Organics Investment

Food Scraps and Greenwaste Collection and Processing Services

Business Case

December 2023

Document status

Job #	Version	Written	Reviewed	Approved	Report Date
2770	DRAFT	Matt Fyffe	Alice Grace	Cushla Anich	24 March 2023
2770	DRAFT	Matt Fyffe	Alice Grace	Cushla Anich	15 November 2023
2770	DRAFT	Matt Fyffe / Alice Grace	Matt Fyffe/Cushla Anich	Cushla Anich	7 December 2023
	FINAL		QLDC P&I		11 January 2024

Contents

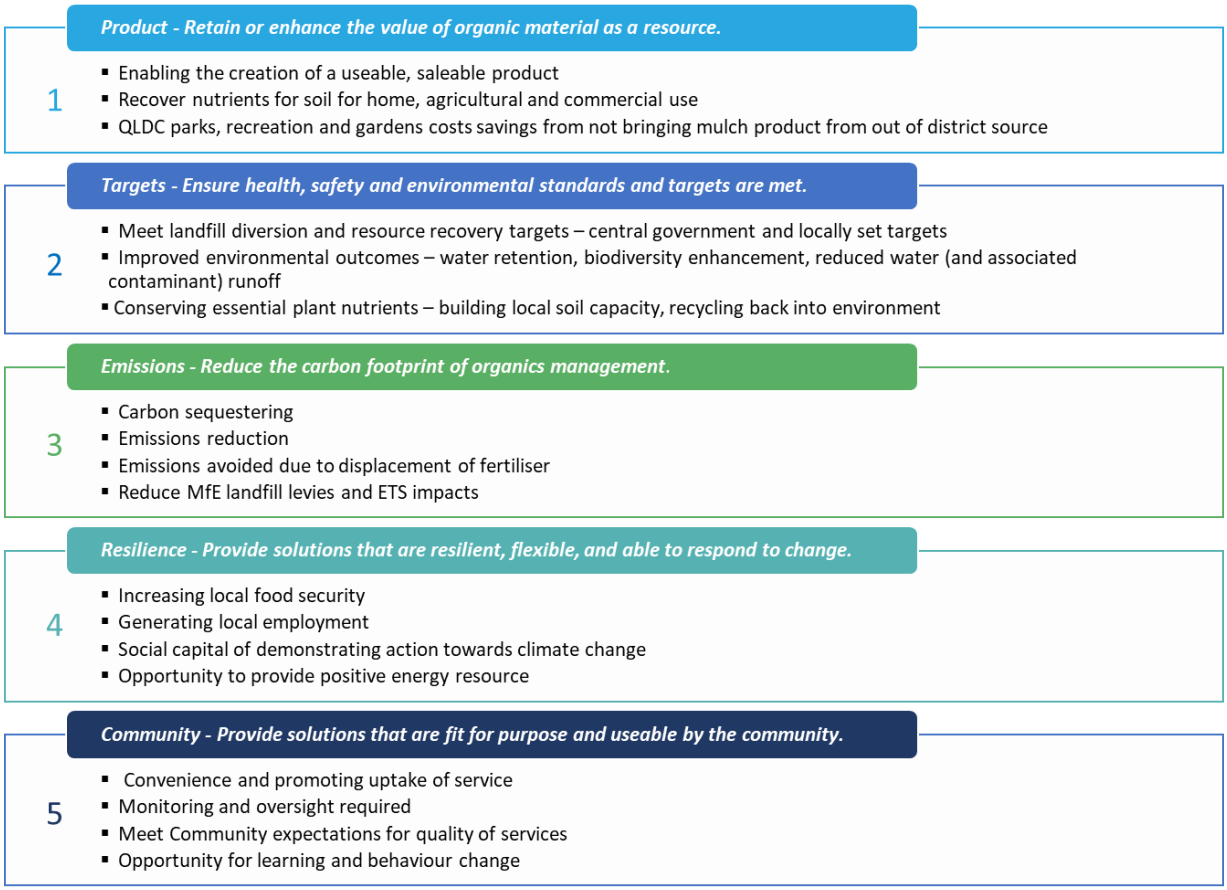
Executive Summary

Queenstown Lakes District Council (QLDC) commissioned this business case to consider the options available for the collection and processing of food scraps and greenwaste to avoid material being sent to landfill and to reduce the associated emissions. The purpose of the business case is to analyse, select and recommend the preferred options.

Strategic objectives

In considering options for a kerbside organics collection service in Queenstown the following strategic objectives were identified.

Figure ES1: Strategic objectives for food scraps and greenwaste management



Current services

QLDC's current kerbside collection services comprise a three bin refuse and recycling collection service, with a weekly refuse service and separate fortnightly glass and mixed recycling, collected on alternate weeks. There is no organics kerbside collection service currently in operation.

Despite a focus on reducing organic waste through various behaviour change initiatives, there remains a significant portion of organic material disposed in general waste kerbside bins. Kerbside bin surveys[1] indicate that 54.3% of material in QLDC kerbside rubbish bins is organic. Of this, compostable kitchen waste (at 33.9%

[1] Analysis of the Composition of Solid Waste in Queenstown Lakes District October 2020 Waste Not Consulting

of the total) and compostable greenwaste (18.2%) were the two largest components. The average kerbside waste bin contains 3.85 kg of kitchen waste and 2.07 kg of greenwaste per week.

Scope

The scope of the organics service business case includes:

- Kerbside organics collection service for food organics (FO) or food organics and green organics (FOGO)
- Implementation of a collection service within the mandated timeframes set by Government
- Urban and rural residential properties within Queenstown Lakes District
- Processing facility or facilities for disposing of organic material and processing into a usable product, located locally or regionally
- Potentially, intermediate consolidation facilities for storing and consolidating material collected for haulage
- Change from weekly to fortnightly refuse collection when kerbside organics introduced

The introduction of an organics collection service will be a core part of Council's actions to reduce food scraps in kerbside refuse collection. It will ensure Council meets its mandatory service obligations and meet its commitments to the community through the Waste Management and Minimisation Plan and Climate and Biodiversity Plan. Alongside a new kerbside collection service, Council will also continue to support action further up the waste hierarchy including food waste reduction, food rescue and home or community composting.

The following is outside the scope of this business case:

- Other waste and recycling service changes
- Waste streams other than food scraps and garden waste
- Additional landfill development to accept organic material
- Commercial/industrial producers of organic waste, such as hospitality, agricultural businesses and food producers
- The sale and end use of processed product e.g. compost, as this would be handled by the facility operator

Benefits

The introduction of a kerbside organics collection service is expected to deliver the following benefits:

- A reduction in household waste to landfill, by diverting organic material
- A reduction in carbon emissions from the landfilling of organics waste
- Increased customer satisfaction with expanded waste collection services
- Application of compost applied to land, improving soil quality
- Avoided refuse disposal costs (include avoided waste levy and ETS costs)

Assessment of collection options

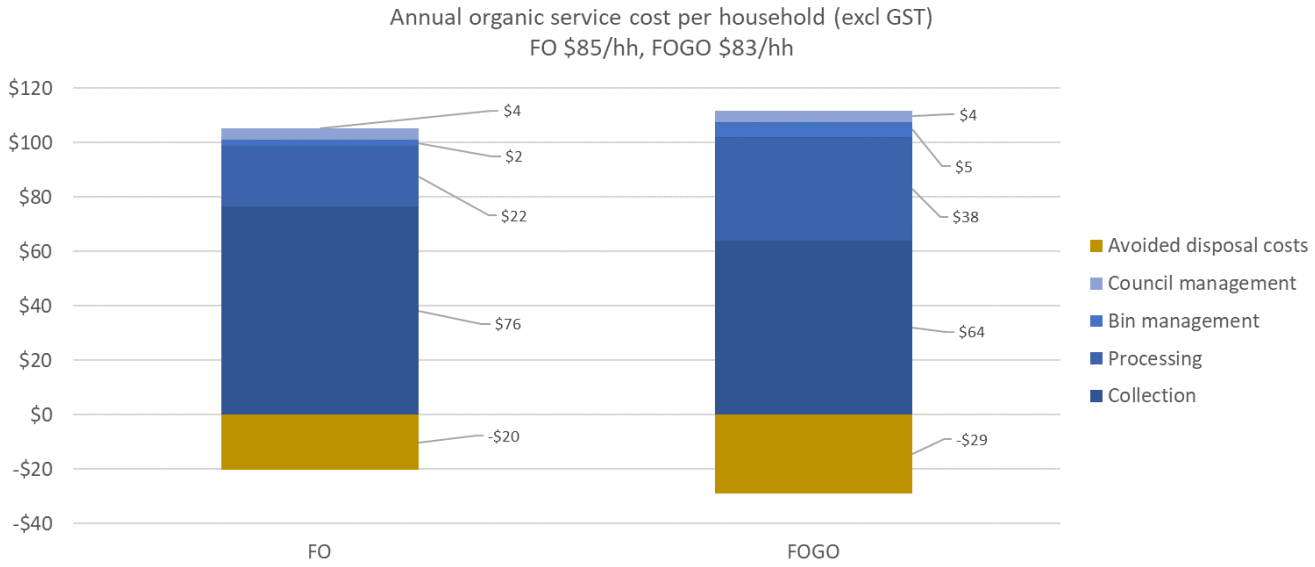
The long list of collection service options was developed based on existing models in service through Aotearoa/New Zealand and workshopping these with Council staff. The options are defined by:

1. Organic material collected: Food Organic (FO), Garden Organic (GO) Combined Food Organic and Garden Organic (FOGO); and

2. Customers included: urban residential, rural residential, commercial customers.

From the assessment, the two highest ranking options were a FOGO collection and a FO collection. In both cases the service would be delivered to all current collection areas, urban and rural townships, and not extended to commercial customers. The costs associated with these options are presented in the figure below. Although the overall net cost of both options are similar at approximately $1.9M per annum, the likelihood of the need for a runner under a FO collection means a probable increase in costs for this option, with an estimated additional $567K per annum in labour costs, equivalent to an extra $25 per household (or 30%). These additional costs are not indicated in Figure ES2.

Figure ES2: Annual service cost comparison FO vs FOGO collections



Preferred collection option

On balance the FOGO service was selected as the preferred collection option for the following reasons:

1. More material is collected kerbside with a FOGO service. Residents can use the convenience of a council-provided bin to divert both their food scraps and garden waste - material they are currently disposing of in their rubbish bins and additional material that is either being home composted, taken to a transfer station or greenwaste drop off facility. Councils that have FOGO collections have kerbside diversion rates in excess of 70%, achieving mandatory diversion standards more easily. However, residents see the bin as a garden waste bin and potentially less food scraps are diverted from the kerbside refuse bin than with a FO service.

2. A FOGO service does not require manual collection and therefore has lower health and safety risks and lower driver retention issues. Under a FO service the driver is required to exit the truck to manually empty the FO bins (or a runner is required to empty the bins, while the driver remains in the truck). Drivers for FO collection are difficult to recruit due to the manual collection approach and the potential for spills and odour when emptying bins.

A FOGO service has the drawback of being less convenient for residents in high-density housing areas that do not have garden waste to manage. This type of housing is becoming more common in the district. Including a tailored solution for residents of MUDs will help address this issue.

Residents will likely use the FOGO service for greenwaste in place of existing drop-off services , making these

existing council services less efficient. However, these existing services provide an important solution for disposing of large volumes of greenwaste and will continue to be utilised.

The lower rates of food scraps diversion with a FOGO service were raised as a risk for FOGO over FO services. To encourage use of the service for diverting food from landfill, it is proposed that the smallest FOGO bin be implemented, i.e. an 80L bin, and that kitchen caddies and liners be provided at roll-out to help get food waste out of the kitchen and into the FOGO bins. An option to upgrade to a larger bin (140L bin or 240L bin) would also be provided, to give residents the flexibility to choose the bin size that meets their needs.

Assessment of processing options

For the processing facility, options were developed that took into consideration the potential location of the facility, the governance/management model employed to build and operate the facility and the processing technology to be used. A clear preferred option was identified from the assessment.

The preferred option for processing is to enter a contract with an out of district facility for the acceptance and processing of organic material. This option is preferred because of the facility being planned in Central Otago District Council (CODC) and the relative simplicity of establishing the arrangement and exiting it at a time that suits QLDC's future decisions for organics processing.

A gate rate contract with CODC to access this facility preserves the flexibility for QLDC to consider other processing options and technologies in the future. The gate rate contract option is also estimated to be an affordable option (noting that the out-of-district options are highly sensitive to third party revenue). The benefits of a gate rate contract is that it does not have the commercial risk, complexity and long term commitment of QLDC developing its own facility or shared ownership and operation of an out of district facility.

Risks

Risks and issues which need to be considered and managed include:

- The Central Otago facility construction is delayed due to site selection or consenting issues, impacting QLDC's ability to meet the 2030 mandatory service introduction date.
- Organics collection services are relatively new in New Zealand and therefore there is a high degree of uncertainty regarding the volumes collected, service cost and degree of community engagement required to ensure effectiveness of the service in diverting organics from refuse collection bins.
- Additional bins will need to be stored on property and an additional bin will need to be placed on the kerbside every week.
- Availability of end markets for the compost produced at the processing facility, including management of contamination in the organic material collected (e.g. plastics) so that this does not restrict the end markets for the compost product.
- Ratepayer opposition to the service due to the cost increases in rates.
- Costs are highly sensitive to key service metrics including the tonnes processed, the number of bins presented for collection each week, the volumes of material presented, the cost of haulage and processing, and whether a runner is required for the FO service.
- Delays in completing the business case may result in a lack of financial certainty of the LTP cost estimates and MfE grants to support service introduction may no longer be available.
- Reputational risk associated with not delivering a key service indicated in Councils strategic plans

including WMMP and CBP.

Capital and operating expenditure and funding sources

The following table presents the capital and operating expenditure for the organic collection service for the 2024-2034 Long Term Plan period.

Table ES1: Ten-year capital and operating budgets, FY2024/25 to FY2033/34

Financial Year (TYP Year)	24/25 (Y1) Procure	25/26 (Y2) Mobilise	2026/27 (Y3) Start Collection	2027/28 onwards
Bin and kitchen caddy, supply and delivery		$1,430		
TOTAL CAPEX ($000s)	**$0**	**$1,430**	**$0**	**$0**
Council management		$150	$150	$150
Implementation costs	$250	$100	$100	
Collection costs			$1,480	$1,480
Processing costs			$860	$860
Avoided disposal costs			-$650	-$650
TOTAL OPEX ($000s)	**$250**	**$250**	**$1,940**	**$1,840**

There is the potential to apply for a grant from MfE for the bin capital costs, providing this application is processed before the available funds have been exhausted. MfE have indicated they will fund up to $5 per 7L kitchen caddy, $40 per 80L bin, $50 per 140L bin, $55 per 240L bin. This would total estimate $1.0 million for Council's FOGO service, leaving a capital funding shortfall of $0.4 million for Council to fund (largely covering distribution costs). It is anticipated that this funding shortfall be funded from Council's usual debt funding arrangements.

Operating expenditure would be funded through a targeted rate on all properties that receive the service, with no opt-out provision. Based on the analysis in the Economic Case, the targeted rate is expected to be in the order of $83 per household (including GST). This would include servicing the loan for the capital funding shortfall.

Implementation programme

Overall, we have broken the project into the following workstreams:

- Approvals and funding: approving the business case, securing funding through LTP and MfE funding application
- Processing facility: access negotiations, design and consenting, construction, commissioning
- Collections, bin supply and consolidation: procurement, consolidation site consents, truck supply, bin supply and delivery, driver recruitment
- Communication and engagement: with customers and stakeholders, on service change

The earliest start date of 2026/27 is governed by the anticipated CODC facility being operational and the

time required to procure and mobilise a collection contract. This requires CODC's processing facility to be ready to accept QLDC's organics, but there is general alignment between timeframes for QLDC's procurement and completion of CODC's facility. The latest start date is governed by collections commencing prior to the government's date for which mandatory collections are introduced, 1 January 2030. It is not recommended that a new collection service commence in the middle of the Christmas holiday period. Therefore, to meet this date, an alternative collection start date of 1 July 2029 would be recommended, with this also aligning to a new financial year.

Next steps

The immediate next steps for this project are:

- Approval of this business case
- Decision on start date for service to be included in LTP: July 2026 (earliest start) or July 2029 (latest start)
- Submission of funding application to MfE
- Approval of service implementation as part of LTP approval
- Decision on procurement timeframes, aligned to wider waste services procurement or separate
- Establishment of project team and governance structure

Specific definitions

Commercial services	Means in the context of this business case any services provided to SUIPS that attract the General Rate Accommodation and General Rate CBD accommodation
Food scraps	Means kitchen waste or waste products from food preparation e.g. carrot peelings, apple cores, meat trimmings, bones it also includes expired, uneaten or leftover food waste items.
Greenwaste/Garden material	Means compostable greenwaste e.g. garden material made up of grass, leaves, foliage, or branches
FOGO, FO and FO+GO	FOGO – Food Organics and Garden Organics. Kerbside collection service that allows food scraps to be added to the greenwaste bin. Commonly an 80L, 140L or 240L kerbside bin. FO – Food Organics. Dedicated food scraps collection only. Commonly a 23L kerbside bin. FO+GO Kerbside collection of separate food scraps bin plus a separate bin for garden material only.
MUD	Means a Multi-Unit Development, Multi Dwelling Development or Mixed Use Development
Organics	In the context of this business case, means any food scraps and/or greenwaste compostable material.
Rural	In the context of this business case means the rural townships with a population of less than 1000 (as per Stats NZ Geographic Boundary Viewer2022 MfE advice to Territorial Authorities [2]) and includes: Makarora, Luggate, Gibbston, Glenorchy, Kingston, Cardrona, Hawea Flat.
Urban	In the context of this business case and the Queenstown Lakes District, urban includes the following townships: Queenstown, Frankton, Arthurs Point, Jacks Point/Hanleys Farm, Lake Hayes/Shotover Country, Arrowtown, Albert Town, Lake Hawea and Wanaka.
UEF	Unique Emissions Factor (UEF) is the value given to an activity in the New Zealand Emissions Trading Scheme (ETS) based on how emissions-intensive it is, applied in this context to a landfill operation.

[2] Stats NZ Geographic Boundary Viewer (for the 2022 year) *https://environment.govt.nz/publications/improving-household-recycling-and-food-scraps-collections/*

1 Introduction

1.1 Background

Queenstown Lakes District Council (QLDC) commissioned this business case to consider the options available for the collection and processing of food scraps and greenwaste to avoid material being sent to landfill and to reduce the associated emissions. The purpose of the business case is to analyse, select and recommend the preferred options.

This business case follows the Organics Programme Business Case (PBC) completed by Morrison Low in 2021. The PBC considered broadly the general direction for QLDC's management of the organic waste stream within the district. Since that was completed, significant developments in policy setting and decisions by Central Government and at Council level have driven the need for QLDC to plan further for investment in organics collections and processing capability.

1.2 Approach and methodology

The approach and methodology used to develop this business case is included at Appendix 1. This outlines the process and methodology behind developing organics collection and processing services and the analysis of those options to arrive at a preferred organics solution for QLDC to move forward with.

2 Strategic Case

Recent development in strategies and policies relevant to investment in organic waste management have strengthened requirements to reduce organic waste going to landfill. The strategic framework outlined in this strategic case creates a strong emphasis on diversion, emissions reduction, environmental sustainability and support for community resilience.

