Gippsland Collaborative Resource Recovery Business Case

Gippsland Waste and Resource Recovery Group

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GIPPSLAND WASTE AND RESOURCE RECOVERY GROUP

GIPPSLAND COLLABORATIVE RESOURCE RECOVERY BUSINESS CASE

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GLOSSARY OF TERMS

Term	Description
Dirty Material Recovery Facility (MRF)	A facility that accepts the residual waste stream and separates out the non-degradable materials from the degradable materials via a manual/ mechanical process. The non-degradable materials can be further sorted into recyclables and a refuse derived fuel (RDF) which consists of the dry calorific fractions. The degradable materials are generally sent to landfill.
Food and Garden Organics (FOGO)	Food and garden organics refers to kerbside organics bins that accept both garden organics (branches, grass clippings etcetera) and food organics (food scraps).
Material Recovery Facility (MRF)	A facility that accepts comingled recycling materials (a mixture of paper, cardboard, glass, plastics, bottles and cans etcetera) and separates each material into its respective stream via manual/ mechanical processes.
Mechanical biological treatment (MBT)	A mechanical biological treatment (MBT) facility involves a biological treatment process for the biodegradable waste stream. The biodegradable waste stream is generally separated by a manual/ mechanical pre-sorting process.
Municipal Solid Waste (MSW)	Waste generated at a residential or household level and collected through kerbside collections or resident drop-offs at resource recovery centres. For the purposes of this document, MSW excludes waste delivered by residents to resource recovery centres.
Resource Recovery Centre (RRC)	Resource recovery centres (including transfer stations) provide a designated location to aggregate, sort and consolidate waste and recyclable materials and where viable, divert these materials away from landfill, through either recycling or resource recovery.
Waste to energy (WtE)	A facility that converts waste into heat and/or electricity for which there is an economically viable end use. Technologies can include, but are not limited to incineration, pyrolysis, gasification, and plasma gasification. A combination of these processes is sometimes used. Within this Business Case, the WtE facility refers to the incineration technology. Incineration results in an ash or slag that is generally landfilled.

EXECUTIVE SUMMARY

Gippsland Waste and Resource Recovery Group (GWRRG) has a statutory obligation to plan for waste and resource recovery infrastructure in the Gippsland region, which incorporates Bass Coast Shire, Baw Baw Shire, East Gippsland Shire, Latrobe City, South Gippsland Shire and Wellington Shire. Underpinning this obligation is the *Gippsland Waste and Resource Recovery Implementation Plan*, which identifies the needs, challenges and opportunities for waste and resource recovery services over the next 15 years.

In line with the current Victorian waste and resource recovery strategic planning framework, GWRRG is investigating the potential benefits of collaborative or "joint" procurement of kerbside municipal solid waste (MSW) services across the region's six councils. Experience both domestically and internationally suggests that jointly procuring these services can:

- Generate greater economies of scale
- Reduce overall costs
- Reduce transaction and administration costs
- Drive network efficiencies
- Improve customer service
- Encourage new infrastructure, growth and regional investment
- Divert waste from landfill
- Improve environmental outcomes from recovered resources

Importantly, collaborative procurement has been the primary mechanism used in other jurisdictions to move away from landfill as a means of dealing with residual waste (particularly the UK which has a similar legislative framework for waste management as Australia). On its own, a single regional council is reliant on landfill for waste disposal as the volumes of waste generated are not great enough to encourage investment in more advanced recycling facilities. However, when several council's aggregate kerbside waste volumes to the market, the economies of scale are improved, opening avenues for advanced waste treatment technologies such as waste to energy or mechanical-biological treatment.

This business case examines the costs and benefits associated with joint procurement of municipal solid waste (MSW) services across the Gippsland region. The findings, which aim to inform council decision making in order to move forward with a procurement process, are presented below.

BENEFITS OF JOINT PROCUREMENT

The analysis undertaken in Section 2 of the Business Case (and in more detail at Appendix 1) shows that significant potential savings could be generated from a joint procurement, particularly if all 6 councils participate in the process. If all councils tendered all kerbside services (i.e. collection and processing), the likely savings will be in the order of $1.145 million per annum (savings range of between savings $531,000 and $1,759,000), which constitutes a material saving for councils across a contract of this size (between 2% and 7% of total contract value).

The savings diminish as the contract size and amount of waste tendered reduces and at the lowest scales, for example two councils joint procuring one service such as organics processing, the additional costs are likely to exceed any benefits gained. Similarly, the potential savings are not equally distributed across the different services, with the collection contract likely to generate the highest savings. Table 1 summarises the financial

analysis of joint procurement savings across the three options, which are essentially based on the potential number of councils participating.

Table 1 Summary of potential financial savings based on the number of councils participating in a joint tender

Option	Potential savings per annum		
	Minimum	Likely (mid-point)	Maximum
JP1 – Joint procurement involving ~2 councils	$0	**$43,000**	$86,000
JP2 – Joint procurement involving ~4 councils	$88,000	**$433,500**	$779,000
JP3 – Joint procurement involving all 6 councils	$531,000	**$1,145,000**	$1,759,000

Given the purpose of a joint procurement is to generate service efficiencies and cost savings, the preferred joint procurement option is JP3 with all six councils going out to market to procure all kerbside waste services. The benefits of such an approach are attractive in terms of both financial and non-financial benefits. In addition to cost savings, jointly procuring all kerbside waste services provides the market with an excellent opportunity to innovate, provides a buffer from the impact of sudden commodity shocks, allows technology types to consider all waste streams and would deliver knowledge and capability building across all councils in the region.

However, there are critical risks for joint procurement of this nature related to Australian competition law and any joint procurement exercise should be suitably transparent and inclusive to avoid anti-competitive behaviour or cartel activity. For this reason, it is recommended that ACCC authorisation be sought during the tender process (i.e. during development of the tender specifications).

OPPORTUNITIES FOR RESOURCE RECOVERY

In addition to simply outlining the potential benefits of joint procurement, the Business Case also analyses the potential costs involved in diversion of residual waste from landfill, which is a key regional priority. With this in mind, four potential scenarios were considered:

SC1 Landfill located outside the Gippsland region – This option assumes all residual waste collected from kerbside would be disposed to a large, centralised landfill in either metropolitan Melbourne or a large regional landfill. This is the lowest cost option, however there would be no improvement in resource recovery for the region.

SC2 Dirty MRF – This option assumes all residual waste collected from kerbside would be processed at a Dirty MRF, where around 45% of material would be recovered for recycling.

SC3 Mechanical-biological treatment – This option assumes all residual waste collected from kerbside would be processed at an MBT facility, where around 55% of the material would be recovered for recycling, including a composting hall for processing of the organic fraction.

SC4 Waste to energy – This option assumes all residual waste collected from kerbside would be processed in an WtE facility, generating electricity and process heat. This is the most expensive option however it has the greatest resource recovery rate at around 95%.

A summary of the financial analysis for the resource recovery scenarios (based on gate fees and likely additional cost per tenement) is presented in Table 2.

Table 2 Summary of resource recovery options and likely costs (gate fee $/t and $/tenement)

Scenarios for residual waste	Resource recovery rate	Additional tonnes recovered	Mid-range gate fee ($/t)	Likely additional cost ($/t)	Likely additional cost ($/tenement/yr)
Landfill Councils BAU (base case)	0%	0	$163	$0	**$0**
SC1 – Landfill located outside Gippsland	0%	0	$155	-$8	**-$3**
SC2 – Dirty MRF	45%	23,000	$212	$49	**$20**
SC3 – MBT	55%	29,000	$248	$85	**$35**
SC4 – WtE	95%	50,000	$290	$127	**$52**

It is important to note that the analysis of resource recovery options does not constitute a recommendation for any of these particular scenarios. These are essentially hypothetical scenarios that illustrate the ranges of costs likely to be incurred. Ultimately, it will be up to the market to provide the best value for money options through the tendering process.

PRIVATE SECTOR INVESTMENT

There are a broad number of procurement models that could be considered for a project of this nature. It is not the role of the Business Case to stipulate which model is the most appropriate as ultimately this will depend on the infrastructure solution, cost, level of risk and availability of financing required. The tender process should look to solicit preferred procurement models without necessarily narrowing the field, considering the vast number of derivatives on offer.

However, outside of stipulating a procurement or financing model, private-sector investment can be encouraged through the tender process in a number of ways, for example:

- Through extended contract lengths and a strong signal to the market that contracts of 20 years or greater (which would likely be required for WtE infrastructure) would be considered
- By providing public land through a concession deed, gift or lease arrangement, particularly land that has existing buffers such as closed landfills (where appropriate)
- By entering into offtake agreements for outputs such as processed organic fractions (from an MBT or dirty MRF) that would provide further surety for investment.

NOTE ON JOINT PROCUREMENT

Ultimately, the Business Case highlights the critical importance of undertaking a procurement process that is as open and technology agnostic as possible. It should not pick winners or stipulate the types of technologies that should be considered. Rather, the tender specification should clearly articulate the **OUTCOMES** that are sought by the region and allow the market to determine its preferred option for delivering those outcomes. This may include a focus on economic benefits to council and the community, increased resource recovery, local economic development and jobs creation, support for local industries, making available a service to a wider number of customers and other areas of focus.

