting can have on a region's overall solid waste management strategy, without directly procuring organic waste processing. Over six years, Besançon were able to reduce waste by 35% with a decentralised composting system covering 70% of the population.

Background

In 2008, Besançon (France), and its surrounding municipalities decided to start moving away from the incineration of residual waste. They had concerns over the environmental and health impacts of incineration, and as one of their two furnaces in use was reaching the end of its life, they were also driven by avoiding the costs of a new facility.

SYBERT is a joint public authority in charge of waste processing for an area covering 165 municipalities and 224,186 inhabitants. While SYBERT are exclusively responsible for waste processing, they developed a strong vision focused on prevention first. This vision was also reflected in their budget, which allocates €2.67 per inhabitant for waste-prevention, compared to the average French spend of €1.5.

Organic waste isn't separately collected by SYBERT but they facilitated home and community composting and implemented other measures to incentivise households to divert organic waste. These included the following:

Pay-as-you-throw (PAYT) Scheme: This scheme includes a fixed fee based on the size of the residual waste bin and a variable component depending on the number of set-outs and, in some cases, the weight of the bin. This encourages citizens to start composting their food scraps, to reduce the waste they produce and the fee they pay.

Home composting: SYBERT sells home composters and worm-composters three times a year at reduced cost. This has resulted in 20,000 composters being supplied by SYBERT, on top of those provided by municipalities and those bought directly by users.

Community composting: SYBERT has provided installation support and supervision to help set up 300 privately owned and managed community composting sites. These are typically located at the foot of buildings. Building inhabitants formally request the installation at a cost ranging between €106 and €318, depending on the number of households involved. This covers the installation of the composter, provision of kitchen vented bins, tools, and technical support for a year which is provided by a local association on behalf of SYBERT.

For SYBERT, these small composting sites are very beneficial both for the environment and the economy, as they manage to divert large amounts of bio-waste at a fixed cost of €2000 for the initial investment and first-year support. After this, the treatment of this waste comes at zero cost. In 2016,

[1] (Zero Waste Europe, 2018)

SYBERT estimates that 376.8 tonnes of bio-waste were composted at these small sites, resulting in €40,178 in savings for the municipalities in treatment costs.

Composting houses: For areas with no space for home or building-composting, SYBERT has proposed larger composting sites with a capacity of up to 20 tonnes a year. These can serve several buildings and between 100 and 1000 households. Twelve larger composting boxes have been installed in green public spaces in Besançon or, in common spaces of other buildings. These composting houses are fully managed by SYBERT, who installs them as well as managing the composting process. They accept drop-offs from the community at specific hours and days, with an operator weighing the waste and ensuring there is no contamination.

The results

By 2016, 70% of the population under SYBERT either had a composter or was covered by a community composting site, and over 50% of the citizens were composting their food scraps at home, in small community composting sites at the foot of their buildings, or in larger community composting sites serving several buildings.

The high participation in decentralised composting processes reduced the presence of bio-waste in residual waste from 67kg per capita in 2009 to 36 kg in 2014. Residual waste reduced from 217 kg per inhabitant in 2009 to less than 150 kg per inhabitant in 2016. This is directly linked with the PAYT scheme and the high support from local administrations, in particular from SYBERT.

This widespread solution of decentralised composting has managed to divert 7436 tonnes of bio-waste from incineration in 2016. This way, SYBERT municipalities have saved 792,900 € in the treatment only, to which further savings from collection should be added.

Previously, citizens funded 80% of the waste management costs. With greater separation and the sale of high-quality materials offsetting costs, the required contribution from citizens reduced to 65%. As a result, the average waste fee per inhabitant in Besançon and the surrounding municipalities is €72 a year, lower than the French average of €89 per inhabitant.

Waiheke composting initiative

Overview

The Waiheke Island composting initiative, Food 2 Soil, was an ambitious pilot aimed at creating a local solution for organic waste management by keeping food scraps on the island. The project was part of a broader effort to decentralise waste management and promote community-led composting solutions. By reducing reliance on off-island processing, the initiative sought to cut down on transportation emissions and create valuable compost for local use, supporting both environmental sustainability and community involvement.

Implementation

The initiative began with strong collaboration between residents within the Surfdale community, business sponsors and community organisations, with support from the council through a short-term pilot programme. The project involved a small-scale collection model, where food scraps were gathered from participating households within the Surfdale catchment. The organic waste was then processed locally at a compost hub managed by the Home Grown Waiheke community group. The pilot successfully demonstrated the benefits of local composting, showing potential for broader application across the island.

Outcomes and benefits

During its initial phase, the Waiheke Island composting project diverted a significant amount of organic waste from landfill, keeping it on the island and transforming it into nutrient-rich compost. This reduced the environmental impact of transporting waste to external facilities and provided compost for local use, contributing to soil health and supporting community gardens and creating local

employment. The initiative also strengthened community ties, with businesses and residents playing an active role in the composting process. Education efforts increased awareness around composting and waste management, encouraging more sustainable behaviours.

Challenges

Despite this success, the project was unable to secure ongoing funding beyond the initial pilot as the funding was specifically for innovations rather than ongoing operating costs. While the initial trial was successful in demonstrating the viability of localised composting, this funding shortfall prevented the initiative from continuing beyond the trial, highlighting a critical barrier for small-scale composting projects: sustainability beyond the pilot phase. Despite strong community engagement and uptake, the potential for long-term benefits, the initiative could not move forward due to lack of ongoing funding.

Wesley Market composting

Overview

Sophora Todd is Managing Director of Wash Your Mouth Out, the social enterprise responsible for the localised composting initiative at the Wesley Markets in Auckland. This initiative, which focuses on community-based composting, highlights the value of decentralised organic waste processing and localised solutions and how they can successfully integrate into local council waste management systems. By engaging with local stakeholders and providing on-site composting services, Sophora has demonstrated a model that is not only effective in managing organic waste but also aims to support community involvement and education around sustainability.

Implementation

The Wesley Market's composting initiative began as a trial supported by Auckland Council, with the goal of diverting organic waste. The market, held twice a week, generates a significant amount of organic material. Sophora's team collected the waste using 100-litre bins, which were processed at a nearby community garden. The composting was done manually, and the team ensured that stallholders were involved by providing education on proper waste separation.

The project expanded into a social procurement contract with the council, allowing Sophora to formalise operations. Despite operating on a small scale, the initiative avoided transport emissions by processing all waste locally. The initiative also maintained close ties with the community, making the composting process more visible and accessible to the public. However, Sophora suggested that community engagement could be further enhanced by placing the bins front and centre and clearly explaining how they are managed. This would involve shifting away from the typical practice of keeping bins out of sight, and instead using their visibility as a tool to engage and educate the community more effectively.

Outcomes and benefits

The Wesley Market composting initiative successfully diverted 8 tonnes of organic waste in its first four months, transforming it into valuable compost for local use. This not only reduced the amount of waste going to landfill but also provided an environmental benefit by turning organic material into a resource for improving soil health.

The project also built strong community ties through its visible and hands-on approach, actively involving market vendors and local residents in the composting process. Many participants even brought their own organic waste to contribute, further embedding the initiative in the community and demonstrating that organics collection points may have their place in some communities or neighbourhoods.