2.1 Strategic context

This business case analysis considers the following key factors and strategic context:

- Developments in national policy and strategic guidance for Councils and business to manage organic waste streams, including Ministry for the Environment's (MfE) kerbside standardisation programme and the New Zealand Waste Strategy Te Rautaki Para 2023 (TRP).
- The inclusion of an organics service as a key action in QLDC's Waste Minimisation and Management Plan 2018 (WMMP):

  WMMP Action 2.8: 2022-24 Introduce organic waste kerbside collection service for urban households

  WMMP Action 2.9: 2022-24 Provide an organic waste processing facility
- The inclusion of diverting organics from landfill as a key action in QLDC's Climate and Biodiversity Plan 2022 (CBP):

  CBP Action 1.23: Divert organic material from landfill. This includes Food scraps, Garden waste, Timber (construction waste), Fats, oils and grease (trade waste), Cardboard and paper, Biosolids.

  The impact of organic waste in landfill on emissions and the role their handling will play in achieving net zero carbon is part of the overall assessment of potential solutions in this business case.
- QLDC's investment objectives developed for the Organics PBC.

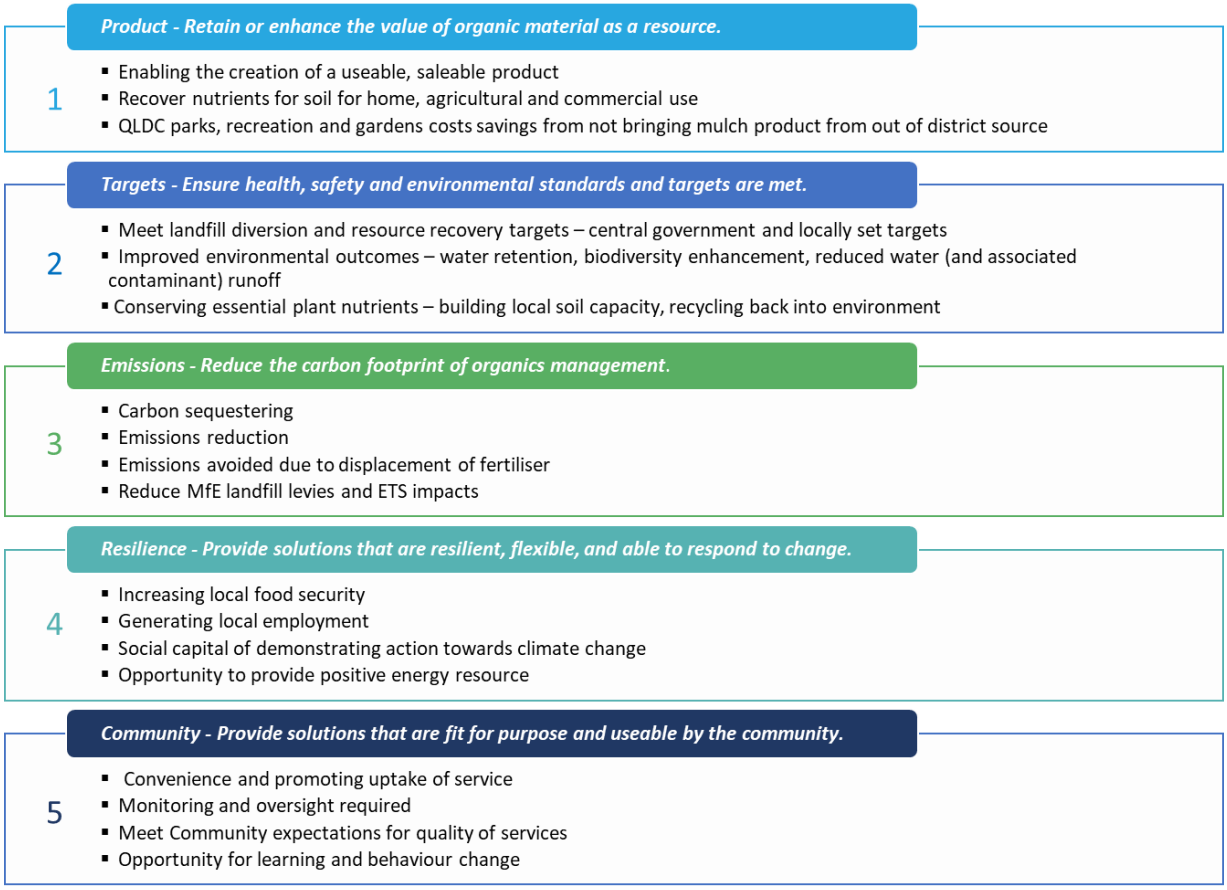
  Note, strategic considerations when development the PBC have not been repeated here. For example, the 30-Year Infrastructure Strategy outcomes and the Zero Carbon Communities – Zero Waste actions.
- The unique nature of the district and the range of opportunities that are available for organic waste management in the area. This includes the body of knowledge that exists about organic waste generation and management already taking place within the district.

Detail on the national and QLDC strategic context that underpins the strategic case is included at Appendix 2.

2.2 Investment objectives

Five strategic investment objectives were initially developed under the Organics PBC for management of food scraps and greenwaste in the Queenstown Lakes District. At the outset of this business case, the investment objectives were reviewed with the view of confirming and, where necessary, updating these objectives to be relevant in the context of the outcomes that QLDC is looking to achieve from an organics service. The review found the investment objectives still relevant as originally defined. There was some detail and refinement added to these objectives through the review process. The objectives and additional detail are captured in the following Figure 1.

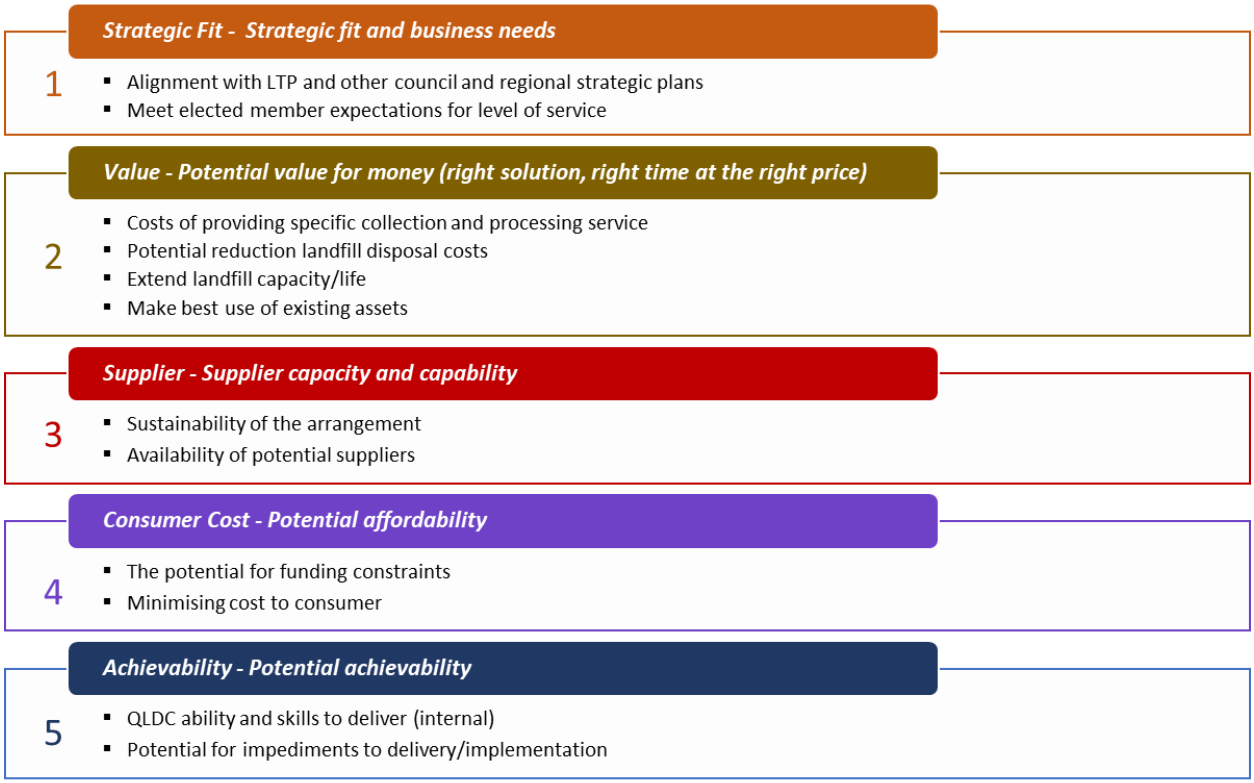
Figure 1 Strategic objectives for food scraps and greenwaste management



2.3 Critical Success Factors

In addition to the investment objectives, QLDC uses standard business case critical success factors to test potential investment options. At the same time as the investment objectives underwent a review, it was decided to document service specific context under the critical success factors. Additional 'sub-criteria' were included to add relevance by describing what each success factor means in the context of organics services and waste diversion in the district, as demonstrated in the below Figure 2.

Figure 2 - Critical Success factors



2.4 Status quo summary

2.4.1 Kerbside collection services

QLDC's current kerbside collection services comprise a three bin refuse and recycling collection service, with a weekly refuse service and separate fortnightly glass and mixed recycling, collected on alternate weeks. There is no organics kerbside collection service currently in operation.

Figure 3 – Current QLDC kerbside collection services

The services are provided to approximately 22,700 service entitled properties in Queenstown and Wanaka as well as to rural townships across the Queenstown Lakes District. There is no Council provided commercial refuse or recycling services. The collections are outsourced to a single service provider, Waste Management, under a 7.5 year initial term contract with three rights of renewal (7.5 + 2.5 + 2.5 + 2.5) to a maximum of 15 years. The contract commenced in July 2019 and is due for renewal on 01 January 2027.

2.4.2 Organic waste reduction initiatives

QLDC currently supports a wide range of services and community focussed initiatives for organic waste. The initiatives associated with diverting organics from landfill rely on a reasonable degree of self-motivated direction to participate. The following actions were included in the WMMP 2018 and represent the key options available in the district:

- Diversion of hedge trimmings and tree branches at Wanaka and Whakatipu Transfer Stations. Material is periodically chipped and provided to community groups, QLDC Parks and Reserves Team and the general public for use as a garden mulch
- Support for chipping of material received at rural community greenwaste drop off facilities in Glenorchy, Kingston, Lake Hawea, Luggate and Makarora
- Support for community composting hubs through a MfE co-funded project. Two hubs are currently up and running and located in Glenorchy and Wanaka. The project will help establish at least another three hubs
- Dr Compost programme to compost food and garden waste at home. Includes regular workshops, special events and hotline home composting support
- Subsidies available for the purchase of Bokashi bins and composting worms
- Grant funding of KiwiHarvest food rescue services used by hospitality and supermarkets to donate unsold food to social agencies for community distribution
- Support for Love Food Hate Waste campaigns and online resources.

A more detailed overview of the status quo of food scraps and greenwaste services is included in Appendix 3.

2.4.3 Volume of organic waste to landfill

Despite a focus on reducing organic waste through various behaviour change initiatives, there remains a significant portion of organic material disposed in general waste kerbside bins.

The composition of the organic material in landfill and kerbside rubbish bins is measured every three years through undertaking composition analysis surveys using the Solid Waste Analysis Protocol approach (SWAP). Surveys conducted at Victoria Flats landfill in 2020 indicated that 25.6% of all waste disposed of at Victoria Flats landfill was organic, which was the largest component of the overall waste.

Kerbside bin surveys undertaken in late 2019 and early 2020[3] indicated that 54.3% of material in QLDC kerbside rubbish bins was organic. Of this, compostable kitchen waste (at 33.9% of the total) and compostable greenwaste (18.2%) were the two largest components. The data indicates the average bin contains 3.85 kg of kitchen waste and 2.07 kg of greenwaste per week (alongside a smaller amount of other organic material).

[3] Analysis of the Composition of Solid Waste in Queenstown Lakes District October 2020 Waste Not Consulting

2.5 Scope of organics services

QLDC has progressively worked through what services might be required in the district to provide for the collection and processing of organics. At the outset of the development of the business case, the commitment to introduce an organic waste kerbside collection service for urban households and provide an organic waste processing facility had already been established via the adopted WMMP. Minimum requirements have since been consolidated through the proposed mandates established by MfE's standard materials and kerbside standardisation guidance[4].

The extent of the organics collection services and processing facility requirements for QLDC were workshopped with QLDC staff as a preliminary step, with refinement of these service requirements as the long list of options were developed. The service requirements are included at Appendix 4.

The scope of the organics service business case includes:

- Kerbside organics collection service for food organics (FO) or food organics and green organics (FOGO)
- Implementation of a collection service within the proposed mandated timeframes set by Government
- Urban and rural residential properties within Queenstown Lakes District
- Processing facility or facilities for disposing of organic material and processing into a usable product, located locally or regionally
- Potentially, intermediate consolidation facilities for storing and consolidating material collected for haulage
- Change from weekly to fortnightly refuse collection when kerbside organics introduced

The following is outside the scope of this business case:

- Other waste and recycling service changes
- Waste streams other than food scraps and garden waste
- Additional landfill development to accept organic material
- Commercial/industrial producers of organic waste, such as hospitality, agricultural businesses and food producers
- The sale and end use of processed product e.g. compost, as this would be handled by the facility operator

[4] https://environment.govt.nz/assets/publications/Waste/Standard-materials-for-kerbside-collections-Guidance-for-territorial-authorities.pdf

2.6 Benefits

The potential benefits of implementing an organics collection and processing service are described in the below table, including indicative KPI measures that might be used to track realisation of the benefits.

Some strategic objectives and critical success factors are pass/fail criteria, while others have measurable benefits. Only those that can be measured are linked in the table below.

Table 1 – Benefits of organics collection service

No.	Benefit Description	KPI Measure	Measurement method	Target	Related objectives
1	**Reducing household waste by diverting organic material from landfill**	Tonnes organic material diverted per annum	Tonnes kerbside residential organics recorded at the organics processing facility per annum	>5,000 tonnes organics collected per annum.	Objective 2, landfill diversion target
2	**Reducing the carbon emissions from organic waste**	Tonnes of avoided CO2-e per annum	Tonnes of organic material diverted multiplied by the CO2-e value, less emissions from transport and composting	>500 tonnes avoided CO2-e per annum.	Objective 3, emissions
3	**Community uptake and participation in organics collection service**	% of bins in service presented for collection	Total number of bins set out divided by the total number of eligible properties, measured on a rolling twelve month basis.	>45%	Objective 5, community (and lead indicator for diversion and emissions target)

No.	Benefit Description	KPI Measure	Measurement method	Target	Related objectives
4	**Increased customer satisfaction with access to and quality of waste collection services**	% of Customers satisfied with waste services	Customer satisfaction surveys.	>80% overall satisfaction with waste services	LTP measure (linked to critical success factor 1)
5	**Compost applied to land from processing facility**	Compost delivered to end markets	Tonnes compost delivered to end markets, measured as product out from organics processing facility	*TBC with facility operator, could be % of incoming organics*	Objective 1, product
6	**Avoided refuse disposal costs**	$ per annum reduction in refuse disposal costs, including Waste Levy and ETS.	Refuse disposal cost reduction	>$600,000 disposal cost, including Waste Levy and ETS, excluding consolidation and bulk haulage	LTP measure (linked to critical success factors 2 and 4, and investment objective 3)

With any decision to implement an organics collection service, it is intended that a full Benefits Realisation Plan would be developed and agreed as part of the project planning and delivery. This plan will set the KPI baseline and target values for each benefit. The targets listed above are draft, to be refined within the Benefits Realisation Plan.

2.7 Constraints

Potential constraints that have been identified for establishing an organics collection and processing service are:

- **Processing and consolidation facilities** – there is currently no operating regional organics processing facility (but regional facilities are under development). Organics processing and consolidation facilities must be commissioned and operational prior to any collection service commencing. A local consolidation point is still to be identified and is needed to consolidate material prior to transporting to a regional processing facility.
- **Suppliers –** Existing collection contracts may be a constraint on available suppliers in the region who can provide a collection service at an affordable cost. It will be significantly more expensive (and potentially less attractive) for a supplier to only be supplying organics collection.
- **Collection fleet** – Travel distances in the district to provide a collection service could limit the type of collection vehicle that are able to be used for collection services. Electric vehicles are unable to be deployed for these distances, and transport related emissions cannot be avoided.

2.8 Dependencies

Key dependencies that have been identified are:

- **Service solution** – the collection service is dependent on a suitable processing facility being available to accept the type or organic material QLDC proposes to collect kerbside. The collection methodology and processing technology are interdependent. For the out-of-district disposal option, QLDC are reliant on CODC building their composting facility and it being available to accept QLDC's organic material when QLDC commence collections.
- **Funding** – Although organics collection is to be mandated by Government, the cost to introduce the service must be approved by Council through the Long Term Plan process.
- **WMMP and TRP waste strategy targets** – QLDC meeting its targets for waste minimisation are dependent on an organics collection and processing service being adopted.
- **Resourcing** - Roll out and management of new kerbside services will require sufficient in-house Council resources to ensure the services are implemented, promoted and managed appropriately.
- **Existing collection contract changes** – a move to fortnightly refuse collection will require negotiation with Council's existing waste services contractor to agree this variation in scope of services.

2.9 Assumptions

Some key high level assumptions informing the development of the scope of the business case are listed below:

- Existing QLDC's community greenwaste and composting hub sites, and greenwaste drop off at QLDC's Wanaka and Frankton transfer stations will be retained. It is assumed that the demand at these sites may reduce, but there is benefit in retaining the existing services for greenwaste volumes over and above any potential kerbside collection.
- Despite a change in Government following the 2023 election, that existing MfE and other government policy on waste minimisation and kerbside standardisation will remain broadly aligned with the direction set by the strategies and policies set by the previous Government.

- That the service entitled properties for any potential kerbside organic collection service aligns with other kerbside collection services for refuse and recycling.
- Refuse services move to fortnightly with the introduction of any kerbside organics collection service.

2.10 High level risks and opportunities

High level risks and opportunities are listed in the table below:

Table 2 – High level risk and opportunities for organics kerbside collection and processing services

No.	Risk Description	Potential Mitigations
1	Reputational damage for QLDC over decision to introduce a specific organics collection service, without adequate buy-in from the community.	Include a strong community education, engagement and communication programme alongside the implementation of services.
2	Participation rates in a collection service are lower than anticipated, impacting ability to meet targets. This relates to both the food waste and garden waste component of general waste but is particularly relevant for food waste.	Include a strong community education, engagement and communication programme alongside the implementation of services. Provide kitchen caddies and liners to promote service uptake. Move to fortnightly rubbish collection when organics collection introduced. Undertake regular SWAP analysis of both rubbish bins and organics bins to measure diversion.
3	The volume of organic material collected is lower or higher than anticipated, impacting on the costs of the service.	Provide for uncertainty of volumes in feasibility assessments and budgets. Understand contractor contingency plans through procurement.
4	Change of Government policy on waste minimisation and diversion, withdrawing support and funding for organics collection and processing initiatives.	Maintain a watching brief on essential government policy relating to organics diversion. Maintaining regular contact with MfE representatives. Considering access to funding and impact on costs as part of decision on processing facility option. Options costed without MfE funding as a conservative approach.
5	Supply chain disruptions impacting recruitment or supply of essential capital items (bins, trucks, processing facility plant), delaying implementation of collection	Maintain sufficient programme contingency to deal with delays in supply chain. Implementation programme should have means to deal with service commencement delays (such as adequate local bin storage provisions).

No.	Risk Description	Potential Mitigations
	services.	
6	A processing facility is not commissioned in time for collection services to commence.	Manage implementation programme of collection services to timing of processing facility commissioning. Agree facility solution and timeframe before any commitment to timing for collection services. Regular discussions with CODC staff on organics processing facility development programme.
7	Contamination, lower quality material produced or compost product market conditions meaning product is unable to be diverted or sold.	Include adequate provisions in operational model for diverting contaminated material or alternative means of utilising lower quality material.