1 CASE FOR CHANGE

1.1 Background

Gippsland is a significant sized region which stretches from the Bass Coast Shire in the west to East Gippsland Shire, some 500km to the east. Incorporating six local government areas – Bass Coast Shire, Baw Baw Shire, East Gippsland Shire, Latrobe City, South Gippsland Shire and Wellington Shire – Gippsland is a diverse region, taking in large (and fast growing) regional towns such as Warragul and Drouin, the Latrobe Valley and its industrial areas extensive coastline and tracts of sparsely populated areas across the east and north-east.

From a waste management perspective, the population of some 270,000 people currently generates around 450,000[1] tonnes of waste per annum. Population projections indicate by 2031, Gippsland will be home to more than 330,000 people generating more than 550,000 tonnes of waste per annum. New infrastructure and solutions will be required across the region to ensure the waste management needs of the community can be effectively met.

GWRRG has a legislative mandate to support councils in efficient procurement of waste and resource recovery infrastructure and services. In line with state and regional strategic planning objectives, this includes working with groups of councils to encourage collaborative procurement which can improve outcomes for waste materials and generate efficiency gains for councils.

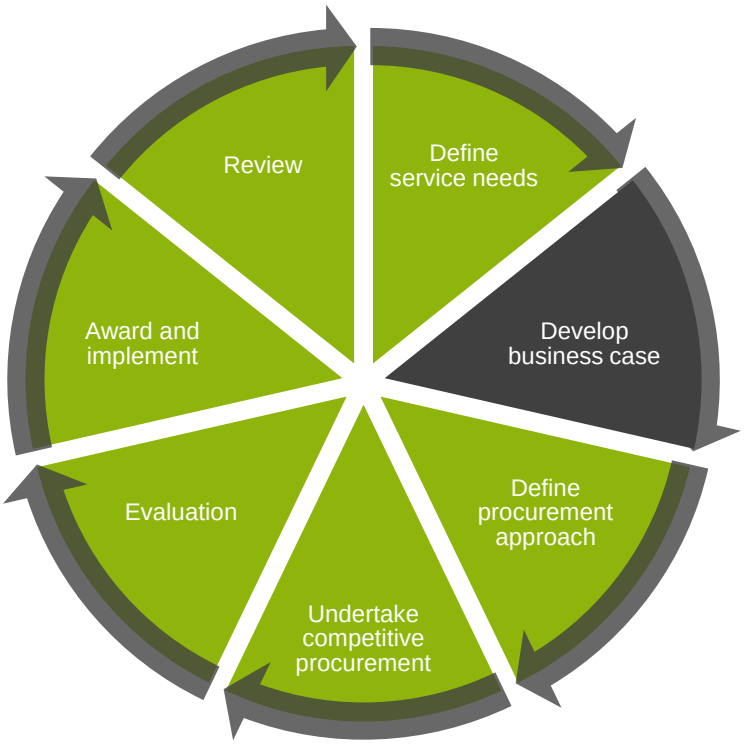
In 2015, GWRRG undertook a market sounding exercise (known as the Gippsland Collaborative Waste Investment Initiative) to test the market for investment in infrastructure that can process MSW (and potentially other commercial waste streams where feasible) and generate additional resource recovery as an alternative to landfill. The process resulted in 15 conforming responses, including a range of infrastructure options able to meet the core objectives.

This Business Case represents the next step in the procurement process (Figure 1) and seeks to provide the evidence base to allow the six Gippsland councils to make informed decisions regarding:

- The viability of entering into a joint procurement activity(s) for waste and resource recovery services
- Potential options for joint procurement across the three waste streams including – organics, commingled recyclables and residual waste
- Options for operating/contract management models
- Opportunities to attract private sector investment, new technology solutions and innovation to increase the value of material collected in the region
- Provide indicative timing for a joint procurement tender.

[1] Note: This includes waste from all sources. Kerbside waste from households is significantly less than this.

Figure 1 Typical stages in a joint procurement process



1.2 Rationale for undertaking a joint procurement for waste services

In 2015-16, Victorian councils spent almost $400 million delivering kerbside waste and recycling services to the community. For the majority of councils, waste management is one of the most expensive services being delivered; as such, there is a need to consider options for improving efficiency and/or reducing costs.

Whilst efficiencies can be generated at individual council level, much of this has already been achieved in recent years to manage increasing waste industry costs (for example, increases in landfill disposal costs). Generating efficiencies at regional scale is the next natural progression with multiple councils able to offer larger volumes of waste to the market and encourage better services (and ideally, higher diversion from landfill).

This section briefly explores some of the benefits and rationale for undertaking joint procurement of waste services across Gippsland.

FUTURE PROOFING

The current waste management sector is evolving at a rapid rate. A significant push to recover organic waste, particularly food organics, through kerbside collections has seen new infrastructure developed in metropolitan and regional areas. More recently, the issues with the commingled recycling market has highlighted the need to ensure stronger systems to support long term kerbside collection and processing contracts.

Rather than being able to benefit from these changes, regional councils operating on their own, particularly those with small volumes of waste, remain vulnerable due to their limited buying power. As a result, it is becoming more common for groups of councils to jointly procure waste services, generating additional buying power by offering

greater volumes of waste to the market. This in turn gives participating councils the benefit of surety of price, surety of service and clearly defined outcomes across the contract period.

FINANCIAL SAVINGS

The clearest measure of the benefit of joint procurement is the ability to deliver financial savings to participating councils, and this Business Case speaks to those benefits in detail. Whilst the financial modelling presented is only a prediction of the potential savings, examples of joint procurement undertaken for waste services speak clearly to the potential benefits, as can be seen in the East Waste Case Study presented below.

CASE STUDY 1 – EAST WASTE JOINT TENDER

Eastern waste management authority, who represents seven councils in Adelaide's east, undertook a significant joint procurement on behalf of its members in 2014/15. The process has delivered real financial savings to members, as noted in the East Waste Annual Report:

"East Waste facilitated a tendering process that delivered significant financial savings, improved environmental outcomes, and unbudgeted income for Member Councils. In financial terms, the new long term 10-year contracts represent approximately $2M in savings across the Member Councils per annum. On top of this, the types of materials acceptable for recycling have increased, and the additional drop-off facilities have improved East Waste's travel time and productivity. These Contracts are testament to the Subsidiary model and clear indication of the power of joint purchasing."

ENCOURAGING NEW RESOURCE RECOVERY INFRASTRUCTURE

Coinciding with the current market shift, the Victorian Government has signalled its intent to move away from landfilling as the preferred method for dealing with residual waste, noting:

> *"Recovering more resources will reduce our impact on our environment and climate change, create jobs and bolster our economy. Increasing our recovery also reduces the pressure on our natural resources by reducing our reliance on virgin materials and the water and energy used to process those materials."*[2]

The move away from landfill is being driven through several channels, including:

- Through increased environmental compliance costs, cell construction costs and increases in the Victorian landfill levy
- Through community attitudes toward landfill, including recent high-profile cases at Ravenhall and Werribee
- Through promotion and support for alternative processing technologies, such as the current waste to energy discussion paper *Turning waste into energy.*

The State Infrastructure Plan highlights the issues facing regional councils seeking to reduce their dependence on landfill, noting a need "*to aggregate material streams to attain the economies of scale needed to support*

[2] State Infrastructure Plan, pp 1

investment in viable reprocessing facilities"[3]. Joint procurement by groups of councils has proven successful in encouraging greater investment in recovery of residual waste.

There are a broad range of real world examples that illustrate how joint procurement can be used to encourage new resource recovery technology, for example local government group tendering in the UK has led to construction of significant infrastructure to process residual waste, supporting an 80% reduction of waste to landfill from 22 million tonnes per annum to 4 million tonnes per annum.

In Victoria, joint procurement by local government (facilitated by waste and resource recovery groups) has focused on organic waste processing capacity for metropolitan Melbourne as is demonstrated in the Case Study below.

CASE STUDY 2 – NORTH WEST ORGANICS TENDER

Metropolitan Waste and Resource Recovery Group has been leading a series of joint procurements for the processing of kerbside organic waste in Melbourne. The first tender involved 11 councils from Melbourne's north-west where more than 100,000 tonnes of organic waste was offered to the market for processing. The outcome of the tender was the construction of two new facilities – an in-vessel composting facility at Bulla capable of processing 85,000 tonnes per annum and a further composting facility at Werribee capable of processing 35,000 tonnes per annum.

These facilities have provided additional network capacity for organics processing and are also designed to process food waste as councils in the north-west roll out combined food and garden organics (FOGO) collections for their community.

OPPORTUNITIES TO LEVERAGE EXISTING INFRASTRUCTURE

Joint procurement can clearly encourage development of new infrastructure, but it can also maximise and leverage existing infrastructure in the region. Gippsland benefits from a network of waste and resource recovery infrastructure, including council depots, resource recovery centres and transfer stations, any number of which could be strategically used as part of a regional solution for waste management.