By processing waste locally, the initiative significantly reduced transportation emissions, contributing to a more sustainable model. Beyond waste diversion, it also became a powerful educational tool, raising public awareness about composting and encouraging sustainable behaviour. However, Sophora suggested that further impact could be achieved by bringing waste management efforts from behind the scenes to the forefront, showcasing the initiative more prominently to the public.

Key enablers for success

- Direct Support from Council: The project benefitted from Auckland Council's support, including the transition from a trial to a formal contract. This allowed Sophora to secure ongoing funding and scale operations.
- Community Involvement: Engaging the local community and market vendors was critical to the initiative's success. By making the composting process visible and interactive, the project fostered a strong connection with its participants.
- Decentralised Composting Model: The localised nature of the project, which avoided transporting organic waste over long distances, made it more sustainable and adaptable to the needs of the community.

Bike-powered food scraps collection

As part of a feasibility study, The Institute for Local Self-Reliance (ILSR) recently interviewed 17 bike-powered food scrap collectors in the United States to understand the challenges and successes they faced. The interviews covered starting up, engaging employees and volunteers, selecting composting sites and processes, sourcing equipment, engaging customers, and managing finances.

They found many similarities in the challenges faced by the organisations. The key learnings identified through this research included:

Starting-up

Most start-ups faced challenges like overextending in the early stages, those with a partnership found this process easier. They recommended starting small and using local knowledge to identify specific neighbourhoods that will have the highest uptake, before expanding to wider geographic areas. Understanding local policies, and having a growth plan were also seen as crucial during this period as some ended up with more product than they could process.

Employees and volunteers

Employees in this sector need to be physically fit and committed due to irregular hours and challenging conditions. Volunteer involvement varies, with some organisations focusing on youth employment and social change.

Composting sites and processes

Organisations either engage in the composting process directly or partner with community sites. Composting methods and destinations for processed waste vary, with some selling or redistributing the final product.

Equipment

Trailers and bikes are the primary equipment, with preferences for specific brands or custom-made options. Organisations often expect employees to provide their own bikes, but some offer partnerships with bike shops.

Customer engagement and marketing

Initial customer acquisition often relies on farmers' markets and online forums, transitioning to word-of-mouth as services grow. Retention is driven by clear communication, policies, and compost giveback programs.

Financing

Start-up and operational costs are minimal after initial investments in equipment, with insurance being a significant ongoing expense. Pricing structures vary, with some organisations offering discounts or incentives to attract and retain customers. Financing strategies differ, with nonprofits benefiting from grants and for-profits exploring creative funding options.

4.3 Key takeaways from decentralised case studies

- Small-scale, locally based processors are higher up the waste hierarchy than both medium-scale local, and large-scale regional processors, with a network approach of processors providing the greatest network resilience.
- It is important that small composters avoid overextending in the early stages. They should start small and focused, using local knowledge to target neighbourhoods with the highest potential uptake before expanding.
- The greatest challenges for small-scale local processors include: Access to finance, particularly for operational and labour costs, consenting, and resistance from councils to work with them.
- Councils are hesitant to procure from small-scale operators due to real or perceived concerns that it is more labour intensive to manage, and at higher risk of failure and/or health and safety/resource consent breaches.
- International case studies show significant savings and environmental benefits for waste managed through decentralised organic waste processing that can be done without kerbside collections.

5. Sustainable procurement

Sustainable procurement refers to the use of procurement activity to generate secondary benefits above and beyond acquisition of the intended goods or services. Below, we describe the current situation, and provide examples from Aotearoa and abroad, of how sustainable procurement has been used to generate positive impacts on our communities. As environmental benefits have been covered in the previous section, this section will focus more on the economic, social and cultural outcomes.

Sustainable procurement provides a mechanism to deliver New Zealand's Te Rautaki Para | Waste Strategy key principle: Deliver equitable and inclusive outcomes. The actions for this principle are:

- Recognise the unique perspectives, needs and approaches facing different local communities, businesses, hapū, iwi and whānau.
- Ensure the costs and benefits of change are distributed equitably among communities and across generations.
- Develop and invest to create opportunities and jobs in local and regional communities.

Building local capability in organic material processing, including at the iwi and marae levels, can contribute to community resilience, economic growth and environmental sustainability.

Economic benefits

An intentional approach to procuring organic waste services can generate inclusive growth, support the local economy and address inequities in the region.

Single-site, larger-scale processors tend to have higher levels of mechanisation and are less reliant on manual labour, and therefore create fewer job opportunities. In contrast, smaller-scale network operators servicing smaller geographic areas provide greater opportunities for quality employment, and volunteer opportunities (Diprose, 2023). These employment opportunities include organics diversion, as operators, mentors/trainers, educators, and provide pathways into farming, horticulture, landscaping and other related sectors (Platt, 2014).

Sustainable procurement can stimulate economic benefits in these key ways:

- Direct contracting with a local organisation including targeted businesses (Iwi/Māori or Pasifika-owned, Social Enterprises)
- Setting subcontracting and/or employment targets for a main supplier to spend with local businesses/employees
- Employment targets for priority groups (i.e. long-term unemployed, youth who are not in education, employment or training (NEET), Māori/Pasifika, women, disabled)

Research that Height Project Management conducted with small to medium Māori businesses (Height Project Management, 2023) identified a number of barriers that consistently hamper their engagement with local and central government supply chain. While this research specifically focused on Māori businesses, the challenges ring true for most small to medium enterprises (SMEs) and are discussed below in this context.

Complex procurement processes, and overly onerous preconditions are time-consuming and present a considerable barrier to entry for these smaller and less experienced businesses – favouring larger established businesses, with experienced and resourced bid teams. The procurement process needs to be simplified and deliberately tailored to the outcomes sought, with tailored guidance provided to help SMEs navigate it successfully.

Similarly, many SMEs struggle with the contracting process, as they lack either the time, resources, or in-house capability to deal with it. The language used in contracts and tenders needs to be simplified, documents must be accurate and fit for purpose.

A crucial aspect to engaging more SME suppliers is tailoring work packages to better match the capabilities of the targeted businesses. This may be through designated subcontracting opportunities, or by unbundling the main contract to create a bespoke contract that aligns with the capability and aspirations of local businesses. These contracts can be scaled over time to accommodate the organisation's growth.

Economic growth for Māori business

Māori are a significant part of the Waikato economy, making up nearly one fifth of the workforce. However, due to historical and systemic factors they experience higher rates of unemployment, lower average incomes (88 percent of the regional average), poorer educational outcomes relative to other ethnic groups (Waikato Regional Council, 2022). A targeted approach to procurement provides a powerful tool to help address these inequalities.

In addition to the challenges faced by SMEs generally, Māori can face a number of additional barriers in procurement. Some business owners have first-hand experience of feeling culturally unsafe during their exchanges with government buyers (Height Project Management, 2023). They noted a frequent lack of relationship building throughout the procurement process, with organisations often providing generic email addresses and no nominated contact person. To address this, councils should prioritise kanohi-ki-te-kanohi (face-to-face) interactions and provide a designated contact person to support the building of trusted relationships through open, transparent and early engagement.