3 Economic Case

3.1 Purpose

The economic case presents the range of options for collection and processing of organic material. These options are assessed against strategic objectives, critical success factors, service costs and a range of criteria via a multi-criteria analysis of shortlisted options. From this analysis, a preferred way forward is presented as a proposed service solution for organics collection and processing services.

The assessment and determination of the preferred option has included additional steps of consulting internally with the Property and Infrastructure Management Team, Executive Leadership Team and Councillors to test the viable collection service options thoroughly before progressing to a preferred option. More detail on the assessment methodology can be found in Appendix 1.

3.2 Organics collection service options

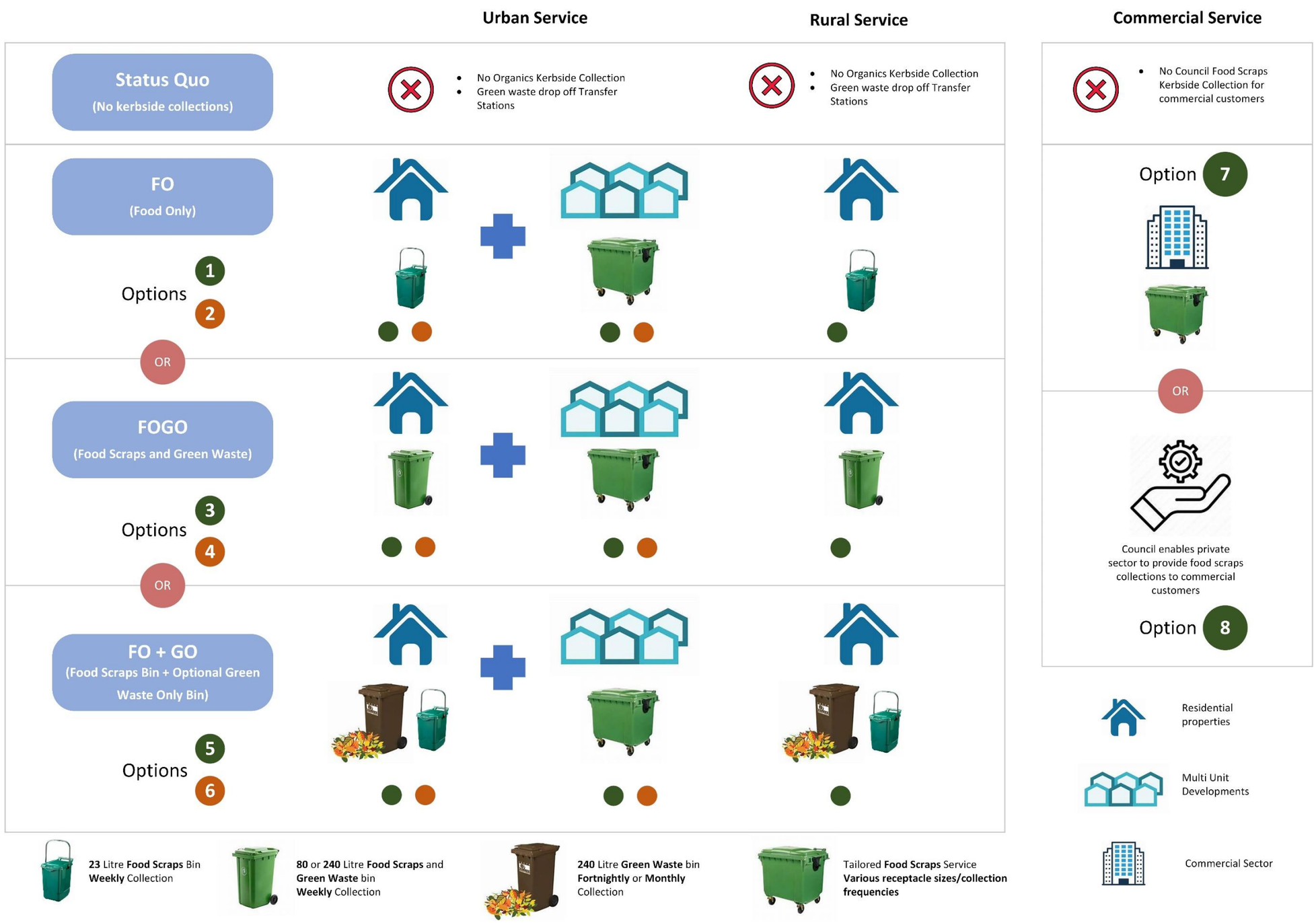
The long list of collection service options was developed based on existing models in service through Aotearoa/New Zealand and workshopping these with Council staff. The options are defined by:

3. Organic material collected: Food Organic (FO), Garden Organic (GO) Combined Food Organic and Garden Organic (FOGO); and
4. Customers included: Urban residential, rural residential, commercial customers.

The service options are presented in Figure 4 and further details included in Appendix 5. The status quo is also included in the assessment for comparison.

Council is continuing to investigate and provide funding support for community composting hubs, particularly in rural townships (such as that currently running in Glenorchy). This programme is proposed to continue alongside exploration of the district-wide organics collection service. This programme was scored against the long list criteria to demonstrate its benefits.

Figure 4 - Organics Collection Services Long List Summary



3.2.1 Long list assessment

The long list assessment of the collection options has been assessed against the strategic objectives and critical success factors and is summarised in the table below. It should be noted that the rural options in the below (Options 1,3 and 5) are assessed separately to the urban service, even though rural services would in reality be in addition to the urban services. This accounts for the generally lower scores for those rural options, reflecting that the relative benefits of an organics collection to the rural community is slightly lower than for the urban community. The detailed long-list assessment including the commentary on the options is included in Appendix 6.

Table 3 - Organics Collection Options Long List Scoring Summary

				Strategic Objectives					Critical Success Factors						
	No.	**Service Delivery Option**	**Reference**	Product	Targets	Emissions	Resilience	Community	Strategic Fit	Value	Supplier	Consumer Cost	Achievability	Total Score	Shortlist
Urban	**Status Quo**	No kerbside service	SS-1A(i)	2	2	1	1	2	1	2	2	5	5	**4.6**	No
	1 and 2	FO 23L Bin Urban Weekly Collection	SS-1A(ii)	4	5	4	4	4	5	5	5	4	4	**8.8**	Yes
	3 and 4	FOGO 80 - 240L Bin Urban Weekly Collection	SS-1A(iii)	5	3	3	3	3	3	3	4	3	3	**6.6**	Possibly
	5 and 6	FO + GO 23L Bin Urban Weekly Collection and Fortnightly/Monthly 240L GO collection	SS-1A(iv)	5	4	5	5	5	4	4	4	4	4	**8.8**	Yes
Rural	**Status Quo**	No kerbside service	SS-1B(i)	3	2	2	2	3	2	5	3	4	4	**5.8**	No
	1	FO 23L Bin Rural Weekly Collection	SS-1B(ii)	3	5	3	3	4	5	3	2	3	4	**7**	Yes
	3	FOGO 80 - 240L Bin Rural Weekly Collection	SS-1B(iii)	5	4	3	2	2	3	2	2	3	3	**5.8**	Possibly
	5	FO + GO Rural Weekly Collection and Fortnightly/Monthly 240L GO collection	SS-1B(iv)	4	4	4	4	3	4	2	1	2	4	**6.4**	Possibly
	All	Greenwaste and food drop off at community site/compost hub	SS-1B(v)	4	4	5	5	5	5	4	3	4	3	**8.4**	Yes
Commercial	**Status Quo**	No kerbside service	SS-1C(i)	2	2	1	1	2	2	2	2	5	5	**4.8**	No
	7	Council commercial service FO Bin (Various)	SS-1C(ii)	5	5	5	4	4	3	4	3	3	2	**7.6**	Possibly
	8	Council commercial service enablement	SS-1C(iii)	4	4	4	5	5	5	5	4	4	4	**8.8**	Yes

3.2.2 Defining the Kerbside Collection Services Short List

The outcome of the shortlisting showed a clear leaning towards the FO, 23L Bin options. Some of the rationale for this included the relatively low impact kerbside with a small FO bin, the prospect of diverting a higher volume of food waste with a FO service and that it would be easier to manage contaminants with a FO service.

The status quo options were all discounted through the shortlisting process. QLDC's environmental objectives targeted at reducing and diverting the organic waste stream are not possible under the status quo. As further information came to light during the business case development, the government mandate for Council to have implemented a collection service for food scraps by 2030 means not having a kerbside collection service is not viable as a service option.

In terms of the FO + GO options, the optional greenwaste collection element meant that this scored highly in terms of customer and diversion focussed objectives, particularly as an urban service where customers could choose to use the greenwaste service if they needed it. For rural areas, the anticipated increased costs and likelihood of smaller uptake meant this option did not score as well as a rural service, but not sufficiently low to discount it from consideration.

Initially the larger bin FOGO options were considered only as possible candidates and could be left off the shortlist. On reflection it was decided that it was premature to leave the FOGO from further consideration and comparison with FO options through the more rigorous short list assessment. The inflexibility and inconvenience of the larger bin size and potential for reduced food scraps diversion had a negative influence on overall scoring. However, the FOGO options has advantages in that:

- They provide a combined FOGO solution with the highest potential degree of organics diversion
- A single receptacle for both food and greenwaste is cost efficient; and
- FOGO collection material potentially supports more cost effective processing options.

The shortlisting process did identify a preference for QLDC to support and enable commercial collections via private collection services rather than provide a Council commercial collection service. It was decided not to carry the option for QLDC to provide a commercial service forward for further consideration. The rationale for this is that a commercial service is costly and difficult to manage with varied commercial requirements. Council's existing refuse and recycling kerbside collection contract does not provide for commercial services, so this is consistent with QLDC's general approach to kerbside collections.

In terms of the inclusion of options for a Rural service, the options which retained the existing rural collection service area for refuse and recycling were preferred. The only exception to this is that it was decided to also shortlist the Urban only FO collection option on the basis that if QLDC were to only pursue an Urban service, the Urban FO collection would be combined with an extension of Council support for community composting hubs.

In summary, the options that were carried through to the short list for further assessment and consideration were:

- FO 23L Bin Urban and Rural Weekly Collection **(Option 1)**
- FO 23L Bin Urban Weekly Collection **(Option 2)** including rural community composting hubs
- FOGO 80 – 240 L Bin Urban and Rural Weekly Collection **(Option 3)**
- FO + GO separate 23L Bin Urban Weekly Collection and Rural 240L Bin Fortnightly or Monthly greenwaste collection **(Option 5).**

3.2.3 Service delivery options

In addition to the collection service options, a suite of delivery options were documented covering how collection

services might be delivered. A summary of the assessment of the service delivery options is included in Table 4.

Table 4 – Service Delivery Options Assessment

Option	Service Delivery Option	Rank	Commentary/Rationale	Overall Assessment
Status quo (SD-1(i))	No Council organics collection service	**4**	• Doesn't provide the necessary collection service.	**Discount**
1 (SD-1(ii))	Council in-house resourced collection service	**3**	• Difficult for Council to attract and maintain resources for collection service and to operate to standard required. • No leverage off other service offerings like a private contractor would be able to provide.	**Discount**
2 (SD-1(iii))	Council out-sourced collection service	**1**	• Standard commercial model. Ability to select appropriate supplier with price tension. • Ability to leverage off other services provided by private sector for good practice and efficient resource management. • Ultimately Council can unilaterally control scope and level of service	**Preferred**
3 (SD-1(iv))	Shared collections service with a neighbouring council e.g. CODC	**2**	• Ability to leverage off other services provided by private sector for good practice and efficient resource management. • Efficiency through larger contract volumes. • More complexity in management of contracted supplier. • Difficult to align procurement processes and consolidate contracts across different districts.	**Possible**
4 (SD-1(v))	Regional shared collection services with Otago councils	**4**	• Ability to leverage off other services provided by private sector for good practice and efficient resource management. • Efficiency through larger contract volumes. • More complexity in management of contracted supplier with multiple principals. • Very difficult to align procurement processes and consolidate contracts across different districts.	**Discount**

The outcome of the assessment of service delivery options clearly indicated that the preferred option was for Option 3, an outsourced collection service, sourced by QLDC alone. This is a standard commercial and operational model for the delivery of collection services for Local Authorities and aligns with Council's other waste collection

services. Other options present limited potential additional benefit, while being significantly more complex and riskier. As a result, Option 3, Council-outsourced service delivery was the only option that was carried forward and became the assumed service delivery in further analysis of collection services.

3.2.4 Short List - Multi Criteria Analysis

The scoring and outcomes of the MCA process for the collection options is summarised in the table below.

Table 5 - Summary of MCA assessment - Food Scraps and Greenwaste Collection Systems Options

Option No.	Service Delivery Option	Whole of life costs	Resilience	Environment	Economic	Achievability	Risk	Consentability	Future proofing /options enabling	Downstream economic effects	Cultural wellbeing	People	Total Score	Rank
1	**FO 23L Bin Urban and Rural Weekly Collection**	3	4	3	4	3	3	2	4	5	NA	4	3.48	**1**
2	**FO 23L Bin Urban only Weekly Collection**	3	3	4	4	4	4	2	4	4	NA	4	3.39	**3**
3	**FOGO 80 - 240L Bin Urban and Rural Weekly Collection**	3	2	3	4	4	4	5	3	4	NA	3	3.40	**2**
5	**FO + GO 23 L Bin Urban and Rural FO Weekly Collection + optional Fortnightly/Monthly GO collection**	1	3	3	3	2	4	5	4	4	NA	2	2.88	**4**

The above analysis was undertaken using QLDC's standard MCA weightings. Adjustment of these weightings to reflect different emphasis across the criteria (see Appendix 9) had relatively low impact on the overall outcome of the MCA. This is demonstrated in the summary results table below:

Table 6 – MCA results by relative weighting

	Scenario 1 (original weightings)		Scenario 2 (equal weightings)		Scenario 3 (weightings by relative importance)		Scenario 4 (top 5 criteria - equal weightings)	
	Ranking	**Weighted score**	**Ranking**	**Weighted score**	**Ranking**	**Weighted score**	**Ranking**	**Weighted score**
Option 1 **- FO 23L Bin Urban and Rural Weekly Collection**	1	3.48	1	3.60	2	3.40	1 =	3.80
Option 2 **- FO 23L Bin Urban only Weekly Collection**	3	3.39	2 =	3.50	1	3.58	1 =	3.80
Option 3 **- FOGO 80 - 240L Bin Urban and Rural Weekly Collection**	2	3.40	2 =	3.50	3	3.18	3 =	3.00
Option 5 **– FO + GO 23 L Bin Urban and Rural FO Weekly Collection + optional Fortnightly/Monthly GO collection**	4	2.88	4	3.10	4	2.58	3 =	3.00

3.2.5 Preferred collection option

The outcome of the short list evaluation showed that there is little to distinguish between the FO collection (option 1) and FOGO collection (option 3). A detailed discussion on the comparison between the options is included at Appendix 10. There are pros and cons with each option, which are summarised in Table 7 below. there is a need for Council to decide on balance which of the options is more appropriate for the district. So far, around 30% of Councils throughout Aotearoa New Zealand have implemented one or other of these collection solutions, depending on their specific needs or community preferences.

Table 7 – Summary of Advantages and Disadvantages of Collection Options

Advantages	Disadvantages
Option 1 - FO 23L Bin Urban and Rural Weekly Collection	
• Evidence suggests this option diverts a higher proportion of household food scraps • Small bins suit residents in higher-density housing that do not have gardens or on-site composting options • Provides for a wider range of future processing options, with different technologies possible • Community's level of use of existing greenwaste services continue • Less room is taken up on the kerbside by bins	• Manual lifting of bins requires vehicle exit, meaning: – Higher health and safety risks – Difficult to attract and retain drivers to the service – Potential use of runners, which adds significantly to the labour cost of the service • Lower volume of organics diversion overall • 23L Bins are less robust and require a higher degree of replacement • Risk of low uptake in rural/suburban areas with easy on-site solutions for food scraps
Option 3 - FOGO 80-240L Bin Urban and Rural Weekly Collection	
• There is more organic material placed at kerbside with a FOGO Service, which will make it easier for Council to achieve the mandatory 50% kerbside diversion target • Provides a range of potential bin sizes to suit specific customer requirements • Provides a convenient disposal method for customers' greenwaste • Collection services have automated lifting, which: – Removes health and safety risks of manual handling – Makes it easier to attract drivers to the service – Makes collection routes more efficient	• Evidence suggests this option captures less food scraps than FO collection, with higher volumes of food waste disposed in rubbish bin • Is potentially an unnecessary service for households already self-managing greenwaste at no collection cost to Council • Larger bins require additional storage space and take up more space on the kerbside. This considers the current storage need for the three bin refuse and recycling service currently deployed in the district • A FOGO service has no separate collection of food scraps, which limits flexibility of choice for the processing facility technology

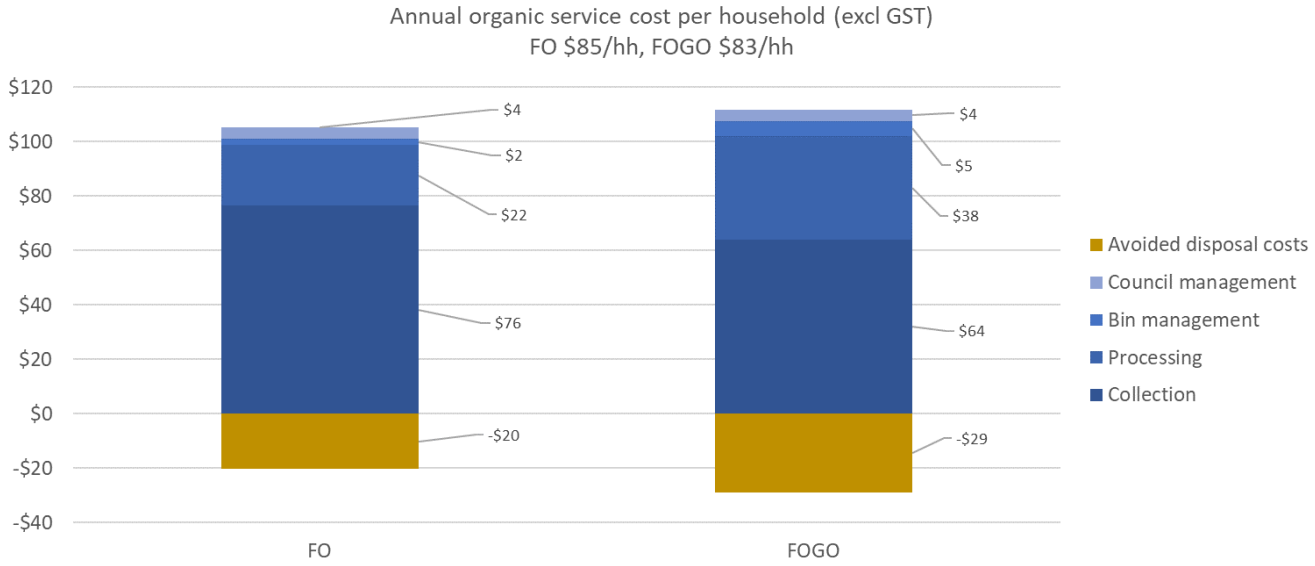
The cost of a FO or FOGO service are very similar, with a net cost of $1.9 million per annum for each option (considering avoided disposal costs) as shown in the table below.