Similarly, recycling infrastructure is already well developed in the region with two materials recycling facilities (MRFs) – Dasma (Morwell) and Tambo Waste (Bairnsdale) – and two composting facilities – Pinegro (Morwell) and the Gippsland Water Soil and Organic Recycling Facility (SORF). In addition, the region benefits from one of Australia's largest waste paper recycling facilities. The Australian Paper Recycling Plant has the capacity to process some 80,000 tonnes per annum of waste paper.

These facilities offer an excellent opportunity for tenders to leverage, partner with, build on and develop as part of a joint procurement process, offering potential infrastructure investment, new jobs and training. The tender documentation should be prepared in a way that maximises local infrastructure where practicable to do so.

[3] Ibid. pp 48

ENCOURAGING NEW AND UPGRADED SERVICE PROVISION

Joint procurement can also lead to improvements in service provision, particularly improvements in data reporting, access to industry expertise and streamlined contract management.

The rationale for the Business Case is as follows:

- The changing conditions in the waste and resource recovery sector require councils to consider how to best "future proof" themselves, with joint procurement offering the required buying power to enable improved price surety, contract surety and long-term stability.
- The amount of waste across the region, when combined, appears sufficient to encourage investment in advanced resource recovery infrastructure, which may support a move away from disposal to landfill.
- Offering aggregated waste volumes to the market can generate significant cost savings across the region, which has been clearly demonstrated by other groups of councils undertaking joint procurement for waste services.
- The development of new resource recovery infrastructure and/or expansion of existing infrastructure (of which the region has a wide range) will support new industries and new employment opportunities
- There are transactional savings when preparing tender documentations and contracts, as well as contract management savings for jointly procured contracts.

1.3 Strategic alignment

The current Victorian waste and resource recovery policy framework is heavily geared toward the concept of collaborative procurement for waste management infrastructure and services. The primary document, the Statewide Waste and Resource Recovery Infrastructure Plan (State Infrastructure Plan) recognises that a key barrier to greater recovery of materials from the waste stream is the lack of aggregated volumes of waste being put to market.

Goal 2.2 of the State Infrastructure Plan is as follows:

> *"Materials are made available to the resource recovery market through aggregation and consolidation of tonnes to create viability in recovering valuable resources from waste."*[4]

This is particularly relevant for MSW, as this is a relatively stable and predictable waste stream that can be contracted for long periods of time to support investment in new recycling infrastructure. Indeed, three large scale collaborative procurements for collection and processing of organic wastes have been undertaken in metropolitan Melbourne over the past 5 years, resulting in construction of new organics composting facilities and the addition of some 500,000 tonnes of processing capacity into the network.

The collaborative procurement focus in the State Infrastructure Plan is supported at regional level, with the Gippsland Waste and Resource Recovery Implementation Plan (Gippsland Implementation Plan) noting:

> *"Waste and resource recovery infrastructure is expensive and often specialised. Hence, it is recognised as advantageous to investigate opportunities for increased collaboration, including joint procurement, with the objective of gaining efficiencies and/or economies of scale while maintaining or improving service delivery."*[5]

[4] Sustainability Victoria. *Statewide Waste and Resource Recovery Infrastructure Plan*
[5] GWRRG 2017. *Gippsland Waste and Resource Recovery Implementation Plan*, Gippsland Waste and Resource Recovery Group, pp 133

The Gippsland Implementation Plan embeds this within its priority implementation actions as follows:

> *Priority Action 2 - Stimulate the introduction of innovative waste and resource recovery services and infrastructure, by driving collaboration between local government, the waste industry and community to meet the diverse needs of Gippsland.*
>
> *Activities include:*
>
> *Attract greater private sector investment and social enterprise involvement in the development and operation of resource recovery activity in Gippsland by identifying, progressing and supporting viable initiatives.*
>
> - *In line with Sustainability Victoria's Collaborative Procurement Framework, scope key areas where a shared approach could benefit provision of local government services to their respective communities.*
> - *Lead the second stage of the Gippsland Collaborative Waste Investment Initiative in partnership with Gippsland councils to facilitate and promote engaged collaboration with other identified regional and cross regional partner organisations.*

At a local level, each council sets its own strategies and plans in line with community goals and aspirations. Across the six councils, these local strategies align neatly with the objectives of this Business Case, with most council plans and associated waste strategies having a focus on:

- Diversifying employment, generating economic activity and creating opportunity for new industries, infrastructure and innovation.
- Delivering best practice waste management services in an efficient and cost-effective manner.
- Diverting waste from landfill toward additional recycling.

The implementation of a collaborative procurement exercise for waste services is likely to contribute positively to all of these activities, particularly where a move away from landfill toward higher order recycling.

The following table highlights key strategic alignment with the Business Case across the 6 councils:

Council strategy	Alignment with Business Case
Bass Coast Shire Council	
Council Plan 2017 – 2021	As part of the overarching environmental objective to *maintain and protect the natural environment*, the Council Plan contains the strategic objective to *Provide efficient and equitable waste management services and infrastructure.* Relevant actions in the plan call for increased diversion of kerbside waste from landfill which is a key objective of the Business Case.
Waste Management Strategy 2015-2025	Key objective to *partner with state and regional organisations, adjacent councils and community on waste management projects including services, infrastructure and market development.* Includes the following actions: *Engage with state and regional organisations, adjacent councils and community on waste management projects biannually to be abreast of waste management projects*

	and to assess where and how collaboration can occur (High Priority) *Collaborate with region and adjacent shires in the investigation and assessment of feasible Alternative Waste Treatment options for the region.*
Baw Baw Shire Council	
Council Plan 2017 – 2021	Key priorities in the current Council plan for waste management includes: *Deliver environmentally sustainable waste management services to the municipality.*
Environment and Climate Change Strategy 2011	Includes relevant actions such as: *Engage and support community to reduce waste to landfill and maximise recycling rate* *Promote sustainable waste management practices in partnership with Gippsland Region Waste Management Group*
Waste Management Plan 2020	Primary document governing waste and resource recovery activities, which speaks specifically to regional procurement, particularly opportunities to partner with Latrobe City Council via joint collection contracts. The Plan was written in 2010 and much of the commentary around legality for contracting is outdated, with the new legislative role of GWRRG being clearly aimed and facilitating these contracts.
East Gippsland Shire Council	
Council Plan 2013 - 2017	The Council Plan includes a number of specific waste and resource recovery initiatives, including: *2.1.3.1 Implement the Waste Collection and Disposal Strategy to provide the most suitable and safe waste service model for the region.* *2.1.3.2 Negotiate with the Victorian Government on appropriate and cost-effective solutions to design, construct and rehabilitate Council's landfills.* *2.1.3.3 Work with industry to investigate specific waste reduction and re-use opportunities.* *2.1.3.4 Partner with external bodies to divert organic waste from landfills.* The plan seeks to ensure that waste services are delivered in a safe and cost-effective manner and support a reduction in waste going to landfill. A move toward a regional collaborative procurement seeks to deliver this.
Waste Facilities and Disposal Strategy 2014	Council's waste strategy sets out its priorities to manage landfills, waste transfer stations, transfer trailers and closed landfills. Whilst

	there are no specific actions related to collaborative procurement, the Strategy notes: *Waste management and operations will continue to increase in cost unless Council can be proactive and implement efficient and innovative solutions for waste service delivery.*
Wellington Shire Council	
Wellington 2030	The overarching directional plan for Wellington Shire includes several relevant areas. The vision for Wellington 2030 includes: *Wellington has a built environment that is sustainable, appropriate, accessible and responsive to the community. Transport connects people to communities and places. Events and services support our strong communities.* In addition, Wellington 2030 has a strong focus on employment and growth of new industry which aligns with the potential outcomes of collaborative procurement for waste services: *Wellington has a wealth of diverse industries providing employment opportunities for all. There is growth in the Wellington population and economy which is balanced with the preservation of our natural environment and connected communities.*
Environmental Sustainability Strategy 2011 – 2015	The existing Environmental Sustainability Strategy focuses on a range of activities and themes, including a focus on increased recycling and reduced waste to landfill, as well as measures that focus on waste minimisation. Of relevance to the Business Case, the Strategy includes a strategic direction to: *Manage Wellington Shire's Waste Contract to maximise recycling and resource recovery.*
South Gippsland Shire Council	
Council Plan 2017 – 2021	The Council Plan has a strong focus on building sustainable communities with a focus on diverting waste to landfill, as follows: *Council encourages sustainable practices, seeks to reduce its carbon footprint and diverts a greater proportion of its waste away from landfill. Council seeks to protect and enhance the natural environment.*
Waste Management Strategy 2016 – 2021	The current Waste Management Strategy speaks at length about the collaborative procurement with several actions supporting the advancement of the Business Case, including: *8.2 Continue to participate in the GWRRG's Collaborative Waste Investment Project with the ultimate aim of identifying and establishing alternative waste treatment facilities to reduce Council's reliance on landfill.*

	8.5 Continue to work collaboratively with other councils in the region to improve service efficiency and identify the potential for shared services. *8.6 Consider forming an agreement with other GLGN councils to investigate and consider the viability of shared procurement of waste management services.*
Latrobe City Council	
Council Plan 2017 – 2021	The new Council Plan focuses on new economic opportunities and new employment areas. These are relevant to the development of new recycling facilities and infrastructure, and new industries for recovered materials. The plan notes: *Objective 1 – Support job creation and industry diversification to enable economic growth in Latrobe City.* The plan specifically notes waste and recycling as one of the target areas in Latrobe City, as follows: *Provide support for the established major industries in Latrobe by:* • *Developing Council's position on power stations and coal use* • *Explore economic opportunities in **waste and recycling*** • *Advocating for the innovative uses of our local natural resources (timber, paper, brown coal, chemicals, agriculture etc)*
Waste Management Strategy 2010 – 2017	Cascading from the Council Plan, the Waste Management Strategy provides additional detail on specific actions relevant to the Business case, including: *Support Gippsland Regional Waste Management Group efforts to provide a business case for a Regional AWT facility;* *Ensure that any GRWMG recommendations are feasible financially and physically for Latrobe City;* *Maintain the ability to implement an AWT at a Latrobe City level, should a technology arise.*

1.4 Expected outcomes

The expected outcomes of collaborative procurement for waste and resource recovery services in the Gippsland region include:

- Overall cost savings of between $0 and $1,759,000 depending on how many councils participate in the procurement and what services are offered to the market.
- Private investment in new resource recovery infrastructure, such as landfill pre-sorting, mechanical biological treatment or waste to energy facilities, from around $15 million for a dirty MRF up to a potential value of $100 million (or more) for waste to energy infrastructure.