The Circularising Organics research into opportunities for Māori (Ormsby & Whetu, 2023), identified the three key challenges to Māori engagement in the organics sector as:

- lack of capacity to prioritise organic waste opportunities above competing priorities,
- insufficient time provided for supplier engagement and bringing everyone on the journey, and,
- a lack of capability and local talent.

Ormsby & Whetu (2023) further identified land use restrictions and funding/access to capital as key challenges in realising opportunities for Māori involvement within the organics value chain. While Iwi and hapū and other Māori commercial entities/trusts often have access to land (one of the key challenges for other organisations in establishing and scaling up). This land is often owned under Te Ture Whenua Māori (Māori Land Act) 1993 which defines the types of ownership structures (Journeaux et al, 2017), governance and land use.

Considering alignment with Māori practices and perspectives, as well as the required capital and capabilities, Ormsby & Whetu (2023) identified the community-scale composting/vermicomposting, industrial composting and small scale anaerobic digestion as the top market opportunities for Māori due to the close alignment with natural processes and whakapapa-centred perspectives and lower logistical complexities, and initial investment requirements.

Cultural benefits

In addition to job creation and capability development opportunities which can be targeted to specific communities to address inequalities, there are a range of cultural benefits that can be addressed through using sustainable procurement practices. Taking an intentional approach to partnering with Iwi and/or Māori businesses in organic waste procurement can also aid in:

- The preservation of cultural heritage and practices through the facilitation of intergenerational knowledge transfer
- Strengthening connection to culture for both employees and the community interacting with these businesses

The Whakapapa Centred Transition report (Ormsby & Whetu, Whakapapa-centred organics processing to transform local economies and communities across Waikato, 2023) discussed the use of mātauranga Māori to inform decision-making in the Waikato with regards to organics processing. They see this as a practical exercise of self-determination; enabling the reclamation of identity

connected to place, and the reactivation of Waikato's sovereign food networks, while also respecting kinship relationships with atua through responsible and regenerative behaviours.

Effective engagement also enables councils to better understand and observe local tikanga to be such as local processing of local waste (as described in the case study below). Other important considerations include the tikanga relating to the separation between the human food chain and human waste streams which has been raised many times through Waitangi Tribunal claim, resource consent or court proceedings (Pauling & Ataria, 2010).

Social benefits

In the context of organic waste, the social outcomes that can be attained through intentional procurement practices include elements such as:

- Improving public health by reducing food insecurity;
- Initiatives to improve the mental health of workers and/or the community;
- Improving gender equity or inclusion of other marginalised groups;
- Enhanced community safety, beautification and/or increase sense of community pride in a neighbourhood; and
- Improving safety for workers.

For a lighter touch approach, tender evaluation weightings can be used to give greater weight to organisations that have good organisational practices in place to support employee mental/physical health/safety. A more proactive approach might see a buyer agency detailing a specific social initiative for tenderers to commit to, or prompting organisations to propose initiatives to deliver social outcomes. This can be conveyed to potential suppliers through the early engagement process to allow them a chance to input into the initiative planning, and if relevant start to engage or develop partnerships to deliver the activity.

Social cohesion describes how well people from a community mix, interact and get along with each other. This can be done through consciously developing neighbourhoods, social spaces and workplaces where difference is welcomed and celebrated - moving away from "us" and "them" type thinking, towards a shared sense of belonging and purpose.

The research points to the value of community cohesion built through smaller-scale processing solutions that have a higher level of community engagement. A regularly cited benefit by those involved is the opportunity to build community. New relationships forged at the compost site can widen support networks and trigger collective action on other issues of concern in the community. Operators also felt that local collection and processing can reduce contamination and increase participation rates. Procurement that supports smaller-scale organisations can therefore support community cohesion.

5.1 Sustainable procurement case studies

Whakatāne green waste initiatives

The Whakatāne District will begin charging for green waste deposits at one of their rural Resource Recovery Centres for the first time in February 2025. Introducing the fees for this previously free service was part of a larger strategy by the Whakatāne District Council to manage costs and ensure fairness across the district.

The centre was situated in a small rural community in the Whakatāne District which faces unique challenges with limited employment opportunities and higher levels of deprivation. The Whakatāne District Council, actively sought opportunities to work with the local community to provide an alternate way to manage the green waste in the area, and mitigate the impact these new charges might have on the community.

A key part of this initiative was working with iwi to investigate the opportunity for iwi to provide their own green waste processing services.

Goals and objectives

The key objectives of this initiative were:

1. Reduce the financial impact on the community by offering an alternative solution for green waste management.
2. Support local job creation, provide a revenue stream and skill development by training iwi to manage green waste.
3. Promote environmental sustainability through community-driven green waste management.
4. Encourage self-reliance by empowering the iwi and community to self-manage green waste.

Approach

The council encouraged the local iwi to consider developing their own initiative to accept and process green waste from the community. The Council would provide advice and ongoing technical assistance to set up the initiative, including support for health and safety, and operational planning support. The Council would work closely with the iwi until they were ready to manage the operation independently, ensuring all health and safety protocols were in place.

The council implemented a number of additional initiatives in the community to help reduce the effects of the fees:

- Supplying a total of 100 subsidised home composting solutions to the community. Worm farms, compost bins or bokashi units were able to be purchased for $15 each. Free home composting booklets were also provided.
- A free home composting workshop was scheduled in the township, with those attending also receiving a free compost bin.
- Providing free worm farms and compost bins to local marae.
- Providing free composting stations, tools and a workshop to a local community garden.

Progress to date

Work is ongoing with the iwi to determine whether they will pursue a green waste business opportunity. In the meantime, the Council has made good progress on the community initiatives to enable and educate the local community on how to manage their organic waste at home.

Conclusion

The green waste initiative presents an opportunity for the community to become more self-sufficient while addressing environmental concerns. By seeking partnering with iwi, the Council aims to create a sustainable waste management model that supports local economic growth and reduces the community's reliance on external services.

Taranaki organic materials recovery iwi engagement

The three Taranaki district councils (South Taranaki District Council, New Plymouth District Council, and Stratford District Council) sought to meaningfully engage with iwi and hapū from the very start of their organics processing procurement project. They set an intention to 'explore all options/have everything on the table and nothing pre-determined,'.

They contracted local experts Aatea Solutions to facilitate the engagement process with local iwi between Jan 2021 and Feb 2022. Through focus groups and online engagement (during lockdowns), Aatea identified nine key themes, or bottom lines for iwi and hapū.

1) Tiriti-driven partnership and collaboration;
2) Mātauranga Māori-driven approaches and solutions;
3) Tiaki taiao - care and stewardship of the environment;
4) Organics Materials Recovery (OMR) must be actioned in Taranaki;
5) Local community options also desired;
6) Industry must take responsibility for their waste;
7) Iwi and hapū, councils, and industry collaboration;
8) Stringent monitoring of OMR facilities; and
9) Greater kai resilience enabled by OMR options.

Throughout the engagement, Iwi and hapu expressed a desire to move towards a more Tiriti-driven process with opportunity for joint decision making/co-governance. Aatea recommended that the three councils adopt a full co-governance approach to the next stages of this project with iwi and hapū representatives with the intention to initiate the more Tiriti partnership-driven Ōritenga or Mana Māori approach in regard to facilitation, equal weighting of worldviews, and importantly, shared decision-making and resourcing.