Table 8 – Summary of Annual Service Costs

Costs	Option 1	Option 3
Option Description	FO 23L Bin Urban and Rural Weekly Collection	FOGO 80 240L Bin Urban and Rural Weekly Collection
Collection costs ($,000)	$1,738	$1,457
Processing ($,000)	$505	$864
Bin management ($,000)	$53	$121
Council management ($,000)	$94	$100
Subtotal ($,000)	**$2,390**	**$2,542**
Avoided disposal costs ($,000)	-$460	-$658
Net cost ($,000)	**$1,930**	**$1,884**

The figure below compares the annual service cost for the FO and FOGO Options on a per household basis.

Figure 5 – Annual service cost comparison FO vs FOGO collections



Although the overall costs of both options are similar, the likelihood of the need for a runner under a FO collection means a probable increase in costs overall for this option, with an estimated additional $567K per annum in labour costs, equivalent to an extra $25 per household (or 30%). These additional costs are not indicated in Figure 5.

A wide group of Council stakeholders including P&I Managers, Executive Leadership Team and elected members were engaged on both options before a firm recommendation on a preferred option was selected. Through this engagement the FOGO service was selected on balance - primarily for the following reasons:

3. More material is collected kerbside with a FOGO service. Residents can use the convenience of a council-provided bin to divert both their food scraps and garden waste - material they are currently disposing of in their rubbish bins and additional material that is either being home composted, taken to a transfer station or greenwaste drop off facility. Councils that have FOGO collections have kerbside diversion rates in excess of 70%, achieving mandatory diversion standards more easily. However, residents see the bin as a garden waste bin and potentially less food scraps are diverted from the kerbside refuse bin than with a FO service.

4. A FOGO service does not require manual collection and therefore has lower health and safety risks and lower driver retention issues. Under a FO service the driver is required to exit the truck to manually empty the FO bins (or a runner is required to empty the bins, while the driver remains in the truck). Drivers for FO collection are difficult to recruit due to the manual collections and the potential for spills and odour when emptying bins.

A FOGO service does have the drawback of being less convenient for residents in high-density housing areas that do not have garden waste to manage. This type of housing is becoming more common in the district. However, including a tailored solution for residents of MUDs will help to address this issue.

Residents will use the FOGO service for their greenwaste instead of using the drop-off services (and private collections) already available to them, making these existing council services less efficient. However, these existing services provide an important means for disposing of larger volumes of greenwaste and will continue to be utilised.

As part of these discussions, the lower rates of food scraps diversion with a FOGO service were raised as a risk for FOGO over FO services. To encourage use of the service for diverting food from landfill, it was proposed that the smallest FOGO bin be implemented, i.e. an 80L bin, and that kitchen caddies and liners be provided at roll-out to help get food waste out of the kitchen and into the FOGO bins. An option to upgrade to a larger bin would also be provided, to give residents the flexibility to choose the bin size that meets their needs. Either a 140L bin or 240L bin would be provided as the larger size option, with this to be determined during implementation. The move from weekly to fortnightly rubbish collection will also help drive the use of the FOGO bin for food waste diversion, as this is currently the largest component of a rubbish bin.

From a cost perspective, offering different bin sizes has only minor impacts on operational costs and typically these are passed through to residents, with larger bins attracting a higher targeted rate. Collection costs are largely fixed and based on labour, distance travelled and number of lifts per day. Processing costs are higher, due to the larger volume collected (this is addressed with the targeted rate). The marginal cost associated with the manufacture of larger bins is also passed on through the targeted rate, although this difference is small when amortised over the 10-15 year asset life for the bin.

3.3 Processing facility options

For the processing facility, options were developed that took into consideration the potential location of the facility, the governance/management model employed to build and operate the facility and the processing technology to be used. The options considered and the scoring of these options is presented in Table 9. Further explanation of the options is provided in Appendix 5.

3.4 Long list assessment outcomes

The long list assessment of the processing facility options is summarised in the table below:

Table 9 - Processing Options Long List Scoring Summary

	Option	Service Delivery Option	Reference	Strategic Objectives					Critical Success Factors						
				Product	Targets	Emissions	Resilience	Community	Strategic Fit	Value	Supplier	Consumer Cost	Achievability	**Total Score**	**Shortlist**
In-District	**Status Quo**	Greenwaste drop off mulching contracts only	SD-2A(i)	3	2	3	2	2	1	1	4	5	5	**6**	No
	1	Council owned/In-house operation	SD-2A(ii)	5	5	5	5	5	2	3	3	3	1	**6.1**	No
	2	Council owned/out-sourced operation	SD-2A(iii)	5	5	5	4	5	5	2	5	2	3	**7.5**	Yes
	3	Council in partnership with private sector e.g. joint venture	SD-2A(iv)	5	5	5	3	5	5	3	3	3	2	**7.1**	Possibly
	4	Council in partnership with community sector e.g. a trust	SD-2A(v)	5	5	5	5	5	3	4	2	3	2	**6.7**	No
Out-of-district	**5**	Council in partnership with another party (e.g. CODC)	SD-2B(i)	5	3	4	4	3	4	4	5	5	4	**8.5**	Yes
	6	Service contract for processing organics	SD-2B(ii)	5	3	4	3	3	5	4	5	4	5	**8.7**	Yes
Processing tech.	**7**	QLDC located food only processing (e.g. in vessel/anaerobic digestion)	SS-2A(ii)	5	5	5	4	4	4	3	2	2	2	**6.2**	No
	8	QLDC located food and greenwaste processing (aerobic e.g. windrow composting)	SS-2A(iii)	5	5	5	4	5	4	4	4	3	3	**7.8**	Yes

Note: the total scores in the above assessment use a weighting of 25:75 towards the critical success factors. The rationale for this is that processing facility options are clearly differentiated by the critical success factors, as the main concerns with a facility are costs, establishment and operational risks and value for money. There is more consistency across options in the environmental outcomes, expressed through the strategic objectives.

The detailed long-list assessment including the commentary on the advantages and disadvantages of the long listed options is included at Appendix 6.

3.4.1 Defining the Processing Facility Short List

In defining the short list to take forward, the status quo option was discounted because a processing facility must be built in order to implement a collection service.

Of the in-district options, Option 2 – a Council owned facility operated under an outsourced contract – was the only option shortlisted. The scoring reflected that this option provided QLDC with the greatest control over the establishment and ongoing viability of the facility. Running the facility under an operational contract is also an achievable and relatively low risk option for QLDC investing in a new service venture.

It was debated whether Option 3 - a joint venture with a private party - should be included in the shortlist, but it was decided that the complexity with establishing this arrangement and the ceding of control of the facility by QLDC through a partnership presented too much risk.

Other in-district options scored less well because the community or in-house models are more challenging to resource (both for capable internal staff and community partners), which potentially affects achievability and the cost and complexity of ongoing operation. Neither in-house (1) or the community partner option (4) will bring commercial and operational systems and processes from other contracts or ventures that a waste industry private sector party does. At the scale of the operation needed for processing QLDC's kerbside collections, industry experience is vital to de-risk the successful operation of the facility.

The out-of-district options were considered in the knowledge that Central Otago District Council (CODC) have decided to develop a composting facility within their district, anticipated to be commissioned in 2026. Being out of district meant that scores against some of the strategic investment criteria were reduced, because of impacts a further afield facility place on emissions, environmental targets and resilience in particular. However, there is relative certainty of the development of the facility with an existing site and investment decision to proceed by CODC. This meant both out of district options scored well under the critical success factors, with high ratings on value, achievability, and supplier certainty.

The discussion on shortlisting the technology options was essentially parked to focus on the location/facility ownership/operating model as the most critical decision required.

In summary, the options that were carried through to the short list for further assessment and consideration were:

- In District Organic Processing Facility – Council Owned/Out-sourced Operation **(Option 2)**
- Out of District Organic Processing Facility – Partnership/JV with another Council **(Option 5)**
- Out of District Organic Processing Facility – contract with another Council **(Option 6)**

3.4.2 Short List - Multi Criteria Analysis

The scoring and outcomes of the MCA process for the processing facility options is summarised in the table below.

Table 10 - Summary of MCA assessment - Food Scraps and Greenwaste Collection Systems Options

Option No.	Service Delivery Option	Whole of life costs	Resilience	Environment	Economic	Achievability	Risk	Consentability	Future proofing/options enabling	Downstream economic effects	Cultural wellbeing	People	Total Score	Rank
2	**In District Organic Processing Facility – Council Owned/Out-sourced Operation**	1	5	5	4	1	4	1	2	4	NA	NA	**2.82**	3
5	**Out of District Organic Processing Facility – Partnership/JV with another Council**	2	3	4	4	2	2	4	3	3	NA	NA	**2.91**	2
6	**Out of District Organic Processing Facility – contract with another Council**	1	2	4	4	4	2	5	5	3	NA	NA	**3.03**	1

The above analysis was undertaken using QLDC's standard MCA weightings. Adjustment of these weightings to reflect different emphasis across the criteria (see Appendix 8) had no demonstrable impact on the overall outcome of the MCA. This is demonstrated in the summary results table below:

Table 11 - MCA results by relative weighting

		Scenario 1 (original weightings)		Scenario 2 (equal weightings)		Scenario 3 (weightings by relative importance)		Scenario 4 (top 5 criteria - equal weightings)	
		Ranking	**Weighted score**	**Ranking**	**Weighted score**	**Ranking**	**Weighted score**	**Ranking**	**Weighted score**
2	**In District Organic Processing Facility – Council Owned/Out-sourced Operation**	3	2.82	2 =	3.00	3	2.58	3	2.80
5	**Out of District Organic Processing Facility – Partnership/JV with another Council**	2	2.91	2 =	3.00	2	2.90	2	3.20
6	**Out of District Organic Processing Facility – contract with another Council**	1	3.03	1	3.30	1	3.35	1	4.00

3.4.3 Preferred processing option conclusion

The preferred option for processing is to enter a contract with an out of district facility for the acceptance and processing of Organic material. This option is preferred because of the facility being planned in Central Otago and the relative simplicity of establishing the arrangement and exiting it at a time that suits QLDC's future decisions for organics processing. A gate rate contract preserves the flexibility for QLDC to consider other processing options and technologies in the future. The gate rate contract option is also estimated to be an affordable option (noting that the out-of-district options are highly sensitive to third party revenue). The benefits of a gate rate contract is that it does not have the commercial risk, complexity and long term commitment of QLDC developing its own facility or shared ownership and operation of an out of district facility. Further discussion on the preferred options is included at Appendix 10.

3.5 Overall Preferred Organics Solution (collections & processing)

At the conclusion of assessment and consideration of the options, it was clear that the recommended options for QLDC to proceed with under the business case are:

1. **Recommended collection option -** An Urban and Rural **FOGO** solution for kerbside collection services.

   The recommended organics collection service is a weekly collection of combined food and greenwaste bins (FOGO).

   To maximise the diversion of food waste, the default bin size will be restricted to 80L, but residents will have the option to opt for a larger bin. Kitchen caddies and liners will be provided as part of the roll-out to improve ease of service use for food scraps. A comprehensive communication programme will be run in advance, during roll out and ongoing to encourage service use.

   A tailored collection service for MUDs with a variety of bin size options would also be part of the overall collection service.

   FOGO is recommended over a FO collection for operational reasons. It reduces health and safety risks associated with manual handling and the potential for higher health and safety risks if runners are needed for the FO service. It is more attractive to drivers, which are in short supply, because they do not have to get out of the vehicle and handle food scraps. It also eliminates the potential for 30% additional cost with runners, if these are needed to address the issues with a sole driver not being able to undertake manual bin lifts safely or willingly.

   An alternative solution for the Glenorchy township will take advantage of the recently established community composting hub. This will minimise truck movements to Glenorchy for the collection of relative low volumes of material.

   Alongside the introduction of organics collections, the rubbish collection service will reduce from weekly to fortnightly collections.

2. **Recommended processing option -** An **out of district** processing facility option, under a **gate fee contract** with CODC.

   Organics collected kerbside will be consolidated within the district and transported to CODC's composting facility, which is currently in the planning phase and due to be operational in July 2026.

   This option is recommended because it is a simple, low commercial risk option for QLDC and there is a high

degree of certainty about the facility being available to support the implementation of a FOGO collection service. It also preserves the flexibility for QLDC to consider other processing options and technologies in the future.

The risks and issues which need to need to be considered and managed include:

- The Central Otago facility construction is delayed due to site selection or consenting issues, impacting QLDC's ability to meet the 2030 mandatory service introduction date.
- Organics collection services are relatively new in New Zealand and therefore there is a high degree of uncertainty regarding the volumes collected, service cost and degree of community engagement required to ensure effectiveness of the service in diverting organics from refuse collection bins.
- Additional bins will need to be stored on property and an additional bin will need to be placed on the kerbside every week.
- Availability of end markets for the compost produced at the processing facility, including management of contamination in the organic material collected (e.g. plastics) so that this does not restrict the end markets for the compost product.
- Ratepayer opposition to the service due to the cost increases in rates.
- Costs are highly sensitive to key service metrics including the tonnes processed, the number of bins presented for collection each week, the volumes of material presented, the cost of haulage and processing, and whether a runner is required for the FO service.
- Delays in completing the business case may result in a lack of financial certainty of the LTP cost estimates and MfE grants to support service introduction may no longer be available.
- Reputational risk associated with not delivering a key service indicated in Councils strategic plans including WMMP and CBP.

The introduction of an organics collection service will be a core part of Council's actions to reduce food scraps in kerbside refuse collection. It will ensure Council meets its mandatory service obligations and meet its commitments to the community through the WMMP and CBP. Alongside a new kerbside collection service, Council will also continue to support action further up the waste hierarchy including food waste reduction, food rescue and home or community composting.

4 Financial Case

The Financial Case considers the operating and capital budgets, timing of expenditure as well as the overall funding required by Council for the preferred organics collection service.

4.1 Capital and operating expenditure

The Financial Case considers the overall funding required by Council for the preferred organics collection service.

Financial analysis for the collection and processing options was undertaken as part of the economic case. For the preferred option, the 80L weekly FOGO collection, the NPV is a net cost to Council of $24.5 million over 20 years, with an average annual cashflow of $1.9 million. The results are presented in Section 3.2.5 and Appendix 9.

The annual cost includes operating expenses as well as capital costs for bin purchase. In the collections modelling, capital costs have been amortised over 15-years, the service life of the bin.

The estimated capital and operating costs for the service, over the 2024-2034 Long Term Plan period are shown in the table below. These are based on the introduction of organics collection services commencing as late as possible to meet the government's mandatory service requirements, which would be 1 July 2029 or Year 6 of the LTP.

An alternative timeline for the earliest start possible, is also presented in the programme in Section 6.3. This would result in expenditure being moved forward, commencing procurement in Year 1 of the LTP, 2024/25.

The following is noted in relation to the budgets presented:

- The table is not intended to present the full LTP budget for Council's solid waste services, rather it focuses on the new costs associated with the new organics collection service.
- The information presented excludes inflation and excludes growth in household numbers.
- Costs include services to all 22,741 households, urban and rural, receiving the current kerbside services.
- Capital costs include supply and delivery of 80L bins and 9L kitchen caddies.
- Council management include project management for the two years in advance of the service and then ongoing contract management once collections commence.
- Roll-out costs include procurement, communications and marketing, and the supply of liners and other collateral with the bins.
- Collection costs include vehicles, labour, fuel, other operating costs as well as bin maintenance.
- Processing costs include gate fees at the CODC facility as well as consolidation and haulage costs.
- Avoided refuse disposal costs are accounted for below but would need to be recognised within Council's refuse disposal budgets.
- Costs associated with a reduction in refuse collection frequency have not been included in the budget.
- Costs and savings associated with an alternative solution for Glenorchy.

Table 12 – Ten-year capital and operating budgets

Financial Year (LTP Year)	24/25 (Y1) Procure	25/26 (Y2) Mobilise	26/27 (Y3) Start collection	27/28 onwards
Bin and kitchen caddy, supply and delivery		$1,430		
TOTAL CAPEX ($000s)	**$0**	**$1,430**	**$0**	**$0**
Council management		$150	$150	$150
Roll-out costs	$250	$100	$100	
Collection costs			$1,480	$1,480
Processing costs			$860	$860
Avoided disposal costs			-$650	-$650
TOTAL OPEX ($000s)	**$250**	**$250**	**$1,940**	**$1,840**

4.2 Funding sources

Capital funding

There is the potential to apply for a grant from MfE for the bin capital costs, providing this application is processed before the available funds have been exhausted. MfE have indicated they will fund up to $5 per 7L kitchen caddy, $40 per 80L bin, $50 per 140L bin, $55 per 240L bin. This would total $1.0 million for Council's FOGO service, leaving a capital funding shortfall of $0.4 million for Council to fund (largely covering distribution costs). It is anticipated that this funding shortfall would be funded from Council's usual debt funding arrangements.

Operational funding

Operating expenditure would be funded through a targeted rate on all properties that receive the service, with no opt-out provision. Based on the analysis in the Economic Case, the targeted rate is expected to be in the order of $83 per household (including GST). This would include servicing the loan for the capital funding shortfall.

5 Commercial Case

This section provides high-level procurement strategy considerations for the new organics collection service, including bin supply, collections and processing. Once the business case is approved, it is anticipated that a detailed procurement strategy would be developed for the new service.

5.1 Collection services procurement

Implementation of the preferred option will either occur through separate procurement of a collection service contract for organics or as part of a wider procurement covering all Council's collection services.

Council's current waste services contract commenced in July 2019 and has an initial term of 7.5 years, which expires in December 2026. A decision needs to be made by Council by June 2024 whether or not to extend the contract by a further 2.5 years. Further extensions are possible up to a maximum term of 15 years, expiring in June 2034.

If the decision is made to end the waste services contract at the end of the initial term, then organics collections could be procured as part of a wider waste services procurement process. If the contract is extended, then a separate organics collection service procurement will be needed. Organics collection services procured as part of an overall waste services contract provides the opportunity for efficiencies in the supplier's management overheads.

The most likely procurement process is an open single-stage Request for Proposals (RFP) with an Advanced Notice and supplier briefings ahead of RFP release.

For an organics-specific procurement, there is expected to be a moderate level of interest from the market, primarily from collection companies that already have a presence in the lower South Island:

- Waste Management – Council's current refuse and recycling collection contractor
- EnviroNZ – Collection contractor for CODC, Dunedin CC and the South Canterbury councils
- WasteCo – Collection contractor for Clutha DC and WasteNet Southland (following purchase of AllWaste)
- Smart Environmental – have commercial collections in Queenstown

A wider waste services procurement might attract a wider range of suppliers, but these companies are likely to be the main contenders.

Bin supply

Although there may be an option to directly procure FOGO bins and kitchen caddies, it is more common to combine bin supply with the collection contract. Suppliers are used to including bin supply within their service contracts.

Consolidation and transport

This would be included in a wider waste services procurement, but if an organics-specific procurement is undertaken, this could be directly negotiated with your existing waste services contractor, who manages the transfer stations and haulage. Alternatively, this part of the service could be undertaken by the organics collection contractor, with an area set aside at the transfer stations for consolidation and loading of haulage vehicles for organics.

Changes to fortnightly refuse collection

If the procurement for the organics collection service is undertake as a standalone procurement, then negotiations will be required with the incumbent refuse collection contractor to vary their contract from weekly refuse collection to fortnightly refuse collection.

5.2 Processing facility access negotiations

Arrangements for access to CODC's processing facility and the associated gate fee will need to be negotiated with CODC, and their contractor EnviroNZ. A series of negotiation meetings to agree key terms and then drafting of the contractual agreement would be required.