- Diversion of residual waste from landfill, from around 45% for a dirty MRF up to a potential of 95%[6] in the case of waste to energy infrastructure.
- Increased landfill life for the existing landfills in the region, which may precipitate the closure of one of more landfills where this is deemed to be financially achievable.

1.5 Stakeholder and community expectations

The development of this business case is the culmination of several years' work by a working group which includes representatives of the 6 councils as well as central government. A working group oversaw the Gippsland Collaborative Waste Investment Initiative in 2015, which was a market sounding exercise aimed at identifying potential investment in new resource recovery infrastructure for residual waste.

Given a collaborative procurement for waste services would be strongly focused on meeting and exceeding current service requirements, consultation with the community is not likely to be required. However, should the procurement lead to development of new infrastructure, particularly standalone facilities such as waste to energy facilities, extensive consultation with the community should be undertaken to ensure that planning, design and operation meet the community's expectations.

This includes focusing on social license to operate, which essentially relates to the level of trust and acceptance that the community has for a certain practice (for example, incineration of waste). Research undertaken by CSIRO suggested that the following critical areas should be factored into community engagement for waste infrastructure:

1. Governance – ensuring that the community is confident that systems and controls are in place to manage potential health and environmental impacts.
2. Relationships – building quality, two-way relationships between operators and affected communities that can generate real collaboration and give the sense that when issues arise action will be taken.
3. Local benefits – quantifying and communicating the benefits of new technology, focusing on the local and broader societal benefits.
4. Knowledge – delivering knowledge of the integrated waste and resource recovery systems that service Victoria, and how key infrastructure relates to that system.

Importantly, the development of new infrastructure to enable resource recovery will ultimately require some level of behaviour change. For example, the roll out of combined food and garden organics collection (FOGO) requires may require new bins, use of kitchen caddies / bin liners for scraps and improved source separation to ensure clean material is being collected. Community and stakeholder engagement planning should consider the required behaviour and practice changes as part of an overall engagement strategy.

[6] Note that resource recovery rates for waste to energy facilities vary based on the degree to which bottom ash and fly ash can be recovered. It is assumed that bottom ash will be reused, with 5% fly ash going to a hazardous waste landfill.

2 PROPOSAL FOR JOINT PROCUREMENT

2.1 Objectives and indicators

The key objectives and indicators for the business case are as follows:

- Generate cost savings across the six councils via a joint procurement of waste services, as measured by overall cost savings in the financial analysis presented below.
- Increase the diversion of waste from landfill, as measured by three resource recovery scenarios and high-level gate fee analysis presented below.

2.2 Base case

The base case provides an outline of current kerbside waste management services across the Gippsland region. At present, the six councils collectively service almost 130,000 households, collecting around 100,000 tonnes of waste and recyclables at kerbside. This is achieved with a fleet of 68 trucks[7] servicing an area of 41,000 square kilometres (18% of Victoria).

Currently there are no shared kerbside collection services in the region, with waste being managed across individual council contracts of varying size and nature, including contracts for collection, disposal, recycling, organics and bulk haulage (where required).

In total, the six councils spend around $27 million on provision of kerbside waste services to the community, which is broken down into its constituent parts in Table 3. The approximate kerbside tonnes collected per annum for each stream is also provided in Table 1 below.

Table 3 Overview of current kerbside waste service contracts across Gippsland

Service	Current value of contracts $/a	Current kerbside tonnes collected t/a
General waste collection and disposal	$13,188,000	47,000
Commingled recycling collection and processing	$4,580,000	28,000
Organics recycling collection and processing[8]	$8,660,000	30,000
Hard waste collection and processing	$258,000	526
TOTAL*	**$26,686,000**	**106,000***

** Note that there are additional tonnes of waste and recyclables in the region brought by the general public to transfer stations and drop off points. Also note that sums may not equate due to rounding, and the kerbside tonnes collected per annum and subsequent contact value is based on the inclusion of Bass Coast's FOGO collection (currently undertaken but in operation for less than one year), and if Wellington introduced an organics collection.*

[7] Note that some of these trucks are seldom used or are spare vehicles.
[8] Note, Wellington Shire does not have a green waste service

General waste

General waste (or "residual waste") is currently disposed to landfills within the region, including sites at Bairnsdale, Koonwarra, Kilmany, Grantville and Loy Yang. Around half of all waste managed (roughly 50,000 tonnes) through kerbside service contracts is residual waste. There is little if any bulk haulage of kerbside general waste a present, with kerbside waste being transported directly to landfill in collection vehicles.

Commingled recycling

The commingled recycling sector is largely centralised in Melbourne, with a number of existing regional materials recovery facilities (MRFs) providing additional capacity. Around half of the 27,000 tonnes of commingled recyclables collected through kerbside collections is currently recovered locally at the Dasma MRF in Morwell and the Tambo Waste MRF in Bairnsdale.

Some 17,000 tonnes of kerbside commingled recyclables are bulk transported to large, metropolitan MRFs including VISY Dandenong and Polytrade Dandenong. At present, the recycling sector is under significant pressure with options for disposal of mixed paper and low-grade plastics into China being restricted in recent months. This is a result of the Chinese Government seeking to restrict the import of highly contaminated material streams, instead opting only to allow well sorted, low contamination products (less than 1% contamination) into the country.

Given this is a relatively new development, this Business Case has not explored the issue in detail, other than to note there are likely to be significant increases (potentially $100 to $150 per tonne additional to current rates) which will have a major impact to councils and ratepayers. However, given MRF operators are now under significant pressure to create only clean recycling streams, any aggregation of material into a single contract would likely be well received by the major players and will help buffer the Gippsland councils from the impacts of future rises.

It may also encourage MRF infrastructure improvements (for example, optical sorting of waste plastics) or even new MRFs to address the additional requirements for well-sorted recyclable streams. In terms of the current status quo for procurement of processing for commingled recyclables, the recent market issues have highlighted the benefits of councils having a direct relationship with the recycler to ensure they have access to transparent information about market costs and revenues.

Organics recycling

Nearly 60% of premises in the region have access to an organics kerbside collection service excluding Wellington Shire. This is mostly geared toward the collection of kerbside garden organics which are processed at composting facilities in and outside of the region, including the Gippsland Water Soil Organics and Recycling Facility (SORF) at Dutson Downs and PineGro Morwell.

In recent years, the collection of organic waste has broadened to include food waste with Bass Coast Council recently rolling out full FOGO (food and garden organics) collections. It should be noted that the collection and processing of organic waste is a highly important factor in the consideration of landfill diversion options. Some infrastructure, such as energy from waste and dirty MRFs, are likely to function more effectively and operate most cheaply if the organic fraction of the residual waste stream is low.

Increasing food and garden organics diversion from the residual waste stream has a range of significant benefits including increased diversion, creating a higher value resource (compost) that doesn't attract a levy and commodity pricing and is cost effective. A future procurement process may consider how best to achieve this increased diversion which may include changing the frequency of collection of the residual waste and FOGO stream (i.e. weekly FOGO and fortnightly residual collection). Currently Bass Coast Shire and the Mallacoota township specifically collect food in the kerbside organics bin.

Associated services and support infrastructure

Supporting kerbside collections, each council operates a depot(s) for the storage and maintenance of vehicles. Additional waste and recyclables are also generated through the network of 42 transfer stations and 14 transfer trailers and rural kerbside collection arrangements across the region, which provide residents and businesses with avenues for waste disposal and recycling.

2.3 Joint Procurement Options and Financial Analysis

The financial analysis and options analysis has been approached in two stages. Firstly, the Business Case looks at the benefits of a joint procurement for waste services and what potential savings and efficiencies might be generated depending on the number of councils taking part and the likely contract size. This is an important first step in asking the question "should we undertake a joint procurement exercise?". The second stage looks more specifically at the impact of options for improved resource recovery through market investment in resource recovery infrastructure as opposed to disposal to landfill on overall costs.