These perspectives were built into the feasibility study, with three of the seven evaluation criteria derived from Iwi engagement. These were: Te Taio – impact on the awa and whenua; Opportunity for Iwi and Hapū development – community resilience, food sovereignty, engagement; and He tāngata – intergenerational benefits including employment and education.

At the time of writing, the RFP was live with Iwi contributing to the evaluation of responses. Iwi did not elect to develop their own OMR initiative, but it remains to be seen what partnership opportunities exist with the successful tenderer.

City of Yarra street cleaning joint venture

This case study shows how Joint Ventures with Social Enterprises can generate social and economic outcomes while also addressing operational challenges faced by councils.

The City of Yarra, located in inner-city Melbourne, is a diverse community facing multiple challenges including high unemployment, vandalism, and social issues in public housing estates. The Council was also struggling with an ageing workforce, recruitment challenges, and quality issues in its street cleaning contract.

They used a sustainable procurement approach to address these social and operational issues together within their street cleaning procurement. The Council, collaborated with the Brotherhood of St Laurence (BSL), to implement a new street cleaning model with a focus on social outcomes.

The Council negotiated a contract variation with the existing street cleaning supplier to exclude certain localities and activities. The joint venture with BSL aimed to create a new street cleaning model that was both efficient and socially beneficial within the remaining localities. The focus was on providing training and employment pathways for long-term unemployed residents from public housing estates.

Implementation

The Council provided infrastructure, equipment, and technical support, while BSL delivered training, traineeship support, as well as managing the transitional labour market social enterprise. A Memorandum of Understanding (MOU) between council and BSL outlined performance outcomes related to service quality, training, and employment transitions.

Outcomes and benefits

The initiative successfully delivered across all project objectives including:

- Improved street cleaning standards,
- Workforce Development: Council hired many trainees for depot roles, including graffiti removal and weed control, reducing their reliance on costly labour hire.
- A more diverse workforce which led to positive changes in organisational culture and reduced racism.
- Reduced unemployment, vandalism, and drug issues in public housing estates
- Long-term savings for council from reduced reliance on external labour hire and improved recruitment processes.
- Strengthened local supplier diversity, breaking the near-monopoly held by the previous supplier.

Key enablers for success

Key to the success of this initiative were strategic and innovative thinking by Council staff, strong support from Council leadership and depot workers and effective partnership with a non-profit (BSL) to provide workforce training and support.

By adopting this social procurement approach, they were able to successfully address social, workforce, and service delivery issues simultaneously.

Watercare Ngā Kakau Paraha

To support the inclusion of smaller-scale composters in council procurement processes, lessons can be drawn from the success of Watercare's Ngā Kakau Paraha initiative. Ngā Kakau Paraha, New Zealand's first Māori supplier network integrated into a major procuring organisation, was launched to connect Māori businesses with Watercare's extensive pipeline of work.

The network was created to address the challenge of engaging small and medium-sized Māori enterprises (SMEs) in large-scale infrastructure projects, especially given their lower representation in the supply chain despite significant Māori population presence. Watercare's initiative aimed to drive equity, enhance Māori prosperity, and increase the organisation's spend with Māori businesses to 5% by 2025.

Implementation

Watercare launched Ngā Kakau Paraha in 2022 as part of its 10-year, $3.5 billion Asset Upgrades and Renewals (AUR) Programme. A key feature was creating a network of Māori suppliers to collaborate with prime contractors. Watercare partnered with Height Project Management, a Māori-owned consultancy, to establish the supplier network. The initiative included a two-step procurement process with simplified documentation and supplier briefings, ensuring clear communication and support for smaller businesses. Watercare also provided one-on-one sessions with experienced tender writers to help businesses refine their RFP submissions, addressing the barriers small businesses often face in tendering for larger contracts.

Outcomes and Benefits

Since its launch, Ngā Kakau Paraha has engaged 15 small Māori businesses across six work categories, introducing favourable contractual terms such as faster payment schedules to remove financial barriers and enable their participation. Watercare's direct relationships with these businesses have also opened up further opportunities for smaller jobs.

Beyond immediate contract awards, the initiative has had broader economic and social impacts and expects to help smaller Māori businesses scale up, addressing historical disparities in Māori business participation, and supporting long-term relationships between Watercare and its suppliers. By directly involving smaller businesses in council procurement, Ngā Kakau Paraha has promoted more inclusive and equitable economic outcomes, ensuring these businesses are equipped with the necessary requirements to successfully tender for and deliver work alongside tier 1 contractors on the AUR panel.

Key enablers for success

Key enablers for the success of Ngā Kakau Paraha included establishing direct communication channels between Watercare and suppliers, which ensured that the concerns of smaller businesses, such as the need for improved cash flow and shorter payment terms, were addressed. The procurement process was simplified through a two-step approach with streamlined documentation and extended response timeframes, effectively removing significant barriers to participation for smaller businesses.

One-on-one sessions with tender writing experts provided crucial support, helping these businesses navigate the complexities of the RFP process. Clear expectations were set for prime contractors to work with Māori businesses, ensuring that the initiative's goals were integrated into the overall procurement strategy and facilitating greater engagement between large contractors and SMEs.

Ministry of Education Healthy Lunches Iwi and Hapū Partnership Model

The Ministry of Education implemented a Broader Outcomes Strategy in 2022 that includes an overarching principle of 'Working in partnership with local iwi and mana whenua in achieving their stated outcomes for their area and their whānau'. The priority outcomes in the Broader Outcomes Strategy also included employment opportunities for Māori and Pasifika, and growing the Māori and Pasifika supply chains.

The Iwi and Hapū Partnership Model as part of the Ka Ora Ka Ako Healthy School Lunches programme provides a great example of this strategy in action. It involved schools/Kura partnering with their iwi or hapū to provide healthy school lunches. The delivery model was a treaty-based model where relationships are genuine and authentic, with a shared focus on local needs and outcomes for the students and whānau.

Schools/Kura worked alongside Iwi or Hapū to decide on menus, lunch delivery and how to manage any surplus food or waste. The Ministry of Education supports Iwi or Hapū in meeting the minimum requirements for nutrition, health and safety including registering a Food Control Plan. An Outcome Agreement is signed between Iwi or Hapū and the Ministry, payments are made directly by the Ministry.

An evaluation by Aikman and Yates-Pahulu (2023) found that model effectively contributes to the outcomes of Ka Ora, Ka Ako, for ākonga, iwi, hapū, and whānau Māori. The model:

- Nurtures a sense of community in schools, including within classes, between learners of different year groups, and between learners and kaiako;
- Contributes to broader food security and resilience for whānau;
- Encourages attendance for some students; and
- Provides a vehicle for the incorporation of mātauranga and tikanga Māori concepts, both at school and at home. We found the iwi and hapū social procurement and partnership model effectively meets the needs of iwi and hapū, and schools, kura, and their hapori.