Managing the risk of processing facility not being available or delayed

CODC are still in the design and consenting phase for their organics processing facility, with construction yet to commence. This creates uncertainty for QLDC on when the facility will be available to accept kerbside-collected organics. To assist in mitigating this risk, there is an opportunity to request proposals from the market for alternative processing options, either short term or long term. This approach was used by CODC in their waste services procurement. CODC secured access to the Timaru composting facility as a short term option, while their organics processing facility is built. Similarly, they secured access to the Timaru MRF while QLDC build their MRF.

6 Management Case

6.1 Stakeholder engagement

The following table identifies key stakeholders and how they are impacted by the introduction of QLDC's kerbside organics collection service.

Table 13: Stakeholder impacts

Stakeholder	Impact on stakeholder and engagement approach
Elected members	Approval of organics collection service and associated funding. Engaged via workshops, reports to Council and decisions at Council meetings.
Mana whenua	Impacted as potential user of organics collection service. Engagement via usual channels.
Council's infrastructure planning team	Responsible for obtaining approval of the business case to implement organics collection service. Council's project team until the service is approved.
Council's operational team	Responsible for implementing the organics collection service, including procurement, roll out programme and ongoing contract management. Council's project team once Council approves the service.
Other departments of council such as customer services, finance, climate change, procurement	Ongoing engagement on impacts of service on Council's customers and the wider community. Ongoing engagement led by the project team.
Urban residents	Recipients of the new organics collection service and reduction in refuse collection service frequency. Engagement to increase awareness of upcoming service change, how to use the service and overcome barriers to participation. Project-specific communication and engagement plan for mobilisation to be developed.
Rural residents	Not all rural residents receive the collection service, only those within the existing collection service area. Targeted communication on how the organics bin may be used by these residents to complement their existing organic waste management options. Project-specific communication and engagement plan for mobilisation to be developed.
Residents in MUDs	Recipients of the new organics collection service, but with bespoke collection arrangements established for each site. Targeted engagement on upcoming service and how to use their site-specific bins.
Businesses	Not included in kerbside collection service but may choose private collection service and use CODC's processing facility to divert food waste from landfills. Engagement alongside LTP and as part of service roll out.
Waste Management (current waste services contractor)	Engagement and negotiation on the impacts of an organics collection service on their other waste services, particularly the move from weekly to fortnightly refuse collection.
Other waste service providers	May be interested in providing the organics collection service. Supplier engagement as part of procurement.
Community groups	May be interested in supporting council with community engagement as part of roll out. Targeted engagement during mobilisation.
Central Otago District Council	Provide organics processing facility. Direct negotiations regarding access arrangements and timing of service commencement.

Stakeholder	Impact on stakeholder and engagement approach
Other lower South Island local authorities	Interest in alignment with other councils' proposed services, timing of their service roll out, opportunities to collaborate on communication material. Engagement via regular waste officer meetings.
Central government	Provide funding grants, including funding for organics collection service roll out. Set policy direction, including gazetting of standardised kerbside collection services. Targeted engagement with representatives from Ministry for the Environment.

6.2 Project structure

A project team and governance structure for the implementation of kerbside organics collections will be established once the service has been approved by Council.

6.3 Programme

Overall, we have broken the project into the following workstreams:

- Approvals and funding: approving the business case, securing funding through LTP and MfE funding application
- Processing facility: access negotiations, design and consenting, construction, commissioning
- Collections, bin supply and consolidation: procurement, consolidation site consents, truck supply, bin supply and delivery, driver recruitment
- Communication and engagement: with customers and stakeholders, on service change

We have shown the two options for the implementation programme for organics collection service roll out. These are shown diagrammatically in Figure 6. Appendix 11 provides a more detailed programme to deliver these workstreams based on the earliest start date and the latest start date. The earliest start date is governed by the time required to procure and mobilise a collection contract (2 to 2.5 years). This also requires CODC's processing facility to be ready to accept QLDC's organics, however the timeframes for procurement and completion of CODC's facility are generally aligned.

The latest start date is governed by collections commencing prior to the government's date for which mandatory collections are introduced, 1 January 2030. It is not recommended that a new collection service commence in the middle of the Christmas holiday period. Therefore, to meet this date, a collection start date of 1 July 2029 is recommended, with this also aligning to a new financial year. The earliest and latest possible start dates are two years apart.

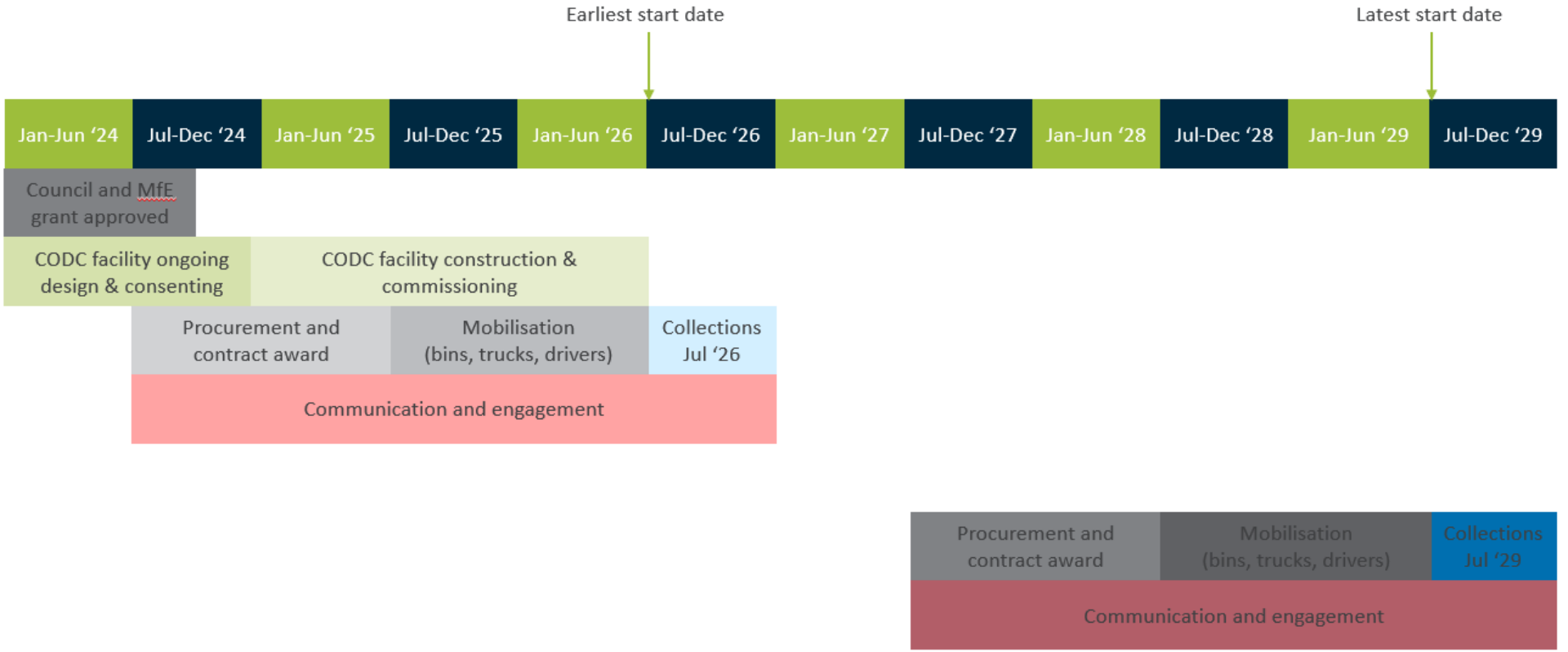


Figure 6: Overview of programme, with early start and late start options

6.4 Risk management

High-level risks for the service were presented in Section 2.10. A detailed risk assessment will need to be undertaken for the implementation of the organics collection service. It is anticipated that on acceptance of this business case and approval to proceed is received following the LTP, a project risk register will be developed and maintained in accordance with QLDC's risk management policies and procedures.

6.5 Next steps

Based on the programme in Section 6.3, the immediate next steps for this project are:

- Approval of this business case
- Decision on start date for services, to be included in LTP: 2026/27 (earliest start) or 2029 (latest start)
- Submission of funding application to MfE (subject to service approval)
- Approval of service implementation as part of LTP approval
- Decision on procurement timeframes, aligned to wider waste services procurement or separate
- Establishment of project team and governance structure

Appendix 1 – Approach and methodology

General methodology and approach

The Better Business Case (BBC) Approach

The BBC approach, developed initially by the New Zealand Treasury, is an accurate method to ensure that the full range of options as part of a review process have been explored, and are assessed in a systematic way. The aim of this approach is to provide objective analysis and consistent information to decision-makers, enabling them to make smart investment decisions for public value. It is an ideal tool for the public sector to make long term decisions regarding service delivery. It looks at financial measures in a weighted, balanced context alongside strategic, economic, commercial and management factors.

The NZ Treasury business case approach and process has been generally followed in the business case, with adjustments and additions to allow for QLDC specific requirements and a pragmatic consideration of important factors in investment decisions for waste collection and processing services.

Business Case Service Components

In developing the approach to the options assessment in the economic case, it is acknowledged that critical links and dependencies exist between collection and processing facility solutions. The consideration and assessment of these options seeks to tie the individual components of collections and processing facility back to an overall organics processing solution for QLDC that recognised the dependencies between the components. However, it was agreed that options for collection of organic materials and options for processing would be developed and assessed as distinct and separate components. The rationale was to limit unnecessary complexity to the overall assessment and unworkable permutations of different options. As a result the assessment under the economic case is structured into two parts, looking firstly at the collection services, followed by the processing facility.

Assessment Methodology

Longlist Assessment

The longlist options were assessed in a workshop facilitated by Morrison Low and held with Council staff. The process for assessing the options included scoring of the option dimensions (scope, service solution, delivery options) against a set of assessment criteria comprising the investment objectives and the critical success factors as described in the strategic case.

The assessment was initially performed by Morrison Low and then discussed and challenged within the workshop to reach consensus on the evaluation of each option. As part of the process, discussion was undertaken on overall advantages and disadvantages of each option and commentary captured summarising the discussion.

Following the workshop, the results of the assessment were circulated, and a decision was reached over the preferred and possible options to be shortlisted and those that would be discounted from further evaluation.

Evaluation of the short list

Once the shortlist was determined, a process of evaluation determined the cost-effectiveness of the shortlisted options from both a financial and non-financial perspective. The outcome of this stage of the process was to identify a preferred option for the collection systems and the processing facility from the shortlisted options.

The following assessments were used as part of the evaluation methodology:

Multi Criteria Analysis (MCA)

For the economic case, a QLDC specific Multi Criteria Analysis (MCA) was utilised with the project's investment objectives and relevant QLDC decision making frameworks. The MCA evaluated the short-listed options against QLDC's standard criteria for investment to determine non-monetary benefits alongside costs. These criteria (taken from QLDC's MCA tool) included:

- Whole of life costs
- Resilience
- Environment
- Economic
- Achievability
- Risk
- Consentability
- Future proofing/options enabling
- Downstream economic effects
- People

The criteria were augmented to provide clarification and interpretation to the specific circumstances of each of the service options. The detail of the assessment criteria used in the MCA process are included at Appendix 8.

Cultural wellbeing was not assessed during the MCA process as it was felt that specific Iwi engagement was required on the Organic services options for this to be evaluated in a culturally appropriate and authentic way.

The people criterion was also considered not relevant to the scoring assessment of the processing facility options. This is primarily due to a facility not being a customer facing service and the processing of material not having a direct effect on residents (outside of those covered by other criteria e.g. cost).

The shortlisted options for organics collection services were workshopped with Council Officers from the Property and Infrastructure Group (including the Infrastructure Operations Manager, Solid Waste Contracts Manager and Senior Waste Minimisation Planner), facilitated by Morrison Low. Before the MCA scoring was finalised, whole of life costings from the detailed cost modelling was fed into the MCA evaluation.

Sensitivity Testing

To test the sensitivity of the short-listed options analysis, the weightings of the assessment criteria for the MCA were adjusted under a number of different scenarios. These scenarios, using the standard QLDC weightings as starting point, looked at the effect of changing the relative importance of different criteria to assess the overall impact on the MCA scores and ranks across the options.

Detailed Cost Modelling

A detailed financial assessment was undertaken on the short-listed options for organics collection and processing. This included an assessment of the monetary benefits and cost to QLDC and modelling a range of relevant capital and operating costs associated with the services. Metrics in terms of key outputs include annual service delivery cost and NPV calculated over a 20-year period. An estimate in the reduction of emissions of the various options and the cost savings through reduced emissions unit purchase was also included in the model.

Stakeholder Briefings

With a clearer view on the preferred option for the processing facility, a summary of the options assessment and initial findings was developed, and a series of briefings held with an internal stakeholder groups. These groups were:

- The Property and Infrastructure Management Team
- The Executive Leadership Team
- Council Representatives

The groups were briefed on the relative advantages and disadvantages of the FO and FOGO collection services options. The purpose behind these sessions was that there was insufficient difference between these options for a recommended preferred option to put forward, without gauging the views of a wider group of Council stakeholders.

Appendix 2 - National and QLDC strategic context

National Context

New Zealand Waste Strategy 2023 Te rautaki para

In considering organic waste service delivery, QLDC must give regard to the New Zealand Waste Strategy 2023 Te rautaki para. The new strategy sets the direction over the next three decades for work on waste by central and local government, the waste management sector, individual industries and businesses, and households and communities.

The strategy's vision is:

By 2050 Aotearoa New Zealand is a low-emissions, low-waste society built upon a circular economy. We cherish our inseparable connection with the natural environment and look after the planet's finite resources with care and responsibility.

The new waste strategy was published in March 2023 and:

- Sets a clear, long-term direction
- Outlines short-term targets, goals and priorities
- Sets the context for more detailed action and investment plans
- Describes how progress will be evaluated and reported.

The strategy sets three national targets to achieve by 2030:

- Waste generation: reduce the amount of material entering the waste management system, by 10 per cent per person.
- Waste disposal: reduce the amount of material that needs final disposal, by 30 per cent per person.
- Waste emissions: reduce the biogenic methane emissions from waste, by at least 30 per cent.

Kerbside Standardisation

In addition, there are several impending changes in legislation targeted directly at the local government sector. Following the Government's 'Transforming Recycling' kerbside standardisation consultation in 2022, the Ministry for the Environment have published a standard materials gazette notice which will require the following:

- Make materials collected from households for recycling the same across New Zealand from February 2024
- Ensure kerbside recycling services are provided to households in all urban areas (i.e., towns of 1000 people or more) by January 2027[5]
- By January 2030, all district and city councils provide food scraps (or food and garden waste) collections to households in urban areas of 1,000 people or more. In urban areas with food processing facilities already available, households will have this service in place by January 2027[6].

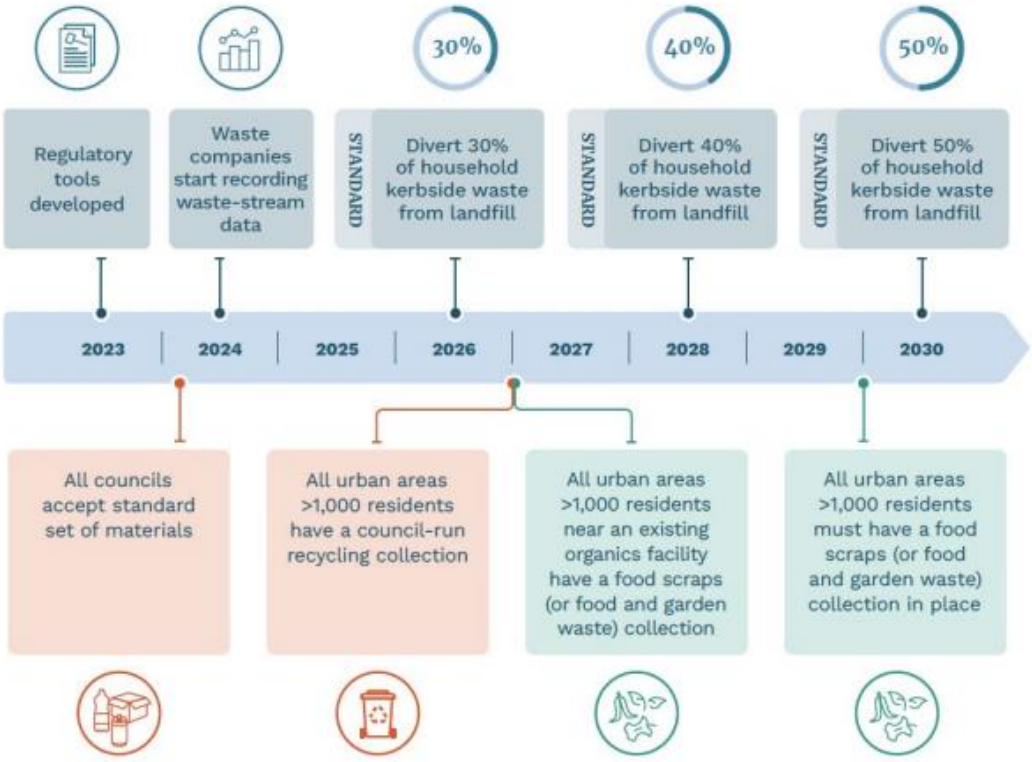
[5] To be enacted through separate regulations.
[6] To be enacted through separate regulations.

As well as providing households with food scrap collections, the Government are looking to get businesses ready to separate food scraps from general waste by 2030. $120 million of contestable funding is available until June 2024 from the Waste Minimisation Fund and Climate Emergency Response Fund to help councils and the private sector invest in diverting food and other organic wastes from landfill. This funding includes planning the transition to food scraps collections, rolling out food scraps collections, new bin infrastructure and drop-off facilities, and upgrading transfer stations.

Government is also introducing new minimum standards for councils to increase the amount of household waste diverted from landfill. Of the total household waste placed at kerbside councils will need to divert:

- 30 per cent by July 2026
- 40 per cent by July 2028
- 50 per cent by July 2030.

Figure A2.1 - Timeline for implementing the changes to recycling and food scraps collections:



Expansion of the Waste Disposal Levy

The Government is progressively increasing both the levy rate and the scope of the landfills to which the levy applies. Current levies on landfills as of July 2023 are $50/tonne for Class 1 landfills, $20/tonne for Class 2 landfills and $10/tonne for class 3 landfills. The levy on class 1 landfills will increase to $60/tonne from 1 July 2024.

MfE has made recovering and processing organic materials a priority to drive diversion of material from landfill and reduce emissions. The increase in value and scope of waste levy charges for landfill disposal and the cost of emissions trading scheme compliance has an impact on the economics of organics waste handling and management. Higher disposal costs at landfill will make investment proposals for diversion services and infrastructure more viable. There is likely to be greater demand for food scraps and greenwaste diversion services as waste disposal costs increase due to the levy increases.

Waste Legislation Reform

MfE is also developing new waste legislation to replace the current Waste Minimisation Act 2008 and the Litter Act 1979.

The new legislation will support delivery of many significant initiatives including the NZWS and waste actions of the NZ Emissions Reduction Plan. The legislation will strengthen some existing powers and add new product regulation powers. These include:

- Product bans
- Landfill bans (potentially organic waste material)
- Mandatory recycling
- Environmental performance standards
- Provision of information on environmental performance
- Extended producer responsibility.

The MfE aims to have the legislation enacted in 2025.