Rather than try to predict the market and model specific scenarios, we have broadly examined the likely costs (capital and ongoing) of three resource recovery technologies and mapped this against current approximate gate fees for landfill disposal in the region (noting that councils typically internalise some of the cost of landfill disposal).

Options for joint procurement

The analysis undertaken to support the business case looks at the aggregate likely benefits of joint procurement for waste management services based on the number of councils participating and the contract value. This has been informed by the current size and nature of waste collection and processing contracts across the six councils. As noted earlier, ultimately it will be up to the market what solution is offered based on the structure of the tender documents and the volume of waste put to the market.

The analysis of potential benefits has been developed from the bottom up, looking at all councils and all services. As such, there are many potential options and permeations, however the following options broadly represent the most likely scenarios:

Option 1 Two councils jointly procure waste services – This option assumes that up to two of the six councils undertake a joint procurement for some services, for example for the collection and disposal of residual waste.

Option 2 Four councils jointly procure waste services – This option assumes that up to four of the six councils undertake a joint procurement for waste services.

Option 3 All councils jointly procure waste services – This option assumes that all six councils jointly procure waste services to the market via a joint procurement.

Methodology

The approach taken in developing the financial analysis has been to build up the potential savings based on potential contract sizes depending on the number of councils taking part in a joint procurement exercise. Each service/material stream has been considered separately including:

- kerbside collections
- residual disposal
- comingled processing
- food and garden organics processing

The base case for each of the service/material streams has been constructed through industry consultation, with each contract broken down into its relative percentage of operating revenue (cost structure).

This is overlaid with the potential to generate efficiencies based on increasing contract sizes (e.g. for each additional 10,000 or 20,000 tonnes of material in the contract), which again has been developed through industry consultation.

An overview of the cost structure and potential savings for each service stream has been provided in Appendix A to support the analysis in this section of the Business Case.

The financial analysis for the joint procurement options is presented below and includes cost ranges from minimum to maximum potential savings. Some of these ranges are large, however experience in joint procurement for waste services indicates that councils should realistically expect to achieve at least the mid-point range for each of these options. We have therefore referred to the mid-point range as the "likely savings".

2.3.1 Joint Procurement Option 1 (JP1)

At its simplest, joint procurement for waste services could involve two councils jointly procuring one or more waste services, for example disposal of residual waste or collection and processing of garden waste. The financial analysis, which is presented in Table 4, indicates that in many cases there would be little or no potential benefits from this due to the low tonnages likely to be on offer, particularly if two of the smaller councils were involved.

If two councils were to procure all waste services together, the maximum potential savings are around $86,000 per annum, however this represents just 1% across a total contract value of $8.4 million per annum. Arguably, the effort required to generate these savings would be greater than the savings themselves. With regard to just all waste and recycling collection (which will likely be the core of any joint procurement), the maximum potential savings are around $22,000 per annum.

Table 4 Overview of potential savings generated from joint procurement – up to 2 councils participating

Potential savings through joint procurement per annum – up to 2 Councils**					
Area	**Approx. contract size across 1-2 Councils ($.p.a.)**	**Approx. kerbside contract size (t.p.a. across 1-2 Councils)***	**Minimum overall saving across 1-2 Councils ($.p.a.)**	**Maximum overall saving across 1-2 Councils ($.p.a.)**	**Mid-point savings ($.p.a)**
Collection (all streams)	$5,000,000	26,500	$0	$22,000	$11,000
Residual Disposal	$1,000,000	11,800	$0	$11,000	$5,500
Commingled Processing	$1,000,000	7,500	$0	$19,000	$9,500
Organics Processing	$1,400,000	7,500	$0	$34,000	$17,000
Total (ex bulk transport)	**$8,400,000**		**$0**	**$86,000**	**$43,000**
Bulk Transport	$875,000	26,500	$0	$14,000	$7,000

** Note that additional tonnes brought to transfer stations and drop in facilities by residents (approx. 4,000 tonnes of general waste and 5,000 tonnes of organics p.a. if 1 – 2 Councils joint procure) may be used to help achieve the potential savings in the joint procurement process.*

*** Note that sums may not equate due to rounding*

As the financial analysis suggests, in all cases there is the potential for little or no savings to be realised with such small volumes of waste being offered to the market. As such, this is not a recommended option for joint procurement.

2.3.2 Joint Procurement Option 2 (JP2)

Option 2 assumes that 3 – 4 Gippsland councils come together to procure all waste services, including residual waste, commingled recycling and organics processing. This presents a greater opportunity to deliver savings to the participating councils and is a more attractive proposition to the market, with around 50,000 tonnes of waste per annum likely to be offered via kerbside collection.

The financial analysis, which is presented in Table 5, shows a potential savings of between $88,000 and $779,000 per annum with the likely savings being in the order of $433,500 per annum (around 2.6% of the contract value) based on all waste services going to the market. More than half of these savings are driven through the collection part of the contract (of all waste streams), which offers a likely saving of around $237,500 per annum (potential minimum saving of around $41,000 per annum and a potential maximum saving of $434,000 per annum). The aggregation of more than 50,000 tonnes per annum of waste and recyclables provide an attractive option for the market to bid for, hence the considerable potential savings that could be generated from a joint procurement of this size.

Table 5 Overview of potential savings generated from joint procurement – 2 – 4 councils participating

Potential savings through joint procurement per annum – up to 4 Councils**					
Area	**Approx. contract size across 2-4 Councils ($.p.a.)**	**Approx. kerbside contract size (t.p.a. across 2-4 Councils)***	**Minimum overall saving across 2-4 Councils ($.p.a.)**	**Maximum overall saving across 2-4 Councils ($.p.a.)**	**Mid-point savings ($.p.a)**
Collection (all streams)	$10,000,000	53,000	$41,000	$434,000	$237,500
Residual Disposal	$2,000,000	23,500	$27,000	$77,000	$52,000
Commingled Processing	$2,000,000	15,000	$6,000	$106,000	$56,000
Organics Processing	$2,800,000	15,000	$14,000	$162,000	$88,000
Total (ex bulk transport)	**$16,800,000**		**$88,000**	**$779,000**	**$433,500**
Bulk Transport	$1,750,000	53,000	$13,000	$81,000	$47,000

** Note that additional tonnes brought to transfer stations and drop in facilities by residents (approx. 8,000 tonnes of general waste and 10,000 tonnes of organics p.a. if 2 – 4 Councils joint procure) may be used to help achieve the potential savings in the joint procurement process.*

*** Note that sums may not equate due to rounding*

2.3.3 Joint Procurement Option 3 (JP3)

Option 3 assumes that all six councils will participate in a joint procurement process, offering the greatest available waste volumes to the kerbside collection market (circa 100,000 tonnes per annum), thus ideally delivering the greatest regional benefit. The financial analysis, which is presented in Table 6, supports this contention with a likely saving of around $1.145 million per annum (savings range of between $531,000 (2%) and $1,759,000 (7%) per annum) across the life of the contract. If all kerbside collected waste and recyclables were bulk transported, the joint procuring of this service offers a likely saving of $133,000 per annum (savings range of between $29,000 and $238,000 per annum) when compared to separately procuring bulk transport of all kerbside collected materials.

Table 6 Overview of potential savings generated from joint procurement – 4 – 6 councils participating

Potential savings through joint procurement per annum - All 6 Councils**					
Area	**Approx. kerbside contract size across all Councils ($.p.a.)***	**Approx. contract size (t.p.a. across all Councils)**	**Minimum overall saving across all Councils ($.p.a.)**	**Maximum overall saving across all Councils ($.p.a.)**	**Mid-point savings ($.p.a)**
Collection	$15,000,000	106,000	$279,000	$934,000	$606,500
Residual Disposal	$3,000,000	47,000	$53,000	$179,000	$116,000
Commingled Processing	$3,000,000	30,000	$77,000	$260,000	$168,500
Organics Processing	$4,200,000	30,000	$122,000	$386,000	$254,000
Total (ex bulk transport)	**$25,200,000†**		**$531,000**	**$1,759,000**	**$1,145,000**
Bulk Transport	$3,500,000	106,000	$29,000	$238,000	$133,500

** Note that additional tonnes brought to transfer stations and drop in facilities by residents (approx. 15,000 tonnes of general waste and 20,000 tonnes of organics p.a. if all 6 Councils joint procure) may be used to help achieve the potential savings in the joint procurement process*

*** Note that sums may not equate due to rounding*

† *Note that the contract value used to demonstrate potential savings for collections and processing/ disposal of general waste, comingled recycling and organics is based on approximate contract sizes for each of these services, rather than the current specific contract values at Councils, which equates to approx. $26.7M (see Table 3).*

The significant savings generated through joint procurement across all six councils are strongly driven through the collection contract which will benefit from vehicle price discounts, consolidation of fleet, bulk fuel discounts and kerbside collection efficiencies via route optimisation across the region. It is likely that there will be some consolidation of depots and savings in administration, having just one contract rather than 6 to manage from both sides (providing that GWRRG or one of the nominated councils holds the contract, but this is not always the case). If a mid-point saving is achieved for all Councils over a 7-year contract term the benefit would be approximately $8 million or $1.3 million per Council on average.