The iwi and hapū model:

- Gives substantial effect to a Te Tiriti o Waitangi based way of working;
- Provides an equitable opportunity for iwi and hapū to become suppliers for Ka Ora, Ka Ako;
- Supports the development of iwi and hapū capability and capacity at local levels;
- Supports rangatiratanga and the mana of iwi and hapū in looking after their own tamariki and rangatahi;
- Supports the development and/or strengthening of relationships between schools/kura and iwi/hapū;
- Has enabled iwi and hapū to respond to the needs of ākonga;
- Has increased trust between iwi and hapū and the Ministry of Education; and
- Provides family-friendly employment opportunities for some whānau.

Challenges

The largest hurdle to iwi involvement was the nature of the mainstream/universal procurement process. It was seen as difficult to navigate, cumbersome, and challenging, resulting in many unable to engage and submit tenders. This is, perhaps, a result of its design, being intended for organisations with both the requisite capacity (infrastructure) and capability (knowledge) to respond to tenders in this way.

In response to this, in 2020 the Ministry of Education moved away from this traditional procurement model to a more collaborative model of procurement better tailored to the needs of iwi and hapū. This is described in Figure 7 below.

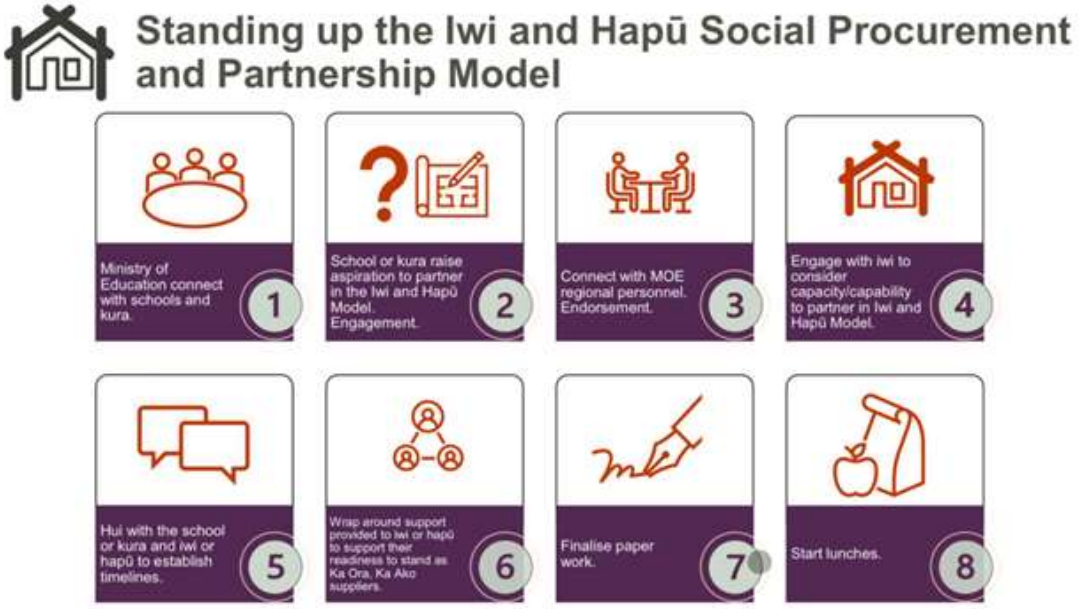

Figure 7 Iwi/hapū social procurement and partnership model process. (Ministry of Education)

Benefits

A key benefit of this model is that iwi and hapū prioritise the wellbeing of their tamariki and mokopuna over profit. They have a lasting presence in Aotearoa's socio-political landscape, and they willingly invest time, effort, and energy into their kura and tamariki in ways that profit-driven organisations cannot match.

Other noted benefits included an iwi that leveraged Ka Ora, Ka Ako to expand their kai-based services to support kaumātua and kuia in need. The same iwi was also considering building a facility to offer accreditation and career pathways for whānau, potentially in the kai sector following participation in the programme, leading to even further social benefits for the community.

Enablers for success

The researchers noted the key staff within the Ministry had been influential in the success of the programme (a dedicated National Liaison). They cautioned that relational-based practice such as this rests on continuity and can fall over if these relationships are not nurtured and 'kept warm', this will likely have a detrimental impact upon the programme. Another key enabler was the ability to be responsive to iwi needs, as demonstrated with the review of procurement methodology once it became apparent that this approach was not suitable.

Taranaki market engagement case study

In addition to the iwi engagement described earlier, the recent multi-stage procurement (EOI/RFP) in Taranaki also provides an excellent example of buyers clearly signalling openness to a network approach, as well as allowing suppliers the opportunity to tender for parts of or the entire contract.

The procurement was conducted on behalf of Project Partners (Stratford District Council, New Plymouth District Council, and three commercial partners that generate large amounts of organic waste). At the EOI stage, the project team emphasised their willingness to adopt a networked approach, inviting respondents to express interest in managing either some or all of the available organic materials from across the Taranaki Region.

The EOI also highlighted the preference for a Taranaki-based processing facility/facilities as this aligned to local iwi priorities. Sustainability carried a 30% weighting, evaluating suppliers on their strategies to reduce embodied and operational carbon emissions and alignment with the project partners' waste and sustainability goals.

The project partners focused on the performance standards, rather than tight specifications of the type of solution they were looking for. Their guidance encouraged respondents to provide a solution that aligned with the following key considerations:

- Maximising the capture of organic material for recovery.
- Maximising the reduction in greenhouse gas emissions.
- Achieving best value for money i.e. not necessarily the cheapest option.
- Enhancing environmental outcomes, including reflecting circular design principles.
- Improving local economic and employment opportunities.

5.2 Sustainable procurement case study key takeaways

- Relationships matter when dealing with SMEs and Māori businesses, allow time for genuine engagement through face-to-face meetings as this helps build trust and ensures that the specific needs of smaller businesses are met, leading to better outcomes for all parties.
- Providing smaller, more manageable contracts can help local businesses gain confidence and capability before scaling up.
- Simplifying tendering documentation and providing tailored support can help smaller-scale businesses overcome common procurement barriers, while offering favourable contractual terms, such as removing performance bonds and expediting payment terms, reduces financial barriers and enables greater participation by easing cash flow challenges.
- It's important to focus on outcomes rather than prescriptive specifications in your procurement to avoid ruling out alternative community/supplier developed solutions.
- By embedding requirements for large contractors to engage smaller suppliers, organisations can diversify their supply chains and ensure equitable participation, however maintaining a direct relationship between the procuring organisation and smaller businesses, rather than relegating them to invisible subcontractor roles, increases trust and builds long-term partnerships.
- While there can be additional up-front workload, sustainable procurement can result in cost-effective solutions, and stimulate healthy competition in the supplier market.

6. Circular economy through end markets

Uses for organic waste products

In a circular economy, the goal is to design waste out of the system, keep resources in use for as long as possible, and regenerate natural systems. For organic waste processing, this means converting any organic waste not suitable for human consumption into valuable products like compost, biogas, or soil conditioners.

The success of this process hinges on how well the products meet the needs of their users. A targeted strategy based on a solid understand of the local market, customer channels, and customer needs is essential to offsetting the operational costs of processing/collection.

There are many potential customers for compost and the other end products, including internal use by council. Understanding local demand is a key step, which will help inform the ideal processing solution and any output requirements/standards as well as highlighting whether council buy-back initiatives should be included in the procurement.