New Zealand Emissions Reduction Plan

Removal of organic waste from landfills is an action item within the NZ Emissions Reduction Plan and is consistent with kerbside standardisation discussed earlier in this section. The NZ Emissions Reduction Plan 2022-25 key actions related to waste include:

- Enable households and businesses to reduce organic waste
- Encourage behaviour to prevent waste at home
- Enable businesses to reduce food waste
- Support participation in improved kerbside collections
- Increase the amount of organic waste diverted from landfill
- Improve household kerbside collections of food scraps and garden waste
- Invest in organic waste processing and resource recovery infrastructure
- Require the separation of organic waste.

Cost of Emissions Trading Scheme (ETS) compliance

Participation in the New Zealand ETS is mandatory for organisations that operate a landfill. QLDC contracts Scope Resources to operate the Victoria Flats landfill where QLDC waste is disposed. Emissions units are purchased to offset the emissions associated with QLDC waste. The installation of a landfill gas capture system in 2021 has resulted in the landfill achieving a unique emissions factor (based on actual emissions) of 0.274. This will reduce the costs associated with buying emissions units due to the reduced emission profile of the landfill.

Resource Management Act (RMA) Reform

The previous Government was in the process of repealing the current RMA and replacing it with three proposed new acts. The updates are intended to give greater effect to Te Titiri and provide greater climate change adaptation ability.

Consent applications will continue to be processed under the RMA until the new planning framework is in place, with transition provisions available. The planning framework may be more complicated during the transition period.

While the impact is as yet unknown, these changes could make it either more or less onerous to achieve consent for activities such as organics processing – either through controls on activities, areas where activities may take place or the process of achieving consent for the activities.

At the time of writing, it is not yet known what the impact of the change in Government will have on the reforms of the RMA currently underway.

Local Government Reform

In April 2021 a Review into the Future for Local Government was announced. A final report to the Minister, He piki tūranga, he piki kotuku, was delivered in June 2023. The report considered the purpose and system of local government holistically, including how local government might achieve a resilient and sustainable system; effective partnerships between mana whenua, and central and local government; and a local government system that actively embodies the Treaty partnership. Perhaps the most pertinent element of the report in terms of influence on QLDC's waste services can be found in principle 5 of the report's Principles for a new system of local government:

Economies of scope: Local government entities make use of economies of scope and combine resources and expertise where appropriate to ensure services and functions are delivered to a high standard.

In essence, this principle encourages councils to look for efficiencies through working together to deliver services, which is particularly relevant to organics services being rolled out between now and 2030.

QLDC Strategic Context

QLDC Vision Beyond 2050

This guiding document informs QLDC future decision making and planning. The vision of 'a unique place, an inspiring future' is underpinned by eight vision statements. The vision is given effect through a range of strategic and planning documents previously discussed in the Organics PBC.

QLDC Climate and Biodiversity Plan (CBP) 2022-25

There are six outcomes identified in the CBP to reach the goals including reduction of greenhouse gas emissions by 44% by 2030 and net-zero greenhouse gas emissions by 2050. While most of the climate focussed outcomes can be supported by how QLDC deals with organic waste, some outcomes speak more directly to waste minimisation action and investment. The CBP addresses the challenge of minimising waste, diverting organic waste out of landfill and managing a transition to a circular economy. The CBP states that QLDC's main areas of focus in the area of waste management are to reduce reliance on the landfill and divert waste that releases emissions, such as food waste, which can be composted.

Implementing services and supporting actions that collect and process organic waste can also accelerate wider community led behaviour change for climate action. Opportunities such as the community composting hub initiative can provide a platform for local food resilience, community gardens and native planting.[7]

The CBP includes the following relevant outcomes:

Table A2.1 - QLDC's Climate and Biodiversity Plan waste related outcomes and actions

Outcome 1 - Leadership
• We enable and accelerate community behaviour change • We are committed to zero waste Action: Divert organic material from landfill.
Outcome 4 - Our communities are low-emission and resilient
• We grow a resilient and low carbon local food system Action: Support composting, gardening skills, food growing hubs and the development of community composting.
Outcome 5 - Low-emission businesses thrive
• We support businesses to transition to a low emission future Action: Amplify and support programmes to assist businesses to be energy efficient, reduce greenhouse gas emissions, waste, and water use.

QLDC Waste Management and Minimisation Plan (WMMP) 2018

The Waste Minimisation Act 2008 requires territorial authorities to prepare waste management and minimisation plans (WMMPs) which must be reviewed at least every six years. The plans must include objectives, policies and methods for achieving effective and efficient waste minimisation and management within the district and how implementing the plan will be funded. QLDC's current WMMP was adopted in 2018 and sets the strategic direction for waste services in the district.

[7] *Organics Models in Aotearoa NZ | Zero Waste Network New Zealand*

The WMMP goals and objectives are shown in Table A2.32 below.

Table A2.2 - QLDC's WMMP Goals and Objectives

Goal	Objectives
Improving the Efficiency of Resource Use	Provide and support opportunities to minimise waste through reduction, reuse, recycling and recovery (in priority order)
	Educate and support generators (residents, visitors, and businesses) with options and responsibilities
Reducing Harmful Effects of Waste	Avoid or mitigate any adverse effects on public health or the environment.
	Provide effective and efficient waste minimisation and management services supported by the right funding mechanisms

The QLDC WMMP 2018 Action Plan includes the following key actions specific to the management of organic waste:

- **Action 2.7** - Provide organic waste drop off facilities and mulching of material for beneficial use (Ongoing)
- **Action 2.8** - Introduce organic waste kerbside collection service for urban households (2022-2024)
- **Action 2.9** - Provide an organic waste processing facility (2022-2024)

Appendix 3 - Current food and greenwaste services overview

Food scraps

Households generally dispose of their food scraps as general waste in their kerbside rubbish collection. QLDC are currently minimally involved in the diversion or management of separated food scraps but does have a focus on education and learning opportunities to reduce food waste and to compost leftovers. The number of residents that undertake home composting is unknown but feedback in QLDC surveys suggest it is high. Attendance at the various composting workshops offered and uptake of composting subsidies is also high. This demonstrates there is a desire to do the right thing and not place organic material in the rubbish bin, but despite this feedback, kerbside rubbish bins still comprise of 34% compostable food scraps by weight.

The quantity of food scraps which is disposed of by in sink kitchen waste disposal units is unknown. This waste enters QLDC provided wastewater operations.

A grant is provided to a food rescue organisation, 'Kiwi Harvest' who divert edible food fit for human consumption. 100-150 Tonnes of food scraps are diverted from landfill per year. KiwiHarvest ensure that good, edible food in the Queenstown Lakes district is diverted away from landfill and is instead used for the benefit of the community via social service and community agencies.

Through QLDC co-funding with MfE a three year project aims to support the establishment of a number of Community Composting Hubs. The objectives of the project include:

- Build composting skills and awareness of organic waste impacts
- Divert organic waste from landfill
- Improve data and research to inform QLDC's future organics waste planning.

The project has launched with trial hubs in Glenorchy and in Wanaka. QLDC has a plan to widen this community hub investment to other sites in the district and is in the process of developing an expression of interest for interested community groups.

Greenwaste

Separated, suitable chippable greenwaste dropped off by customers to the Whakatipu transfer station in Frankton is separated from general waste, diverted from landfill and consolidated before being transported to the Shotover Delta. The Delta site is used for temporary storage before the material is chipped by mobile equipment on a semi regular basis. A portion of the material is provided for free to the QLDC's Parks and Reserves department who utilise the mulch on parks, reserves, and gardens. The Shotover Delta site handles approximately 500 tonnes per annum. Sometimes there is an oversupply at the Shotover Delta site and free community 'mulch grabs' have been held to provide access excess mulch. These events are very popular with community groups and residents to access free mulch to use for landscaping and gardening projects.

QLDC have concerns there is sometimes an excess of accumulated mulch. QLDC has an existing contract with Waste Management Ltd that requires the stockpiles to be maintained at less than 200m3. Should the piles exceed this, excess material is removed at an additional cost. The management and mulching of material at the Shotover Delta site comes at a cost to QLDC which is not fully passed through to users. QLDC does not charge for the mulch as quality cannot be guaranteed and material may include contamination such as Clopyralid. Clopyralid is a herbicide used to control broadleaf weeds, particularly thistles and clovers. It can survive the mulching process and increase in concentration as the greenwaste material breaks down.

In Wanaka, residents and the commercial sector predominately rely on Wanaka Greenwaste and Landscaping, a privately operated greenwaste recovery facility located adjacent to the QLDC Transfer Station. Here the materials are mulched, graded and provided back to customers at a cost. Discussions with the operator suggest they receive significant volumes of material per annum.

In the rest of the district, greenwaste management is a relatively informal system. Five community sites (Glenorchy, Kingston, Luggate, Makarora and Hawea) exist to provide drop off points for greenwaste. These sites are managed by the community with QLDC providing periodic mulching of material for reuse by the respective communities. The Hawea Community Association charge a fee for drop off and uptake of material at the Hawea site. Funds are put back into the community. All other sites are free to drop off and receive mulched material. The volunteers and community associations that manage the greenwaste drop off sites report that public support for the community drop off points is strong.

Residents also manage their own greenwaste on their own property however the volume of this is unknown. As per the SWAP data, there is also a volume of compostable greenwaste disposed of by residents via the kerbside refuse collection. This greenwaste ends up in landfill, as it is unable to be separated and processed once included in the general kerbside refuse collection.

Appendix 4 - Service requirements overview

The below tables summarise Council's service requirements for organics collection and processing services:

Table A4.1 - QLDC's WMMP Goals and Objectives

Requirements for Kerbside Collection Services	
Organics Collection	**Must include:**
• Council kerbside collection services provided to collect specified organics.	• Implementation of a Council food scraps kerbside collection service no later than 2029 (due the actions included in QLDC's WMMP and MfE requirements)
	Could include:
• Retain the current residential greenwaste drop off at Refuse Transfer Stations and specified drop off sites.	• Implementation of a Council greenwaste kerbside collection service together with the food scraps collection (FOGO or FO+GO) • Provision of food scraps drop off at relevant locations (e.g. community composting hubs)
	Doesn't include:
	• Other waste and recycling collection services
Customers	**Must include:**
• The communities and	• Residents of standard residential properties in the district

Requirements for Kerbside Collection Services	
ratepayers of the Queenstown Lakes District who will receive collection services.	**Could include:** • Residents of Multi Unit Developments (MUDs) in the district • Commercial customers in the accommodation sector **Doesn't include:** • Commercial customers in industries other than accommodation
Geographical Coverage	Must include:
• The extent of service coverage for organics kerbside collection services across urban and rural areas in Queenstown Lakes District.	To meet the MfE's mandatory service requirements, at minimum providng a food scraps collection service to the following areas: • Urban areas in Queenstown and Wanaka • Rural townships within the district with a population of over 1000 Could include: Depending on the service provision, providing greenwaste kerbside collections (via FOGO or a separate greenwaste collection service) to: • Urban areas in Queenstown and Wanaka • Rural townships within the district with a population of over 1000

Requirements for Kerbside Collection Services	
	Providing an organics kerbside collection to the following areas: • Rural townships within the district with populations smaller than 1000 • Rural townships that currently receive another Council kerbside collection service
	✕ Doesn't include:
	• Glenorchy (which does not require a kerbside collection service due to the avaiaiblity of an existing community composting hub) • Rural residential properties outside of townships

Table A4.2 - Requirements for Organics Processing Facility

Requirements for Organics Processing Facility	
Organics Processing	✓ Must include:
• Council provides for the processing of organics collected via the kerbside collection services.	• A mechanism for Council to dispose of the organics stream for processing into a reusable product.
	? Could include:
	• Depending on the collection service solution, use of aerobic processing technology such as composting • Depending on the collection service solution, use of anaerobic processing technology such as digestion (food scraps only) • Mulching of greenwaste for garden mulch

Requirements for Organics Processing Facility	
	Doesn't include:
	• Disposal of organics to landfill (with the exception of contaminated material delivered to a processing facility)
Processing facility	Must include:
• An end processing facility designed, built and operated to process the type and volume of organics collected by QLDC into reusable product • Retention of existing community composting hubs and greenwaste disposal sites	• A processing facility with gauranteed capacity to process QLDC's organics from its collection service • A location that is accessible for efficient disposal of organics collected through the kerbside collection service
	Could include:
	• A processing facility located regionally, but not necessarily within the Queenstown Lakes District • Intermediate storage and consolidation sites for organics collected by QLDC (these would be part of the collection service solution) • Capacity to process additional commercial food scraps generated and collected in the Queenstown Lakes District
	Doesn't include:
	• Landfill or incinerator facility for diposing organic material collected via the kerbside collections

Appendix 5 - Options definition

Collection Options

Status Quo
The status quo is no organics collection service.
Option 1 – Food Scraps Only (FO) Collections – Urban and Rural
This option is defined as collection of food scraps only, utilising a 23 Litre food scraps bin. The collection frequency is assumed to be weekly. An urban only FO service is provided to residents of urban areas (i.e. Queenstown and Wanaka), with standard residents using a 23 Litre receptable and residents of MUDs being supplied with a tailored receptacle and collection to meet their specific requirements. This option includes a rural FO service to qualifying rural townships as an extension of the Urban service.
Option 2 – Food Scraps Only (FO) Collections – Urban Only
This option is defined as collection of food scraps only, utilising a 23 Litre food scraps bin. The collection frequency is assumed to be weekly. An urban only FO service is provided to residents of urban areas (i.e. Queenstown and Wanaka), with standard residents using a 23 Litre receptable and residents of MUDs being supplied with a tailored receptacle and collection to meet their specific requirements. This option covers the Urban service set out in Option 1 but **does not include** a rural FO service to qualifying rural townships as an extension of the Urban service.
Option 3 – Food Scraps and Greenwaste (FOGO) Collections – Urban and Rural
This option is defined as the collection of combined food scraps and greenwaste, utilising a single 80 or 240 Litre food scraps bin. The collection frequency for this option is assumed to be weekly. This option would include residents of MUDs being supplied with a tailored FO receptacle and collection to meet their specific requirements (as with the FO option). This option includes a rural FOGO service to qualifying rural townships as an extension of the Urban service**.**
Option 4 – Food Scraps and Greenwaste (FOGO) Collections - Urban Only
This option is defined as the collection of combined food scraps and greenwaste, utilising a single 80 or 240 Litre food scraps bin. The collection frequency for this option is assumed to be weekly. This option would include residents of MUDs being supplied with a tailored FO receptacle and collection to meet their specific requirements (as with the FO option). The assumption is that the residents of MUDS do not require a greenwaste service. This option covers the Urban service set out in Option 3 but **does not include** a rural FOGO service to qualifying rural townships.

Option 5 – Separate Food Scraps and Greenwaste (FO + GO) Collections – Urban and Rural

This option is defined as separate food scraps and greenwaste collections, utilising a 23 Litre food scraps bin for food scraps and a separate 240 Litre greenwaste bin. The collection frequency for this option is assumed to be weekly for the food scraps collection, and either fortnightly or monthly for the greenwaste. The greenwaste service would be an optional service for residents.

This option would include residents of MUDs being supplied with a tailored FO receptacle and collection to meet their specific requirements (as with the FO option). The assumption under this option is that the residents of MUDS do not require a greenwaste service (as with the FOGO option).

This option includes a rural FO + GO service to qualifying rural townships as an extension of the Urban service.

Option 6 – Separate Food Scraps and Greenwaste (FO + GO) Collections - Urban Only

This option is defined as separate food scraps and greenwaste collections, utilising a 23 Litre food scraps bin for food scraps and a separate 240 Litre greenwaste bin. The collection frequency for this option is assumed to be weekly for the food scraps collection, and either fortnightly or monthly for the greenwaste. The greenwaste service would be an optional service for residents.

This option covers the Urban service set out in Option 5 but **does not include** a rural FO + GO service to qualifying rural townships.

Option 7 – Food Scraps Only (FO) Collections – Commercial Service by Council

This option is an additional option for consideration over and above the residential service. It is defined by a FO collection for the relevant eligible commercial operators in the accommodation sector. This would be via a Council supplied commercial service to eligible accommodation providers using a tailored FO receptacle and collection frequency.

Option 8 – Food Scraps Only (FO) Collections – Commercial Service by Private Sector

As an alternative to Council supplying a commercial FO service, this option is Council enabling the private sector to deliver commercial food collection services to commercial customers, e.g**.** via grants or opt-in options for Council's service.

Processing Facility Options

Status Quo

The status quo 'do nothing' scenario is a continuation of the greenwaste drop centre operations and RTS collection, with mulching contracts for processing. As a default, this would continue to operate under all of the options developed for processing of Organic material collected through the kerbside collections.

Option 1 – In District Organic Processing Facility – Council Owned/In-house Operation

This option involves Council investing in a new organics processing facility at suitable location in the district and building its own facility. Council would retain full ownership of the facility. Operation of the facility would be by a team of in-house personnel managed by Council.

Option 2 – In District Organic Processing Facility – Council Owned/Out-sourced Operation

This option involves Council investing in a new organics processing facility at suitable location in the district and building its own facility. Council would retain full ownership of the facility. Operation of the facility would be outsourced by Council to a private waste operator under contract.

Option 3 – In District Organic Processing Facility – Partnership/JV with Private Sector

This option involves Council investing in a new organics processing facility at suitable location in the district along with a Private Sector partner. Ownership and operation of the facility would be under the agreed joint venture/partnership model, with each party contributing capital, resources and expertise.

Option 4 – In District Organic Processing Facility – Partnership/JV with Community Sector

This option involves Council investing in a new organics processing facility at suitable location in the district along with a community sector/not for profit partner. Ownership and operation of the facility would be under the agreed partnership model, with Council contributing capital and resources and the community sector partner operating the facility.

Option 5 – Out of District Organic Processing Facility – Partnership/JV with another Council

This option involves Council investing in a new organics processing facility at suitable location in the district along with a neighbouring Council partner (e.g. Central Otago District Council). Ownership and operation of the facility would be shared under the agreed joint venture/partnership model, with each party contributing capital and resources. Operations of the facility would be outsourced.

Option 6 – Out of District Organic Processing Facility – contract with another Council

This option involves Council entering into a contract with a neighbouring Council (e.g. Central Otago District Council) who has a facility. The contract would be for the acceptance and processing of organic material from QLDC's organics collections for a fee charged as a gate rate.

Processing Technology

Options for different processing technology also need to be considered as part of the business case. Processing technology is strongly dependent on the collections service to be employed. For example, an anaerobic digestion facility is only possible with 'wet' putrescible material collected via a FO collection, so is ruled out where a FOGO service is the preferred collection service. As such, the processing technology options are considered as an 'overlay' - dependent on other decisions being made on collection services, location and ownership/operating model for the processing facility.

The processing technology options considered were:

Option 7 – Food only processing

This option involves Council developing a facility using anaerobic digestion technology or similar food only processing technology. This option is most likely an in-district option only as it would need to be driven primarily by the decision of Council on what collection service solution is accepted or whether another Council or private party is prepared to invest in food only collection and processing facility solution.

Option 8 – Food and greenwaste processing

This option involves Council developing a facility using aerobic digestion processing technology for composting food and greenwaste. This option can either be an in-district or out of district option, with it more likely for another Council to invest in a suitable out of district food and greenwaste processing facility, due to factors such as cost and volumes of available material. The context is that the planned out of district options (Central Otago District Council) is based on aerated bunker composting technology.