Impact to commingled recycling

As noted earlier, it is not the purpose of this Business Case to resolve the current issues associated with the commingled recycling market. However, it is important to recognise that the likely long-term changes to recycling contracts will have a significant impact on councils and ratepayers. GWRRG note that the current renegotiation of contracts to address the China contamination restrictions will lead to potential costs for commingled recycling of

up to (and potentially above) $150 tonne. This increase is likely to be more than just a short-term situation and would significantly increase overall contract value for commingled recycling.

The financial analysis was therefore extended to assume that a $150 per tonne average gate fee for commingled recyclables would persist across all six councils in the region. The analysis suggests that it would increase the overall processing costs for commingled recycling from around $2.6 million to $4 million and generate in the order of $130,000 per annum in addition to the likely $1.145 million in savings if all six councils participated.

It is also worth noting that during the current recycling crises, it has been smaller recycling contracts that have been impacted the most. Councils with single contracts (particularly those through a collection intermediary) have been impacted first and most significantly, with larger metropolitan councils who contract directly with the processor (albeit via Metropolitan Waste and Resource Recovery Group (MWRRG)) impacted the least due to their buying power.

2.3.4 Potential benefits of joint procurement, by council

The costs and benefits from a joint procurement are not likely to be spread evenly across all six councils as each council has its own waste service arrangements and infrastructure. The cost or benefit to each council will not be known until tenders have been received from the market at which time the impacts of factors such as bulk transport will be known.

However, for the purposes of this business case it is important to at least provide indicative costs to support internal council decision making. The analysis presented in Table 7 shows the estimated savings by council per annum, and over a seven-year contract (standard contract size) based on all 6 councils participating in a joint procurement for waste services. These values reflect the potential savings across all councils which have been then apportioned based on council size (population) to estimate savings at a council level.

As part of the tender evaluation process, detailed analysis of each council's current situation would be required, such as the closure of specific infrastructure, location, current contract size and specific costs to provide these services, in order to accurately predict the potential savings (or costs) for each council.

Table 7 Potential savings generated by council from joint procurement – 6 councils participating

Potential savings through joint procurement per annum - All 6 councils, by Council **		
Council	**Total approx. mid-point savings ($.p.a.)**	**Total approx. mid-point savings ($ over 7-year contract)**
Bass Coast	$193,000	$1,351,000
Baw Baw	$181,000	$1,267,000
East Gippsland	$193,000	$1,351,000
Latrobe City	$299,000	$2,093,000
South Gippsland	$89,000	$623,000
Wellington	$191,000	$1,337,000
Total	**$1,146,000**	**$8,022,000**

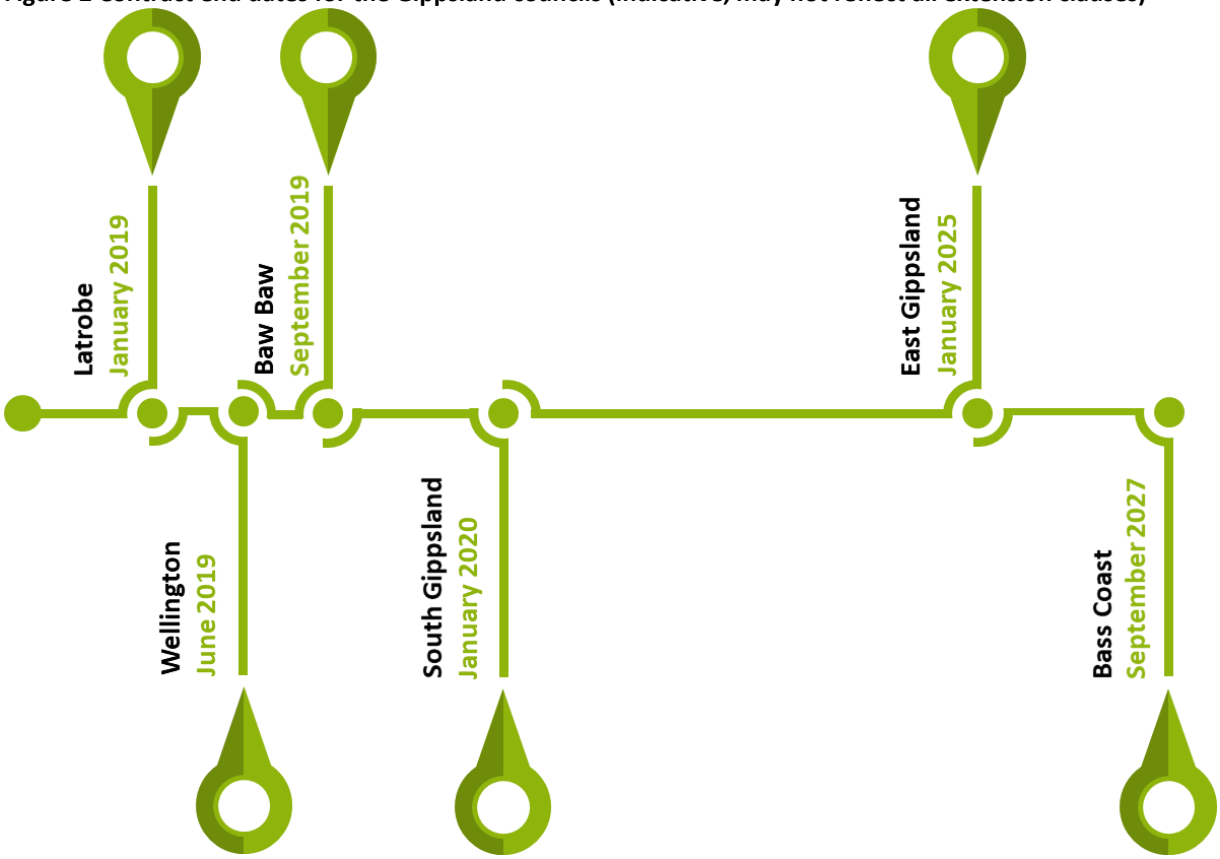
***Note sums may not equate due to rounding*

2.3.5 Contract alignment

Joint procurement for waste services generally happens over a period of time as each council will have its own existing contracts to see out; this is particularly the case where multiple waste streams are put to the market as part of the one tender. In most cases, there will be a range of contract end dates that need to be managed as part of a collaborative procurement process.

Contract dates across the Gippsland councils are no different and reflect a range of end dates, as is presented in Figure 2. Bass Coast and East Gippsland have contracts with significant time remaining, however the remaining four councils all have contracts due to expire soon; in particular Latrobe, Wellington and Baw Baw which are all due to sunset in 2019.

Figure 2 Contract end dates for the Gippsland councils (indicative, may not reflect all extension clauses)



This is not necessarily a barrier to joint procurement and simply needs to be articulated clearly within the tender specification. The market will then build in the required dependencies and infrastructure capacity to transition in councils as and when their existing contracts sunset. In the event that large scale infrastructure for processing residual waste is involved, the timelines for approvals, design and construction are such that alignment of contracts (likely via extensions and variations of existing arrangements) could occur prior to completion of the project.

Decisions regarding new contracts, including contract extensions, for the councils whose contracts are due to expire in 2019 should be made with a likely collaborative procurement process in mind.

2.3.6 Preferred option for joint procurement of waste services

The financial modelling supports the contention that joint procurement savings are directly linked to the size of the potential procurement. Therefore, unsurprisingly, the most attractive option is JP3 where all six councils come together to jointly procure all waste and recycling services. The potential savings, which are likely to be in the order of $1.145 million per annum (or 4.5% of contract value), are highly attractive given the need for councils to realise cost savings for services wherever possible. In addition, it is highly likely that joint procurement of this size would somewhat buffer the region from further shocks from recycling sector issues as the economics of scale involved are attractive enough for the market to favour such a contract.

Joint procurement is not necessarily an “all in” proposition. Whilst the financial analysis shows an increasing scale of savings based on additional volume (i.e. the more councils, the greater the savings), it also highlights the value of waste collection contracts in delivering savings across each of the options examined. Collection contracts make up around 60% of the total expenditure on waste services across the six councils, therefore any joint procurement, regardless of the number of councils involved, would benefit from including collection contracts as a baseline. Additional services, such as processing of organics and commingled recyclables, could be included from the outset or added at a later stage depending on the alignment of contracts, and could drive local investment rather than potential long-haul options.

However, as the number of councils involved gets lower it gets to a point where the risks and resources involved in undertaking a joint procurement are likely to outweigh the cost savings. There is no set limit here as there is likely to be some benefit from any level of joint procurement, although as noted previously this may be less than 1% of the total contract value. The threshold appears to sit around 3 - 4 or more councils undertaking a joint procurement where collection services underpin the procurement. The savings here could be in the order of around $780,000 per annum which is a material amount across the life of a typical contract (7 – 10 years).

3 OPTIONS FOR PROCESSING GENERAL WASTE

The purpose of undertaking a joint procurement is not just about delivering cost savings and efficiencies for councils. GWRRG and its councils are keen to drive additional resource recovery and landfill diversion, which is most likely to occur via the recovery of recyclables from general waste as recycling options for commingled recycling and organic waste are already broadly in place.