The Scaling up Scaling Out report (Diprose, 2023) into the scale, scope and nature of organics collectors and processors across Aotearoa found that demand is either at, or exceeding expectations for the majority of participants' enterprises. Only a small minority (12%) of the participants reported that demand for their end products was either below or far below expectations. This is not to say that the demand cannot be grown.

Potential customers include:

- Conventional farmers addressing nutrient depletion and using soil supplements for crop growth
- Horticulture sector seeking compost and soil conditioners across New Zealand.
- Organic farmers seeking certified natural alternative to synthetic fertilisers
- Residents using compost for small-scale gardening and farming
- Landscapers and developers incorporating compost into landscape design, development, and refurbishment.

Within councils there is the opportunity to support the end-market through both direct purchases (where council undertakes the activity) and indirectly by placing requirement for suppliers to use these products when servicing council contracts. Potential council uses are detailed below. As detailed in the Los Angeles case study below, setting targets for internal procurement of end products can be an effective way to grow the market.

Key concerns from councils included concerns about quality (including contamination concerns) and availability/lack of supply. There were also concerns about being locked into a contract with a single supplier. Councils may wish to require end products to be graded by quality. This could encourage councils to support small and medium scale operators to follow and demonstrate best practice.

Generators of organic material are often also users of the finished product. Processors are often co-located with food production (e.g. home and community gardens, urban, peri-urban and rural farms), creating an instant 'market' or 'sink' that can boost local food resilience. In a council context this includes parks and public spaces where green waste is removed, and soil conditioners are brought in. This represents a strong opportunity for a closed loop system.

Compost

A number of pre-existing council policies and strategies can enable councils to procure compost, including WMMPs, procurement policies, reserve management plans, and Iwi management plans. The Council can support an 'internal market' where food and/or garden waste within the region is then processed and used by Council. Councils have the potential to use both high-quality and low-quality

composts. Lower-quality, stable compost is suitable for land reclamation, fill material, and landfill cover.

The environmental benefits of compost go beyond diverting food waste from landfills; they also include enhancing soil health, which boosts agricultural yields, improves soil water and nutrient retention, and increases carbon sequestration. Compost can replace traditional chemical fertilisers, reducing or even eliminating the need for them. This reduction in chemical fertiliser use minimises environmental damage caused by fertiliser runoff, such as algal blooms and the carbon emissions linked to fertiliser production. As a result, compost use not only enriches the soil but also plays a vital role in carbon sequestration, helping to mitigate greenhouse gas emissions (Zero Food Waste Coalition, 2023).

Compost blankets for erosion

A compost blanket is a layer of loosely applied compost placed on disturbed soil to reduce stormwater runoff and erosion. It fills small rills and voids, limiting channelised flow, providing a permeable surface for stormwater infiltration, and supporting revegetation. Seeds can be mixed into the compost before application. Applying a compost blanket is an effective stormwater best management practice (BMP) because it:

- Retains a large volume of water, aiding vegetation growth,
- Cushions the impact of rainfall, reducing erosion,
- Stimulates microbial activity, enhancing nutrient availability and soil structure,
- Creates a favourable microclimate for seed germination and plant growth, and
- Removes pollutants like heavy metals, nitrogen, phosphorus, fuels, grease, and oil from stormwater runoff, improving downstream water quality (USEPA 1998).

Soil improvement – for parks, sports fields, and other council assets

Sports Fields: The Sports Turf Managers Association recommend the use of compost to improve soil structure, soil porosity and density to help make a better root environment. The compost can be used prior to establishment (incorporated into the top six inches of soil), and topdressing of established turf though this is less beneficial. They note that caution must be taken when applying compost to sand-based fields. Organic matter content should not exceed 3 %. If organic matter does exceed 3%, water infiltration and percolation may become restricted.

New Planting: Enhancing areas of new planting with compost to enhance existing soil quality is a cheaper alternative to replacing it with more expensive topsoil.

Construction/Landscaping: In addition to providing benefits for post-construction landscaping, the use of compost to amend soil that is compacted or disturbed during construction projects increases on-site water retention, decreases erosion, and contributes to better stormwater management.

Weed abatement: Weeds can be abated by using coarse compost that has low water retention. To suppress weeds, apply a 2–3 inch layer of compost as mulch around plants, trees, and garden beds. This creates a barrier that blocks sunlight, reducing weed growth, while also retaining soil moisture and providing nutrients.

Wetland restoration

When wetlands are disturbed, soil organic matter is lost to oxidation, releasing stored carbon as greenhouse gases. Compost is often applied to remediation sites to restore this organic matter, which can be lost even during necessary remediation work. Compost helps rebuild microbial biomass, store carbon, provide nutrients to new plants, increase soil moisture, improve water-holding capacity, and enhance phosphorus absorption, reducing runoff and preventing downstream eutrophication.

Riparian planting

Compost's ability to bind soils, absorb nutrients, and filter water makes it useful for riparian restoration. Applying it to riverbanks increases soil organic matter, aids in re-establishing vegetation,

and boosts water-holding capacity. It can also help reduce stormwater runoff velocity near urban areas, protecting native riparian zones. Common uses include bioswales, biostrips, compost sheets, filter socks, and engineered soil mixes.

Landfill cover

According to the US Environmental Protection Agency, compost provides an excellent environment for the methanotrophic bacteria that oxidize methane. Under test site conditions, compost covers have been found to reduce methane emissions by as much as 100 percent.

Precautions

Organic materials and derived products should only be applied to soils in ways, and under conditions, that will ensure they remain in place and do not move off-site (Water New Zealand, 2017). Sufficient buffer zones should be left to ensure that sensitive areas, such as waterways, are not directly affected.

Organic material remaining on the land (Water New Zealand, 2017) surface may be subject to run-off, so steeply sloping sites should be avoided. The climatic conditions during application also need to be taken into account to ensure that the material cannot be blown or washed onto non-target areas. This loss is influenced by the method used for application, and the physical nature of the material, particularly its moisture content. Incorporation of organic material and derived products into the soil will minimise losses during application and ensure good contact with the soil, thus placing contaminants in close proximity to sites where immobilisation reactions can occur.

Mulch

Mulch has many uses in landscaping, park maintenance, and roadside vegetation management to conserve soil moisture, suppress weeds, and improve soil health. Mulch is typically applied around trees, garden beds, and newly planted areas, especially during dry seasons, to protect roots, enhance plant growth, and reduce maintenance needs. It can be fresh or aged/composted, with the latter providing better more nutrients to the soil, while fresh will add fewer nutrients but lasts for longer.

Councils have a great opportunity to repurpose woodchip created by in-house or contracted arborists ideally on the same site, or nearby council land rather than transporting elsewhere.

Vermicompost

The compost produced by earthworms, known as vermicompost, is rich in nutrients, vitamins, growth hormones, and enzymes that continue to break down organic matter even after being released by the worms (Olle, 2019).

Using vermicompost has many benefits, including reduced water usage for irrigation, less weed growth, faster seed germination, quicker plant growth, and more fruits or seeds per plant. Vermicompost contains some antibiotics and actinomycetes that help in increasing the "power of biological resistance" among plants against pest and diseases. Spray of chemical pesticides was significantly reduced by over 75% where earthworms and vermicompost were used in agriculture.