Appendix 6 - Long list analysis

Table A6.1 – Solution Options

	Solution Options											
	Food and green waste collection system											
	SS-1A: Urban service				SS-1C: Rural service					SS-1B: Commercial service		
	SS-1A(i)	SS-1A(ii)	SS-1A(iii)	SS-1A(iv)	SS-1B(i)	SS-1B(ii)	SS-1B(iii)	SS-1B(iv)	SS-1B(v)	SS-1C(i)	SS-1C(ii)	SS-1C(iii)
Description of Option:	Status quo: Greenwaste drop off at transfer stations No kerbside collection	23L food only bin, weekly collection Tailored larger food only bin for Multi-Unit Developments (MUDs) Greenwaste drop off at transfer stations	80-240L food and greenwaste bin, weekly collection	23L food only bin, weekly collection (Tailored larger food only bin for Multi Unit Developments (MUDs)) Plus OPTIONAL 240L greenwaste bin (fortnightly or monthly) collection for residential	Status quo: Greenwaste drop off at transfer stations, no kerbside collection	23L food only bin, weekly collection Greenwaste drop off at transfer stations	80-240L food and greenwaste bin, weekly collection	23L food only bin, weekly collection Plus OPTIONAL 240L greenwaste bin (fortnightly or monthly) collection	Greenwaste and food drop off at community site/compost hub , limited collection (e.g. e-bike),	Status quo: no kerbside collection for businesses/commercial premises	Larger food only bin (various sizes?), weekly collection for businesses/commercial premises	Enable commercial capacity for collection (and processing)
Investment Objectives:												
PRODUCT	2	4	5	5	3	3	5	4	4	2	5	***4***
TARGETS	2	5	3	4	2	**5**	4	4	4	2	5	***4***
EMISSIONS	1	4	3	5	2	3	3	4	5	1	5	***4***
RESILIENCE	1	4	3	5	2	3	2	4	5	1	4	***5***
COMMUNITY	2	4	3	5	3	4	2	3	5	2	4	***5***
Total Investment Objective Score	**1.6**	**4.2**	**3.4**	**4.8**	**2.4**	**3.6**	**3.2**	**3.8**	**4.6**	**1.6**	**4.6**	***4.4***
Critical Success Factors												
STRATEGIC FIT	1	5	3	4	2	5	3	4	5	2	3	***5***
VALUE	2	5	3	4	5	3	2	2	4	2	4	***5***
SUPPLIER	2	5	4	4	3	2	2	1	3	2	3	***4***
CONSUMER COST	5	4	3	4	4	3	3	2	4	5	3	***4***
ACHIEVABILITY	5	4	3	4	4	4	3	4	3	5	2	**4**
Average Critical Success Factor Score	**3.0**	**4.6**	**3.2**	**4.0**	**3.6**	**3.4**	**2.6**	**2.6**	**3.8**	**3.2**	**3.0**	**4.4**
Overall Assessment:												

	Solution Options												
	Food and green waste collection system												
	SS-1A: Urban service				SS-1C: Rural service					SS-1B: Commercial service			
	SS-1A(i)	SS-1A(ii)	SS-1A(iii)	SS-1A(iv)	SS-1B(i)	SS-1B(ii)	SS-1B(iii)	SS-1B(iv)	SS-1B(v)	SS-1C(i)	SS-1C(ii)	SS-1C(iii)	
Summary of Advantages and Disadvantages:	Disadvantage is it does not address diversion of food waste from refuse waste stream.	Lowest cost collection system to implement. Provides high organic waste diversion at least ongoing cost. Disadvantage is lack of control over greenwaste stream. Lack of kerbside obstruction (small receptacle) Easier to manage contaminants than mixed with greenwaste	Advantage is that it provides combined FOGO solution for residents providing highest potential degree of organics diversion. Cost effective single receptacle/collection option. Suits more cost effective processing options. However, lacks flexibility and likely not as convenient for consumers. Evidence suggests reduced food waste diversion when mixed in FOGO bin. High level of bin placement kerbside negative amenity value Coms probs with FOGO	Advantage is that it provides combined FOGO solution for residents providing high degree of organics diversion. More costly collection systems with separate greenwaste. Suits more cost effective processing options. Flexible and convenient for consumers.	Advantage in that it avoids providing a more difficult collection service - without guaranteed and comprehensive services to consumers, low alignment with environmental outcomes and strategic plans.	Although possible and aligned with environmental outcomes, question about the likely uptake/set out rate and cost effectiveness of the service as a result.	Although possible and aligned with environmental outcomes, question about the likely uptake/set out rate and cost effectiveness of the service as a result. Most aligned rural service in terms of likely amount of organic waste collected.	Expensive option with two bin system, particularly considering need for service and risk around set out rates.	Included as current and viable alternative to expand to rural communities	Advantage in that it avoids more difficult collection service - doesn't provide guaranteed and comprehensive services to consumers so low alignment with environmental outcomes and strategic plans.	Provides possible solution for commercial customers. Costly and difficult service to manage with varied commercial requirements. Positive impacts longer term on refuse collection costs and requirements.	Provides opportunity for QLDC to encourage commercial collection services without the additional cost and risk of implementing a service
Overall assessment	Discount	Preferred	Possible	Possible	Discount	Preferred	Possible	Possible	Preferred	Possible	Possible	Preferred	
Overall Score (Out of 10)	**4.6**	**8.8**	**6.6**	**8.8**	**5.8**	**7**	**5.8**	**6.4**	**8.4**	**4.8**	**7.6**	**8.8**	
Rank	**4**	**1**	**3**	**1**	**4**	**1**	**3**	**2**	**1**	**3**	**2**	**1**	

	Service Delivery Options (Who)				
	SD-1 Food and greenwaste collection system				
	SD-1(i)	SD-1(ii)	SD-1(iii)	SD-1(iv)	SD-1(v)
Description of Option:	Status quo: No Council organics collection service	Council in-house resourced collection service	Council out-sourced collection service	Shared collections service with a neighbouring council e.g. CODC	Regional shared collection services with Otago councils
Investment Objectives:					
PRODUCT	2	5	4	3	2
TARGETS	2	5	4	4	3
EMISSIONS	2	5	5	4	3
RESILIENCE	2	3	4	3	2
COMMUNITY	2	5	5	4	3
Total Investment Objective Score	**2.0**	**4.6**	**4.4**	**3.6**	**2.6**
Critical Success Factors					
STRATEGIC FIT	1	3	5	4	3
VALUE	1	2	3	4	5
SUPPLIER	5	2	4	5	5
CONSUMER COST	5	2	3	4	5
ACHIEVABILITY	5	3	4	3	3
Average Critical Success Factor Score	**3.4**	**2.4**	**3.8**	**4.0**	**4.2**
Overall Assessment:					
Summary of Advantages and Disadvantages:	Most cost effective option without offering collection service option.	Difficult to attract and maintain resources for collection service and to operate to standard required. No leverage off other service offerings like private contractor.	Standard commercial model. Ability to select appropriate supplier with price tension. Ability to leverage off other services provided by private sector for good practice and efficient resource management. Ultimately Council can unilaterally control scope and level of service	Ability to leverage off other services provided by private sector for good practice and efficient resource management. Efficiency through larger contract volumes. More complexity in management of contracted supplier. Very difficult to align procurement processes and consolidate contracts across different areas	Ability to leverage off other services provided by private sector for good practice and efficient resource management. Efficiency through larger contract volumes. More complexity in management of contracted supplier
Overall assessment	Discount	Discount	Preferred	Possible	Discount
Overall Score (Out of 10)	**5.4**	**7**	**8.2**	**7.6**	**6.8**
Rank	**5**	**3**	**1**	**2**	**4**

	Solution Options				Service Delivery Options						
	Food and greenwaste processing facility										
	SS-2A In-District Processing			SS-2B Out of District Processing	SS-2A In-District Processing					SS-2B Out of District Processing	
	SS-2A(i)	SS-2A(ii)	SS-2A(iii)	SS-2B(iv)	SD-2A(i)	SD-2A(ii)	SD-2A(iii)	SD-2A(iv)	SD-2A(v)	SD-2B(i)	SD-2B(ii)
Description of Option:	Status quo: Greenwaste drop off sites, mulched only	QLDC located food only processing (anaerobic digestion) Plus green waste drop off/ mulch as per status quo	QLDC located food and green waste processing (aerobic e.g. composting)	Out of District processing (CODC Composting Facility - aerobic composting) plus interim arrangements prior to facility completion.	Status quo: Greenwaste mulching contracts only	In-district organics processing facility - Council in-house owned/operated	In-district organics processing facility - Council owned/out-sourced operation	In-district organics processing facility - Council in partnership with private sector e.g. joint venture	In-district organics processing facility(ies) - Council in partnership with community sector e.g. a trust	Out-of-district Council facility partnership	Out-of-district Council facility contract (contract)
Investment Objectives:											
PRODUCT	2	5	5	3	3	5	5	5	5	5	5
TARGETS	2	5	5	5	2	5	5	5	5	3	3
EMISSIONS	2	5	5	4	3	5	5	5	5	4	4
RESILIENCE	1	4	4	3	2	5	4	3	5	4	3
COMMUNITY	1	4	5	3	2	5	5	5	5	3	3
Total Investment Objective Score	**1.6**	**4.6**	**4.8**	**3.6**	**2.4**	**5.0**	**4.8**	**4.6**	**5.0**	**3.8**	**3.6**
Critical Success Factors											
STRATEGIC FIT	1	4	4	5	1	2	5	5	3	4	5
VALUE	2	3	4	5	1	3	2	3	4	4	4
SUPPLIER	5	2	4	5	4	3	5	3	2	5	5
CONSUMER COST	5	2	3	5	5	3	2	3	3	5	4
ACHIEVABILITY	5	2	3	4	5	1	3	2	2	4	5
Average Critical Success Factor Score	**3.6**	**2.6**	**3.6**	**4.8**	**3.2**	**2.4**	**3.4**	**3.2**	**2.8**	**4.4**	**4.6**
Overall Assessment:											

	Solution Options				Service Delivery Options						
	Food and greenwaste processing facility										
	SS-2A In-District Processing			SS-2B Out of District Processing	SS-2A In-District Processing					SS-2B Out of District Processing	
	SS-2A(i)	SS-2A(ii)	SS-2A(iii)	SS-2B(iv)	SD-2A(i)	SD-2A(ii)	SD-2A(iii)	SD-2A(iv)	SD-2A(v)	SD-2B(i)	SD-2B(ii)
Summary of Advantages and Disadvantages:	Doesn't require any additional investment, but lack of available organics processing doesn't provide surety for any collection services.	Potential current affordability issues and lack of economies of scale for anaerobic digestion processing plant. Question about alignment with mix of organic waste stream that might be available. Potential for a higher value product. Unknown strategic alignment with land use within district and risk around consents Availability of private sector expertise/investment for food only tech such as anaerobic digestion. Will take longer timeframe to implement.	A more affordable known technological options available. Has positive impact on operational costs of collection service due to proximity, but larger up front capital costs for facility than out of district. More commercial risk than out of district. Council has control over operation and use of product. Unknown strategic alignment with land use within district and risk around consents Will take longer timeframe to implement.	Facility already going ahead. Opportunity for economies of scale with larger, single regional facility. Less Council commercial risk. Less Council control over waste stream and end product. Would require solution that provides level of greenwaste to ensure mix of material input is appropriate. Provides flexibility for shorter term solution and a subsequent future change of processing solution and location for QLDC.	Least expensive option for Council as no facility investment required. Doesn't align with strategic investment objectives for processing organic material.	Ultimate control over organics processing. Capital intensive option. More commercial risk and onus on council to provide volume of material for commercial viability. Difficult to secure and maintain skilled resources	Ultimate control over organics processing. Capital intensive option. Council have to provide all of the facility investment capital. Commercial risk and onus on council to provide volume of material for commercial viability. Benefit of private sector industry expertise in operating facility.	Introduces private funding and commercial partner's industry expertise and potentially commercial material volume, but less control of facilities. Shares the risk of chosen processing technology capital, operating costs and revenue streams.	complexity with working with another partner(s) Potential associated additional cost with community partners without capital backing. Council would need to provide significant levels of financial support to a community provider, without the commercial tension and accountability. Lacks access to systems and processes in other commercial processing activities that private sector provides.	Lower funding requirements because in partnership with potentially joint ownership of facility (access to more central funding). More efficiency and lower operating costs with joint facility. More control over operations and end product for Council than service contract. complexity of operating shared services.	No capital required, easily achievable. Costs managed through gate rate for long term contract.
Overall assessment	Discount	Possible	Possible	Preferred	Discount	Discount	Possible	Discount	Discount	Possible	Preferred
Overall Score - weighting 25% Objectives, 75% CSF	**6.2**	**6.2**	**7.8**	**9**	**6**	**6.1**	**7.5**	**7.1**	**6.7**	**8.5**	**8.7**
Rank - weighting 25% Objectives, 75% CSF	**3**	**3**	**2**	**1**	**7**	**6**	**3**	**4**	**5**	**2**	**1**

Appendix 7 – MCA Criteria

Table A7.1 - MCA Criteria

Criteria	Description	Collections Systems Notes	Processing facility Notes
Whole of life costs	The present value of total cash costs of the investment over its life cycle, calculated using the relevant Public Sector Discount Rate.	Calculated using the method: 1= 80 to 100% of the maximum option cost down to 5 = less than 20% of the maximum cost	Calculated using the method: 1= 80 to 100% of the maximum option cost down to 5 = less than 20% of the maximum cost
Resilience	Services would continue functioning during adverse events (i.e. disaster and natural hazard) and/or quickly recover to acceptable levels of service after an event.	Higher scores given: • where the community has direct ability to influence resilience and demand on services in an event. • Logistics of providing kerb side services in an emergency • Volume of material needing collection in emergency impacts resilience for individuals. Large volume bin = less resilient.	Consideration includes: • QLDC's ability to control and/or influence measures to ensure resilience. • Vulnerability of the crown range and transport routes is a consideration.

Criteria	Description	Collections Systems Notes	Processing facility Notes
Environment	The option: a) prevents contaminants from entering the natural environment; and/or b) reduces impact on global emissions and resource extraction; and/or c) prioritises opportunities for environmental regeneration	Environmental scoring considered: Strategic Objectives with an environmental focus i.e. retaining or enhancing the value of organic material and reducing the carbon footprint Consumer behaviour considerations i.e. FW bins incentivising greater diversion of food scraps over mixed bins. Fleet considerations i.e. when you split the service you must still drive the area Single bin service = lower footprint	Site selection not factored in i.e. considered that any site, in or out of district will have environmental benefits and disbenefits, with the exception of travel distance for haulage.
Economic	The option: a) represents an optimal balance of customer quality and affordability expectations b) sustains the affordability of services through efficiency, effectiveness, and/or alternative funding opportunities	Opportunities for funding alternatives (both MfE and private sector.) - mainly concentrating assessment based on ability to attract alternative funding i.e. not directly on rate payer. Also considered is the lack of guarantee of rating base with an optional service.	• Opportunities for funding alternatives both MfE and private sector. • Secured LTP funding from QLDC not considered

Criteria	Description	Collections Systems Notes	Processing facility Notes
Achievability	The option could be readily implemented from a legal, regulatory, planning and delivery perspective.	Considerations include: • implementation complexity of services • Ongoing operations and complexity of coordination. • Relative administrative overhead of services	Considerations include: • Ease of securing funding/capital • Level of difficulty for QLDC of developing suitable facility • Complexity of implementing and managing arrangement/ongoing operations
Risk	The option reduces residual risk and health and safety risk more than the other options considered.	Interpretation of this is limited to the impact on corporate risk. The more diversion of organics from landfill and reuse the greater the management of corporate risk. Individual and whole of community health and safety sits in 'People' criteria.	• Limited this consideration to residual risk over end product. Who is responsible for ensuring material is of sufficient quality to be used? • Control over inputs i.e. quality of collection feedstock
Consentability	The option is more easily consentable, or free of third party restrictions, than the other options under consideration. For example: opposition, designation or district/regional plan requirements, potential conditions/mitigations on consent, etc.	Food only - risk of consentability of the greenwaste hubs (may need consents in the future). ORC setting requirements.	Assumed land area required and environmental effects have a significant effect on complexity of achieving any consent.

Criteria	Description	Collections Systems Notes	Processing facility Notes
Future proofing/options enabling	The proposed option could be implemented in a way that would satisfactorily cope with future patterns of demand and enable adaptation to change in community needs and preferences.	All options may limit to some extent in the future, but services that cannot be retracted as easily are deemed to be less flexible.	Consideration focussed on • flexibility of the option to allow for future change in processing technology for QLDC volumes. • Assume out of district i.e. a combined 'low tech' solution by CODC is more future proofed.
Downstream economic effects	The project enhances economic wellbeing, including factors such as productivity, economic diversification/resilience, employment, and enables opportunities for social enterprise.	Diversification of local workforce.	Considerations based on employment opportunities created as opposed to material produced (direct economic effect)
People	The option: a) directly and reliably protects people from harm; and/or b) creates opportunities for people to increase activity, recreation, and social connection	Considered: • impact on people's sense of civic responsibility and connectivity to the available services. • behaviour - options which are easier to influence peoples' behaviour are scored higher. • Number of bins per property and impact on people's satisfaction with the service.	This criteria was not deemed to have relevance to the processing facility so was not assessed. All options considered to be neutral.

Appendix 8 – MCA Weighting scenarios

Table A8.1 – MCA Weighting Scenarios

Scenario 1	18.7%	9.5%	8.8%	8.8%	8.4%	8.4%	8.4%	7.7%	7.3%	7.3%	6.7%
Scenario 2	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	0.0%	10.0%
Scenario 3	20.0%	15.0%	10.0%	10.0%	10.0%	2.5%	2.5%	10.0%	5.0%	0.0%	15.0%
Scenario 4	0.0%	20.0%	20.0%	20.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	20.0%

Appendix 9 - Cost model assumptions

The cost model assumptions outlined below are the key global assumptions that have been applied across all options within the kerbside collections and processing facility cost models.

Kerbside collections assumptions

The following assumptions have been applied in the kerbside collections modelling:

- Net present value is assessed based on estimated annual cashflows, with no inflation included.
- A discount rate of 5% has been applied.
- An assumed presentation rate of 45% for a food only or FOGO service has been assumed.
- Purchase of bins assumed to be a part of the contract price and managed by the contractor, so is included as a depreciated cost in the collection costs.
- An allowance for contractor overheads and profit margin, and council contract overheads has been allowed.
- Cost benefits (included in the NPV) have been allowed for relating to a reduction in landfill gate fees for diverted waste, waste levy, and ETS charges.
- Avoided disposal costs of $247 per tonne for disposal to landfill.
- Interest rate of 7% p.a.

Organics processing facility assumptions

The organics processing facility modelling assumes:

- No inflation is included in our modelling.
- A discount rate of 5% has been applied to Net Present Value calculations.
- No allowance has been made for additional capital expenditure necessary to cater to future growth in waste volumes. This is likely to be minor.
- The Central Otago District Council processing facility will be an aerobic static pile composting facility.
- Capital costs of CODC facility construction have been derived from contracts for similar sized facilities elsewhere in New Zealand.
- Operating costs are scaled based on equipment and staffing requirements for the processing of modelled waste volumes.
- We have assumed third parties will pay to dispose of organics at the processing facilities, including any bulking material received by the facility.
- We have assumed that there is an end market for compost produced at the facility, but that no revenue will be derived from compost sale.
- Interest rate of 7% p.a.