As noted earlier, the business case looks at options for increased resource recovery from general waste across broad infrastructure types, rather than a specific model project. It is important not to try to pre-empt what the market will do as this will vary considerably. It would not be appropriate to assume the location of a facility and then model specific cost-benefit outcomes for this as it may set unrealistic expectations on what the eventual outcome may be. The modelling in this section of the business case therefore looks at four potential scenarios for general waste from the region which are outlined below. It is not the role of the business case to provide extensive information about these technologies and only brief summaries are included. Detailed examination of waste treatment technologies is provided in the Sustainability Victoria *Resource Recovery Technology Guide*.

3.1 Residual waste scenarios

Scenario 1 – Landfill outside Gippsland region.

Under Scenario 1, all residual waste would be bulk hauled to a large landfill outside Gippsland, most likely one of the four large metropolitan landfills such as MRL Ravenhall, SUEZ Hampton Park, Wyndham Landfill, Werribee or Hanson Wollert. Regional landfills, such as Veolia Patho or Cosgrove, Shepparton may also be interested in bidding for a contract of this size. The business case has assumed, based on a procurement in 2018, that general waste would start leaving the region circa 2020 as the existing regional landfills look to finish existing cells and commence rehabilitation / capping activities. It is likely that some councils would keep their landfills open into the future, accepting commercial and industrial waste and possibly transfer station residual waste depending on contract structure. It would be feasible for this scenario to be viable with less than 6 councils participating in the tender.

Figure 3 Cleanaway's Melbourne Regional Landfill (MRL), Ravenhall[9]

[9] Source: Herald-Sun, 10 March 2015.

Scenario 2 – Dirty MRF.

Under scenario 2, all residual waste is processed at a facility called a dirty materials recovery facility or 'dirty MRF', most likely constructed within the region to avoid transportation costs. This would be a feasible scenario given a facility of this nature could be constructed specifically for the contract, rather than needing additional volumes from other sources. A dirty MRF is essentially a sorting facility that uses bag openers, hand sorting, trommels, screens and magnets to remove valuable commodities, leaving a low-grade organic fraction (dirty fraction) which may be suitable for landfill cover or mine rehabilitation. The limits on the reuse of the dirty fraction is a key barrier for such a facility, however they have been successfully deployed in NSW and the costs are likely to be significantly lower than an MBT. The business case assumes a dirty MRF could come on line as soon as 2021 as siting, permitting and construction are simpler than for other technology types modelled. It would be unlikely that a dirty MRF would be viable with less than 6 councils participating in the tender, unless other waste sources could be secured.

Figure 4 Hand-sorting line at a dirty MRF[10]

Scenario 3 – Mechanical Biological Treatment (MBT).

Scenario 3 assumes that all residual waste is processed in a mechanical-biological treatment (MBT) facility which separates organic waste and dry waste for separate treatments. The front part of the facility uses mechanical sorting to separate plastics, paper, cardboard, glass and metal, leaving an organic fraction behind. This is then further processed via biological treatment, such as being composted in a compost hall or vessel. It is essentially a more sophisticated version of a dirty MRF with higher value compost output and a better diversion rate. An MBT can potentially have a refuse derived fuel (RDF) output which is a shredded, mixed material of dry outputs not recovered for recycling (for example, flexible plastics and textiles). This can be used as a fuel in industrial boilers or other thermal facilities. It would be unlikely that an MBT would be viable with less than 6 councils participating in the tender, unless other waste sources could be secured.

[10] Source: Montgomery Advertiser 20 July, 2016.

Figure 5 Large composting hall as part of a mechanical-biological treatment process[11]

Scenario 4 – Waste to Energy

Scenario 4 assumes that all residual waste is processed at a waste to energy (WtE) facility, which could be located within the region or in/near metropolitan Melbourne given the current move to process residual waste from councils in the south-east. WtE is thermal treatment of waste where the material is incinerated creating energy (heat and steam) which is converted into electricity and process heat. It works best at scale (industry consultation suggests around 200,000 - 300,000 tonnes per annum as an optimal scale) however smaller facilities at around 100,000 tonnes are possible provided that suitable offtakes exist for the outputs (i.e. a facility co-located with an industrial plant that requires power and heat would be ideal at this scale).

The critical issue with WtE is likely to be the lead-in time for permitting and construction, which the business case assumes is around 7 years. Whilst this may seem overly pessimistic, experience locally and abroad suggests that unless it is publicly funded, a facility of this nature would take in the order of 4 - 5 years to obtain the requisite site, planning permit and building permit as considerable community consultation will be required. In addition, a further 2 - 3 years of construction and licensing would be required. A WtE facility would not be viable with less than 6 councils participating in the tender and would still require other waste sources (50,000+ additional tonnes) to be secured.

[11] Source: City of Edmonton

Figure 6 Veolia's waste to energy facility at Sheffield, UK[12]

The options analysis for these scenarios is presented in Table 8 based on 2018 dollars. Extrapolation of potential gate fees, compared to the base-case case is presented in Figure 7 overleaf with further information on each scenario in the sections below.

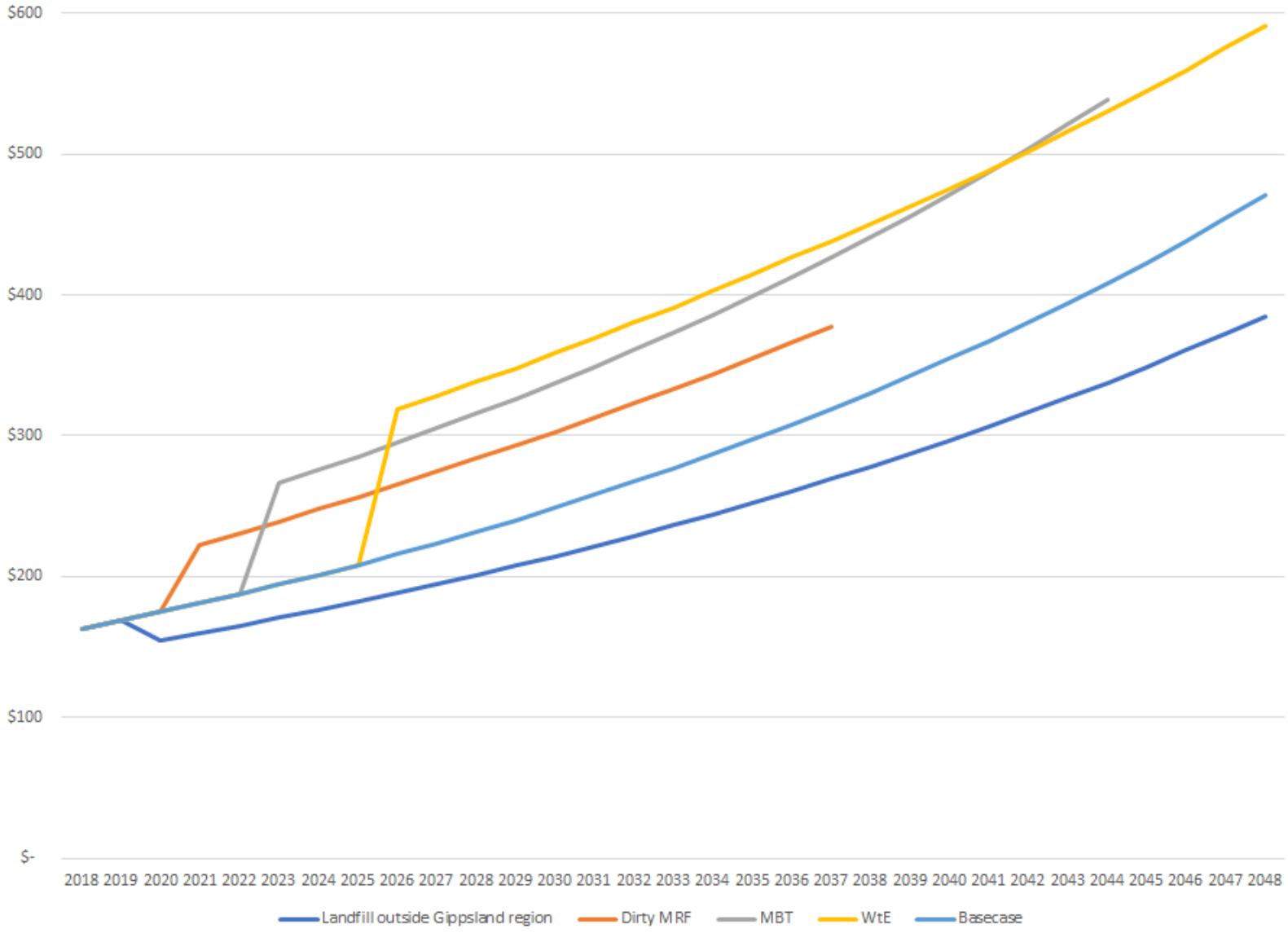
Table 8 Overview of costs (in 2018) associated with processing of general (residual) waste