These properties make it a great substitute for synthetic fertiliser in planting, and as a general soil conditioner for unproductive land.

6.1 End-market learnings from interviews and case studies

Contamination

Contamination is a significant concern in the processing of organic waste for compost production, particularly for council teams who raised issues about the quality of compost generated by their processors. The most substantial barrier to creating high-quality compost is securing a steady supply of feedstock that is free from contamination. Since the quality of compost relies on the quality of inputs, maintaining contamination-free feedstock is essential for producing valuable and safe organic products.

Contamination in organics processing can be either physical, like plastics, or chemical, such as PFAS (per- and polyfluoroalkyl substances) and herbicides. Both types of contamination can compromise the quality, safety, and economic value of compost and other organic products. Contaminated outputs may lose marketability, pose risks to food-growing systems, and harm the environment, with chemical contaminants potentially causing long-term damage to soils and ecosystems (Hyder, 2012).

While contamination is a critical issue for organics processing systems, it wasn't highlighted as a major barrier by most small to medium-sized waste processing organisations. These operators typically work closely with their communities and customers to clearly communicate what materials are accepted for processing. This community engagement helps maintain a higher quality of inputs and reduces contamination risks. However, smaller organisations expressed hesitation about scaling up without the right systems and support in place. As they grow, controlling larger volumes of material could become challenging, increasing the risk of contamination.

From a Te Ao Māori perspective, contamination is especially detrimental as it compromises the sanctity of kai atua (food of the gods) and violates principles such as whakapapa, wairuatanga, māramatanga, and mana. The presence of physical, chemical, or biological contaminants in organic processing threatens the regenerative potential of the circular bioeconomy and contradicts these cultural principles, highlighting the need for holistic approaches to addressing contamination.

To ensure the success of organics recovery systems, contamination must be tackled at every stage of the process:

- Policy and Regulation: Stronger regulations are needed to limit pollution and contamination at the source, setting clear standards for the production, use, and processing of organic materials. However, New Zealand currently lacks a regulatory framework that enforces such standards, leaving much of the responsibility to voluntary compliance.
- Community Engagement: Effective communication with system users is key to preventing contamination from entering the waste stream. Examples like the scheme in Canterbury, Sydney, show that successful contamination management can be achieved through intensive consultation with communities, effective communication, and rigorous inspection procedures.
- Processing Methods: Physical contamination can be reduced through methods like screening during processing. However, these methods are part of a larger solution that requires upstream contamination prevention as well.

Addressing contamination is essential for building a safe, regenerative circular economy. It reduces processing costs, improves the quality and safety of end products such as compost and worm castings, and ensures the protection of the natural environment. Additionally, effective contamination management supports the principles of Te Ao Māori, safeguarding the sanctity of food systems and promoting sustainable, interconnected relationships between people, land, and resources.

Case Studies Council use of organic waste products in practice

Taupo District Council, owns 400ha of land that it uses to grow grass and lucerne. Each year the council contractors spread 200 tonne of vermicompost on about 100 ha of lucerne. This is used as a soil conditioner to build up humus on the marginal land that is bony and has a lot of pumice.

The contractors found that because vermicompost tends to be spread with fert trucks rather than muck spreaders, if you spread two dressings at a rate of 10 tonne/ ha it costs a lot to get it on the ground. They worked with Giltrap Engineering to create a suitable spreader. The spreaders can also handle compost or chicken litter.

California Case Study

This case study highlights how public policy can boost the market for organic waste end products and improve local soil health. California's SB 1383 law mandates that all cities, counties, institutions, residents, and businesses divert organic waste from landfills, aiming for a 75% reduction by 2025 from 2014 levels. A key requirement is that cities and counties meet annual procurement targets for products made from recovered organic waste, such as compost, mulch, renewable natural gas, and biomass electricity.

The procurement target is based on the equivalent recovered product generated by 0.08 tonnes of organic waste per resident, with conversion factors for each product (see Figure 8).

The 2018 impact report estimated annual net costs at $330 million, with projected benefits to the environment, public health, and economy reaching $17 billion by 2030. Other benefits included improved soil water retention, carbon sequestration, reduced synthetic fertiliser use, and increased domestic fuel production.

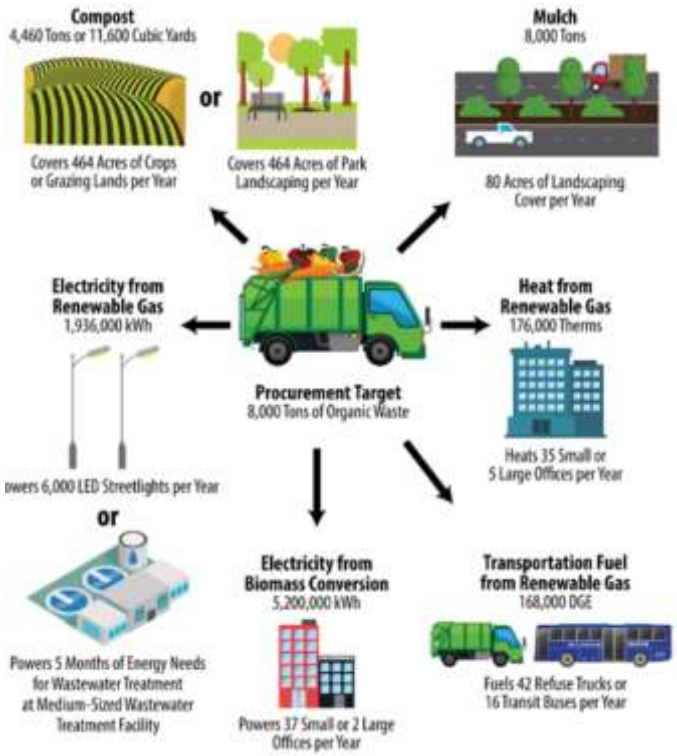

Figure 8 Calculating procurement of recovered organic waste products (reproduced from CalRecycle)

Impacts

A 2020 progress report confirmed that SB 1383's procurement requirements were critical for developing compost and biomethane markets and meeting methane reduction goals. By 2020, state grants totalling $140 million had expanded organics recycling infrastructure, adding 200,000 tonnes of compost capacity annually, with more facilities in development. Two new anaerobic digestion plants added 90,000 tonnes of capacity, with further expansions expected.

However, the law missed its 2020 target and was likely to miss its 2025 goal. An independent review by The Little Hoover Commission criticised conflicting policies, such as a zero-emission vehicle mandate that hindered waste collection fleets using renewable natural gas. The review also recommended expanding the list of eligible products and adjusting the state-local government relationship to improve solid waste management.

6.2 Key takeaways on end-markets

- Smaller/distributed organic waste processing options sit higher on the waste hierarchy than centralised/large-scale options.
- A networked approach provides the most resilient organic waste management system.
- Successful implementation of decentralised organic waste processing has successfully reduced costs and provided positive environmental impacts internationally.
- There is capacity for more procurement of organic waste products within council teams.
- Traditional procurement methods can be biased towards centralised/large scale processing solutions.
- Organic waste solutions can provide opportunities for local employment, skills development, as well are reducing inequality through supplier diversity initiatives.