Emissions assumptions

- Emissions from landfilling food waste and greenwaste are based on MfE's 2023 emissions factors specific to food and garden waste disposed to a landfill with gas capture.
- Savings in emissions costs use the Victoria Flats Landfill Unique Emissions Factor of 0.274 to calculate cost savings.
- Emissions savings are from food and greenwaste diverted from landfill and not the tonnes of greenwaste collected.
- That food scraps and greenwaste processed in an aerobic composting facility will generate CO_2e emissions based on published emissions factors for composting.
- Transport related emissions are included based on MfE's 2023 emissions factors for diesel.
- No provision was made for emissions reductions resulting in reduced imported fertiliser use (as a result of using compost produced by the local facility), reduced distance of locally available compost product and end markets, or other second order benefits. A lifecycle assessment could consider emissions avoided when the output of the process (e.g. compost) displaces another product (e.g. fertiliser) and considers the impact of carbon sequestration. Product displacement has been found to be a decisive factor in lifecycle assessment of emissions associated with organic waste processing[8].

[8] *https://www.pmcsa.ac.nz/topics/food-rescue-food-waste/*

Appendix 10 – Preferred option discussion

Preferred collection option discussion

The evaluation of the options through the MCA and cost assessment did not definitively point to a single preferred collection services option. The FO and FOGO options (1, 2 and 3) came out with similar scores and cost profiles. It was decided to provide Council with further information to seek clarity on the approach to progress towards a preferred option. The following discussion covers the relevant aspects of comparison between the FO and FOGO collection services used to inform the eventual decision on a preferred option.

Costs

A detailed cost assessment was completed to enable comparison between the options. This assessment considered a range of capital and operating costs, based on Morrison Low's experience in similar recent projects with organics Collection services in New Zealand and industry guidance. The costs are indicative only and developed to enable options to be compared. In completing the cost analysis, Morrison Low verified key cost assumptions and volume assumptions with QLDC staff. The detailed common assumptions used in the cost modelling can be found at Appendix 9.

The estimated financial impact of the options for collection services over a 20 year life are presented in the table below.

Table A10.1 - Financial impact of shortlisted options for food and greenwaste collection systems

Costs	Option 1	Option 3
Option Description	FO 23L Bin Urban and Rural Weekly Collection	FOGO 80 - 240L Bin Urban and Rural Weekly Collection
NPV costs ($M) (Collection and processing costs)	$31.3	$33.3
NPV benefits ($M) (Avoided disposal costs, including gate fees, waste levy and ETS)	$6.0	$8.6
NPV (20 year) ($M)	-$25.3	-$24.7
Average annual cashflow ($M)	$1.9	$1.9

The overall NPV of both these options are barely distinguishable over a 20 year period. There is marginally more benefit with the FOGO option, primarily as a result of the estimated diversion of a large proportion of the potential organic material overall that would otherwise be disposed of in landfill.

An estimate of the annual costs is summarised in table 10 below. This cost is inclusive of processing costs (including consolidation, haulage and gate fees at the processing facility) so represents the total annual cost of an organics service.

Table A10.2 – Annual cost estimate comparison

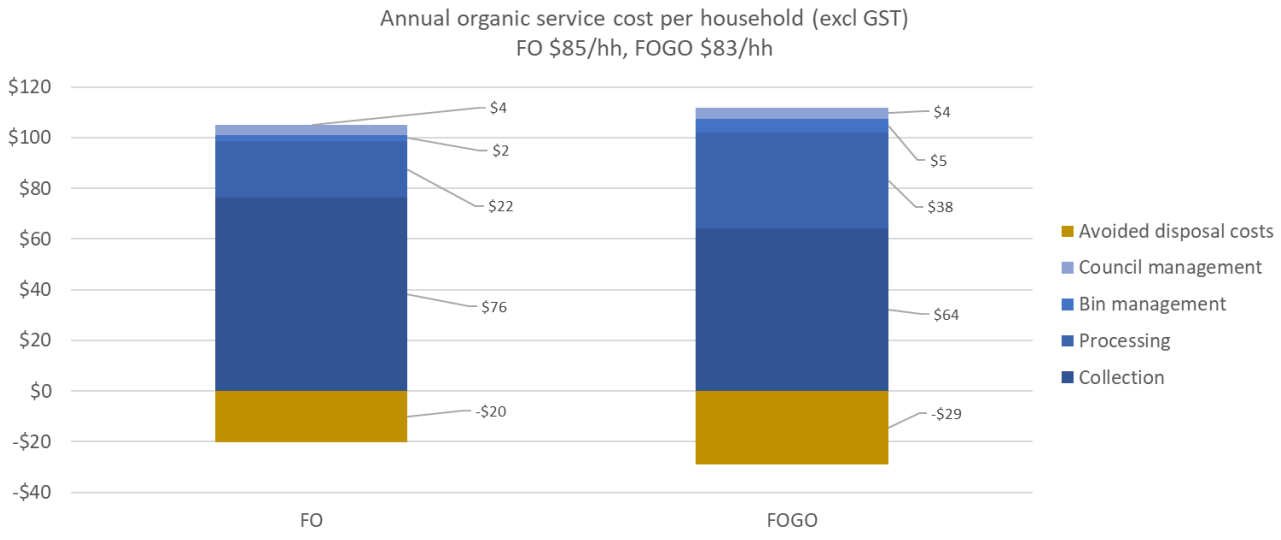
Costs	Option 1	Option 3
Option Description	FO 23L Bin Urban and Rural Weekly Collection	FOGO 80 - 240L Bin Urban and Rural Weekly Collection
Collection ($000s)	$1,738	$1,457
Processing ($000s)	$505	$864
Bin management ($000s)	$53	$121
Council management ($000s)	$94	$100
Avoided disposal costs ($000s)	-$460	-$658
Net cost ($000s)	**$1,930**	**$1,884**

The capital costs of the bins is modelled and included as depreciation each of these options as an annual depreciation value (modelled in the NPV modelling over a 15 year life of the bins). The estimated capital expenditure for bins (including 10% supply costs) is as follows:

Option	Bin Capital Estimate
FO 23L Bin Urban and Rural Weekly Collection	$0.6M
FOGO 80 - 240L Bin Urban and Rural Weekly Collection	$1.4M

In terms of potential impact on the ratepayer, an annual cost breakdown per household is reflected in figure 7 below.

Figure A10.1 – Annual cost comparison per household



This shows that overall both options are similar in the overall cost to the ratepayer, with the FOGO option being slightly more affordable due to:

- **Lower estimated collection costs** – a result of a reduction in the fleet by one truck to service the area, with the greater collection efficiency of the FOGO service
- **Higher avoided disposal costs** with larger volume of diversion, resulting in a saving on the net costs of the service.

The option to provide a Urban only FO collection service (option 2), would result in slightly lower costs overall compared to a full Urban/Rural service, saving approximately $360,000 per annum, or approximately $7 per household per annum. The saving doesn't suggest that the Urban only services is a better value option given the reduced level of service.

Cost sensitivity

Other volume based scenarios were run in the cost model to test the sensitivity to changes in presentation rates, volumes and increase processing costs. The estimated effects of these scenarios are as presented below:

Table A10.3 – Cost sensitivity scenarios for collection options

Scenario	Option 1		Option 3	
Option Description	**FO 23L Bin Urban and Rural Weekly Collection**		**FOGO 80 - 240L Bin Urban and Rural Weekly Collection**	
	Overall Cost Increase (p/a)	**Cost per HH (p/a)**	**Overall Cost Increase (p/a)**	**Cost per HH (p/a)**
Increase kerbside presentation rate from 45% to 58%	$15,000	$0.67	$35,000	$1.55
	3.5kg to 1.5kg		*(FO 2.5kg + GO 8kg) to (FO 0.8kg + GO 7.5kg)*	
Reduction in yield:	$311,000	$13.67	$309,000	$13.60
	(1,862 tonnes/$231 per tonne processing cost)		*(5,587 tonnes/$115 per tonne processing costs)*	
Increase processing costs by $50 per tonne	$93,000	$4.10	$279,000	$12.29

These scenarios demonstrate that both options are cost sensitive to reduced yields, so would be more expensive if the volume of material collected is lower than expected. Cost increases due to higher volumes are offset by the avoided disposal costs, which is why both options are not particularly sensitive to increased presentation rates. The FOGO option is collecting the most material overall, so is more sensitive to a large processing cost increase of $50 per tonne, at a cost per household at around $12 per annum.

Diversion

Using the assumptions on presentation rates and volume, estimates of the collection and diversion volumes that might be achieved by the options is as set out below:

Table A10.4 – Estimates of diverted material

Annual tonnes collected and diverted (22,741 households)	FO		FO Range	FOGO		FOGO Range
Assumption	***1.5kg***	***3.5kg***		*FO 0.8kg + GO 7.5kg*	*FO 2.5kg + GO 8kg*	
Tonnes collected in organics bins	**1,029**	**1,862**	**1,000-2,000**	**5,693**	**5,587**	**4,500-6,500**
Food	1,029	1,862	1,000-2,000	549	1,330	500-1,500
Green	0	0	0	5,144	4,257	4,000-5,000
Tonnes diverted from rubbish bins	**1,029**	**1,862**	**1,000-2,000**	**1,097**	**2,660**	**1,000-3,000**
Food	1,029	1,862	1,000-2,000	549	1,330	500-1,500
Green	0	0	0	549	1,330	500-1,500

The average composition of organic material in a kerbside refuse bin is 3.85kg food scraps and 2.07kg greenwaste. The ranges of likely collection and diversion from the residential refuse collection have a reasonable degree of uncertainty, but they illustrate to a degree that the FOGO option is most likely to divert the greatest amount of organic material, albeit lower volumes of food waste. With education, behaviour change and the larger capacity of the FOGO bins, the opportunity for greater volumes of material being captured at kerbside exists under a FOGO system.

A significant flow on benefit of greater diversion is that it extends the life of the landfill. The impact on the life of the landfill of diversion has not been modelled as part of this business case. However, any extension of use an existing landfill extends the timeframe for QLDC shouldering the costs and risk associated with closing an existing landfill land and establishing a new landfill elsewhere.

Savings from reduction in refuse

Diversion from the refuse collection has the potential benefit of reducing costs of the refuse service. Other Local Authorities have introduced a move from a weekly refuse collection to a fortnightly collection alongside the introduction of an organics collection service. Cost savings from this potential change in service frequency are difficult to quantify, largely because of the variable, but generally high level of fixed costs under a collection service contract. We have not modelled the savings from refuse collections in the Queenstown Lakes District because of this uncertainty. We estimate that introducing a fortnightly refuse service may reduce costs up to 20%, which could result in savings to QLDC of around $200K per annum. However, this will be dependent on contract negotiations with the existing supplier and whether they are also taking on the organics collection service.

Collection Operations

The operating model under a FOGO system will employ a side loader fleet equipped with arms for automated bin lifts. The arm can be calibrated to lift different sizes of bins (within a range). This has the advantage of a single driver operator who can undertake a collection route on their own, with no health and safety issues of having to exit the cab to perform lifts.

For FO collection, 23L bins are too small for automated lifting. Lifts are typically done manually by someone exiting the vehicle and emptying the bin. With organics collections being a relatively new service in New Zealand, the waste contractor market has typically priced for FO services to be operated by a single driver, who leaves the truck to empty the FO bins. This creates health and safety issues and makes it more difficult to attract drivers. Our experience is that the market is trending more towards needing runners for the FO collections to be able to deliver the service effectively. The cost modelling has not included the labour costs for runners in the base FO cost estimate. The cost impact of providing runners is as follows:

Option	Base annual net service cost	Estimate runner labour cost	Additional cost per HH per annum
FO 23L Bin Urban and Rural Weekly Collection	$2.16M	$0.57M	$25

With runners as part of the service, the overall per household cost would be $110 per annum, around 30% more expensive than the $85 per household estimate for the FOGO option.

Emissions

The cost models were also used to derive estimated reductions in CO_2e emissions. These estimates are based on assumptions included in Appendix 9. The estimates include an assessment of net emissions for food and greenwaste disposed to a landfill with gas capture and are a measure of the actual emissions generated from landfilling organics in a landfill with gas capture.

In order to calculate the associated cost savings, Victoria Flat's UEF of 0.274 was applied to the avoided tonnes. Using the UEF, the emissions are averaged across all types of material disposed to the landfill and is used to calculate the ETS cost (or avoided cost in this case) associated with diverting the material from landfill.

The kerbside collections model has also determined CO_2e emissions from fuel consumed by collection vehicles. Estimated collection service related emissions assume the collection fleet uses diesel trucks and high level estimates of mileage.

Table A10.5 – Estimates of avoided CO_2e emissions

	FO 23L Bin Urban and Rural Weekly Collection	FOGO 80 - 240L Bin Urban and Rural Weekly Collection
Total CO_2e avoided p/a	802	999
Emissions from trucks p/a	270	216
Net emissions reduction	532	783

The FO collections have a higher fleet emissions profile due to the number of trucks required and greater distance needed to be travelled as result.

Electric collection vehicles are being used in urban collections and would significantly improve the net emissions reduction. However, they still have a much higher capital cost and are less reliable in terms of range than diesel equivalents.

Preferred Processing Option Discussion

The evaluation of the options through the MCA suggested the out of district option 6 - contract with another Council coming out as the preferred option overall. The advantage of this option is the flexibility it provides QLDC with to proceed with planning and implementing a collection service without also having to find a suitable location and develop a processing facility of its own. From a regional perspective, both Councils will benefit from using the same facility in terms of the reduction in costs with the increased scale provided by both Council's volumes.

The in-district processing facility presents the best opportunity for QLDC to control the facility. For this reason, this option is most likely to provide resilience in the event of major disasters. However, the in-district facility is more expensive for QLDC to establish and operate on its own compared with other options. Establishing a new facility in the Queenstown Lakes District would be the most difficult in terms of locating a site, gaining consent and securing funding, which isn't currently available through the Long Term Plan.

Under Option 5, there is still significant complexity and cost with establishing and operating a facility in partnership with CODC. Inevitably, this option would involve a long-term commitment from QLDC and would therefore limit the flexibility to transition to an alternative processing solution at QLDC's discretion. Commercial discussions with CODC will have a bearing on the evaluation of this option as being more beneficial to QLDC, but for the time being Option 6 presents the more attractive proposition while still enabling a collection service and achieving the same level of environmental benefit of diversion of material from landfill.

To provide context to the results of the assessment, the following table summarises the key advantages and disadvantages of the kerbside collection options:

Table A10.6 – Key advantages and disadvantages

Advantages	Disadvantages
Option 2 - In District Organic Processing Facility – Council Owned/Out-sourced Operation	
• Provides control over the operation and quality of material produced. • Uses the most organic material locally without the need for transportation out of district. • Access to end product available locally with possible revenue. • Reduced haulage costs and emissions with an in district option.	• Lack of available sites. • An in district processing solution would require a consent that might be difficult to achieve. • No budget allowance in LTP for capital for land purchase and facility development. • Has complexity and cost of developing in-district processing facility for organics - potential scale and affordability issues. • Building and investing in a facility in district will greatly restrict future options, particularly before alternative technologies are available at a reasonable cost/tonne processed. • Most costly option to own and operate.

Advantages	Disadvantages
Option 5 - Out of District Organic Processing Facility – Partnership/JV with another Council	
• CODC Facility already going ahead. Opportunity for economies of scale with larger, single regional facility. • Less Council commercial risk than setting up own facility. • Attracts potentially high capital grants with two Councils in partnership. • Consenting responsibility falls to CODC. QLDCs involvement dependent on the nature of the agreement made. • Council potentially benefits from revenue to offset costs.	• Less Council control over waste stream and the quality of the end product. • Increased haulage costs and emissions. Might limit the availability of Electric trucks due to distances. • Much higher management requirements and overheads if in partnership. • Locks QLDC into longer term solution and commercial arrangement – reduces future flexibility. • Limited resilience in event of natural disaster.
Option 6 - Out of District Organic Processing Facility – contract with another Council	
• Simple commercial arrangement. Easy to administer and QLDC has the opportunity to negotiate good rates with high and consistent volume. • Provides flexibility for shorter term solution and a subsequent future change of processing solution and location for QLDC. • No capital requirements, and no commercial risk on development of the facility. • Consenting responsibility falls to CODC. QLDC's involvement dependent on the nature of the agreement made.	• Increased risk of rejection of material and change in terms of contract. • No opportunity for QLDC to plan and control how resilient processing facility would be under a gate fee contract.

Costs

A detailed cost assessment was completed for the processing options. This involved a bottom-up modelling of options where QLDC were making a capital contribution and taking an ownership stake. Options involving QLDC as a gate fee taker are based on indicative gate fee estimates for similar sized facilities. The high level cost assumptions used for the modelling used are as described in Appendix 9. It should be noted that the costs for Option 6, which has a gate fee at an out of district facility, have been used for the processing costs included in the collection service costing.

Capital outlay for the in-district model assumes a 50% contribution from MfE, while the out of district assumes and 80% contribution for a regional facility.

In the partnership scenario under Option 5, it is assumed that costs and revenue are shared 50/50 between QLDC and CODC.

The estimate financial impact of the options for processing facilities are presented in the table below.

Table A10.7 - Financial impact of shortlisted options for processing facilities

Costs	Option 1	Option 5	Option 6
	In District– Council Owned/Out-sourced Operation	Out of District– Partnership/JV with another Council	Out of District– contract with another Council
NPV costs ($M)	$16.1	$9.3	n/a
NPV benefits ($M)	$0	$0	n/a
NPV (20 year) ($M)	-$16.1	-$9.3	n/a
Average annual cashflow ($M)	$1.2	$0.7	n/a
Total capex (QLDC share - net MfE) ($M)	$3.6M	$1.1M	0
Processing cost per tonne food waste QLDC	n/a	n/a	$230
Processing cost per combined tonne (food and green)	$220	$150	$115
Consolidation and transport cost per tonne	$0	$40	$40

The analysis of the options for processing facilities indicates that option 6 has the lowest processing cost per tonne and is therefore the most economic option for QLDC. However, we note that the gate rate achieved by QLDC will still be dependent on a rate to be negotiated with the facility operator, so may differ substantially from the rate calculated through modelling of costs. Option 5, the facility partnership, may also have an overall lower processing cost per tonne if revenue from third party tonnes were included in the model.

Appendix 11 – Indicative Implementation Programme

Table A11.1: Implementation programme

Activity	Earliest possible start	Latest possible start	Comment
Approvals and securing funding			
Business case completion	Dec-23		
Service costs approved by Council	Jun-24		As part of 2024-34 LTP
MfE funding application	Feb-24 to Nov-24		6-9 months. Application subject to service approval by Council.
Processing facility			
CODC ongoing design & consenting	Jan-24 to Dec-24		12 months
CODC construction	Jan-25 to Jun-26		18 months
CODC processing facility operational	Jul-26		
Negotiate QLDC access	Apr-25 to Sep-25	Apr-27 to Sep-27	6 months. Prior to releasing collections RFP to market
Bin supply, consolidation, and collections			
Organics service procurement	Jul-24 to Jul-25	Jan-27 to Dec-27	12 months. Includes bin supply, collections, consolidation, alternative processing
Transfer station consent variations and construction (if any) to enable consolidation	Dec-24 to Dec-25	Jan-28 to Jun-29	12 months. Depends on solution proposed by suppliers.
Contractor mobilisation	Jan-25 to Jun-26	Jan-28 to Jun-29	12 months, plus 6 months float
Bin deliveries	Jun-26	Jun-29	1 month in advance
Collection service commences	Jul-26	Jul-29	
Communication and engagement			
Raise awareness	Jan-25 to Mar-26	Jan-28 to Mar-29	12+ months in advance
Service commencement and instructions	Apr-26 to Jun-26	Apr-29 to Jun-29	1-3 months in advance
Ongoing “how to” advice and support	Jul-26 onwards	Jul-29 onwards	Ongoing, after service goes live
Related activities			
Mandatory organics collection	1 Jan-30		Date set by Government
Existing waste services contract, initial term expiry date	31 Dec-26		End of initial 7.5-year term