7. Key findings and recommendations

The findings from our literature review and stakeholder interviews have been summarised in the table below. The first items are those that we recommend further investigation or action to address, followed by those that have more detailed guidance in the accompanying Guidance document.

Summary of barriers to a localised solution and potential solutions

Barrier	Description	Potential solution
Recommendations for further investigation / actions		
Insufficient funding for operations	Smaller-scale composters often struggle with securing ongoing operational funds, particularly for staffing, which is essential to building capacity. Infrastructure funding is sometimes available, but operational funding is harder to secure.	• Provide initial funding or consider co-ownership of composting facilities and equipment, enabling smaller composters to establish or expand their operations. • In partnership, develop a financially sustainable operating model that benefits both the council and the local composter, ensuring long-term viability.
Resource consenting challenges	Smaller processors face barriers in navigating the resource consent process, which is often ambiguous, inconsistent across regions, and difficult to comply with for small operations.	• Address consent ambiguity by clarifying resource consent requirements and providing guidance to smaller operators, ensuring they understand what is needed to comply and helping them navigate the process more effectively.
Lack of understanding of benefits of the localised approach	There is limited awareness within government bodies about the social, environmental, cultural and cost efficiency benefits of small-scale and community-based composting methods.	• Engage councils and stakeholders through direct communication, highlighting the holistic benefits of supporting smaller-scale composters. Regular dialogue can build awareness of the broader impacts of community-based composting. • Consider completing an Engineer's Estimate (cost model) to thoroughly understand and verify this benefit.

Barrier	Description	Potential solution
Recommendations covered in accompanying Guidance Document		
Bias towards large-scale models	Government policies and procurement processes tend to favour large-scale processors, which makes it difficult for smaller operators to compete for contracts or expand their operations. Councils view the localised solution as a higher cost option due to management requirements and the view that this solution will inherently have a lower capacity and increase cost per tonne.	• Create right-sized opportunities by designing smaller, manageable contracts tailored to the capacity of smaller processors, allowing them to participate and scale up at a sustainable pace without competing directly with large operators. • Explore alternative procurement models and their associated benefits, such as nominating the local composter to participate within a larger contract model or establishing a separate, simplified procurement process for regionally targeted services. This could involve running independent negotiations for local services, with the option to manage them separately or novate them into the main contract, ensuring flexibility and inclusion of smaller, local composters. • Wider benefits need to be modelled so there is an apples with apples comparison including transport and local employment benefits considered.
Complex procurement processes	The complexity of council procurement processes creates significant barriers for small-scale composters who may lack the resources or expertise to navigate lengthy and detailed tendering documentation.	• Incorporate open and transparent engagement and design principles into the procurement process. This approach will enhance collaboration with suppliers, promote inclusivity, and help eliminate potential barriers. • Simplify procurement documentation by streamlining tendering processes and providing extended timeframes for submissions. • Consider developing a support programme before the procurement process begins to help smaller suppliers become procurement-ready. This programme should focus on simplifying and clarifying the complexities of the RFP process, offering training, resources, and guidance to ensure smaller suppliers are well-prepared to participate effectively when procurement opens. Note this may be done at a regional level.
Scaling up challenges	Small composting organisations worry about scaling up operations due to the risk of contamination and the need for proper systems and support to handle larger volumes of material, however this is crucial to maintaining cost efficiency.	• Pilot small contracts, allowing smaller processors to demonstrate their capacity and ability to manage increased volumes while reducing the risk of contamination. This approach also provides councils with a low-risk way to assess the processors' ability to scale, and test the cost model to ensure the Total Cost of Ownership is viable.

Barrier	Description	Potential solution
Local composter reliance on volunteers	Many small processors rely heavily on volunteer labour, making them vulnerable to failure when key volunteers leave or are no longer available to support operations, and this is a concern for council procurers when considering processing options.	• In partnership, develop a financially sustainable operating model that benefits both the council and the local composter, ensuring long-term viability for staffing the operation. • Consider how external funding could provide operational support to small composters, such training, technical assistance, or helping them secure reliable staffing. This reduces dependence on volunteers and ensures long-term operational stability.
Health and Safety (H&S) concerns	Smaller processors are perceived to have limited knowledge of health and safety requirements, and councils are often hesitant to engage with them for fear of non-compliance.	• Clarify H&S requirements early, during the market engagement and within the procurement documents. • Consider offering H&S training and mentorship from larger processors or councils, helping smaller operators meet compliance requirements, or embedding this into the procurement requirements. This will reduce council hesitancy to engage with smaller businesses due to safety concerns.
High transport costs	High costs of transporting organic material long distances, particularly in rural areas.	• Creating smaller, regional contracts that reduce long-distance transport requirements where localised solutions can thrive and are the preferred option for addressing organic waste management efficiently and sustainably.
Low confidence in smaller operators	Councils often prefer contracting larger companies due to perceptions that managing multiple smaller contracts would be more labour-intensive and complex.	• Consider pilots with the local composters, prior to the procurement of wider services. • Alternately, consider how this can be best managed through the contract set up, encouraging partnerships with prime contractors, requiring them to subcontract a portion of the work to smaller-scale processors. This allows SMEs to build experience and trust while ensuring the overall contract is managed by a larger, more experienced firm.
Suitable land selection and local residential opposition	Finding suitable land for organic waste processing facilities is difficult, as geographically convenient areas can face opposition from residents concerned about odour, noise, and environmental impacts. This resistance can complicate site selection and approval processes.	• Engaging the community early and communicating transparently can help address concerns about odour and environmental impacts. This approach helps residents understand the benefits, such as producing valuable compost for local use, reducing transport costs and emissions, and creating positive local employment opportunities. • Ensuring composters implement best-practice odour control measures should be embedded in market engagement and procurement processes, providing clarity on management plans and setting clear expectations from the outset.

Recommendations / next steps

The accompanying Guidance Paper provides comprehensive guidance on leveraging the procurement process to advance up the waste hierarchy, incorporate circular economy principles, and achieve sustainable outcomes. Where the solutions mentioned above go beyond the scope of this report, they are recommended for consideration in future initiatives by regional and/or city councils.

These are:

- Review and improve the resource consent process to make it more accessible, aligned to regional plans and consistent across regions.
- Piloting the use of a smaller scale processors ahead of the wider roll out of kerbside organics collection, for smaller geographic regions.
- Complete an Engineer's Estimate (cost model) to thoroughly understand and verify the broader benefit of the localised model and particularly the savings from reduced transport needs.
- Providing support to small-scale local organic waste processors to help them scale up and become tender-ready for council contracts (This could be through an existing network, or creating a regional network for use by councils). This will enable local processors the opportunity to be ready to begin servicing smaller areas, preventing them from being excluded from the market and maintaining their viability. Without such support, these processors risk disappearing as an option, which would reduce the resilience, sustainability and diversity of the organics processing sector.
- Provision of support for Māori communities to engage effectively in organics material management including through development of a business cases/plans
- Live coaching for procurement teams when planning and commencing the procurement of organics collection and processing contracts.

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