Technology	Minimum tonnes per annum for viability	Gate rate range ($/t) – low / high		Bulk Transport ($/t)	Mid-range gate rate plus bulk transport $/t	Total approx. cost ($/annum, processing)*	Approx Diversion rate
Landfill outside Gippsland region		$110	$130	$35	**$155**	$8,088,000	0%
Dirty MRF	50,000	$163	$221	$20	**$212**	$11,074,000	45%
MBT	50,000	$194	$263	$20	**$248**	$12,956,000	55%
WtE	100,000	$230	$311	$20	**$290**	$15,132,000	95%
Landfill Councils BAU		$134	$232	$0	**$163**	$8,497,000	0%

** Based on mid-range gate rate plus bulk transport $/t and the kerbside collected tonnes per annum (52,000 tonnes in the 2015-16 financial year).*

[12] Source: Clugston UK

Figure 7 High level gate fee projections for general waste / resource recovery scenarios



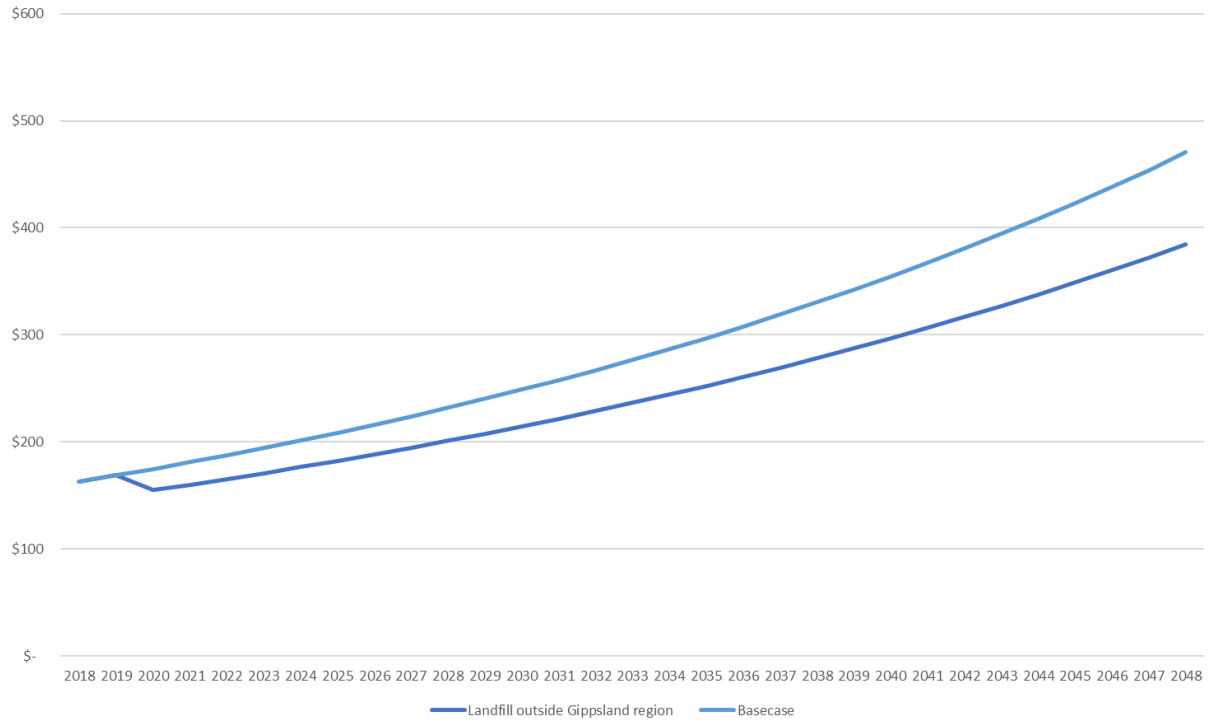
3.1.1 Scenario 1 – Residual waste to large landfill outside Gippsland region

Whilst a resource recovery option for general waste is preferred by GWRRG and councils, it is still likely that landfills will competitively bid for a contract of this size (i.e. 50,000 tonnes per annum) and as such it is important to reflect this in the likely options. In particular, large metropolitan landfills such as Melbourne Regional Landfill (Ravenhall, operated by Cleanaway) and potentially the Hallam Road landfill (Hampton Park, operated by Suez and well located for Gippsland waste) are likely to express an interest in the likely volumes offered to the market.

Larger landfills are able to more equally distribute the costs of compliance and new cell development than the current spread of regional landfills. Current gate fees for large municipal contracts are as low as $110/t (per tonne) with an upper range of around $130/t. This scenario would be most heavily impacted by bulk transport costs, particularly in bringing material from East Gippsland (a number of consolidation points would be required, and existing council owned facilities could be used for this) and as such the business case assumes a likely gate fee of $155/t including transport costs.

There is an estimated net benefit of $8/t in today's money when compared to the base-case (based on mid-range costs for each scenario). Figure 8 presents the implementation of this option over time compared to the base case. This scenario would likely see gross gate fees for residual waste disposal decrease from circa 2020 when it is assumed the contract would come into effect. The financial modelling assumes lower ongoing construction and compliance costs for this scenario than the base case as these costs can be apportioned over greater volumes. Therefore, the size of the benefit between regional landfills and centralised large landfill disposal is likely to increase over time.

Figure 8 High level gate fee projections for Scenario 1 – Landfill outside Gippsland against the base-case



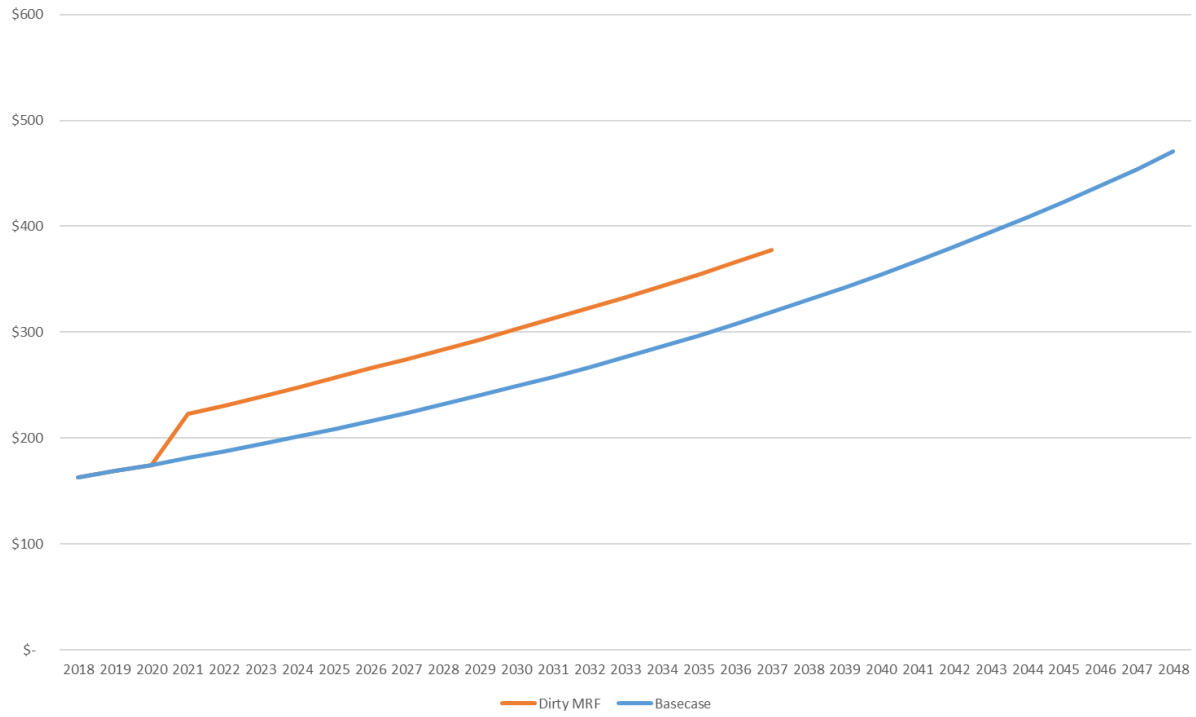
3.1.2 Scenario 2 – Dirty MRF

The analysis of Scenario 2 assumes a $15 million capital cost for a dirty MRF located in the western part of the Gippsland region (bulk transport costs capped at $20 per tonne), for example Latrobe or Wellington. Estimated gate fees range from a lower limit of $163/t to a maximum of $221/t (mid-range gate fee of $212 including bulk transport) and it is assumed that the facility could be operational from 2021 with a contract length of 10 – 15 years (10 years has been used for the financial modelling).

A recovery rate of 45% has been assumed, which would see around 23,000 tonnes of waste diverted from landfill based on current waste to landfill figures. Revenue is likely to be generated via avoided landfill costs rather than the sale of recovered materials (which would likely be close to $0 for most materials when transport and processing of the dirty fraction are considered), although revenue of $20/t has been applied to 20% of the throughput assuming that aluminium and steel will make up some of the outputs and that small amounts of PET will be recovered.

There is an estimated net cost to Scenario 2 of around $49/t in today's money compared to the base case (based on mid-range costs for each scenario). The high-level gate fee projections presented in Figure 9 show a modest increase in gate fees at 2021 when the facility comes on line. The cost difference between Scenario 2 and the base-case remains relatively flat as the modelling suggests increased compliance costs for the first 5 years of operation (similar to those of smaller regional landfills) whilst suitable outlets for the dirty fraction are found and tested.

Figure 9 High level gate fee projections for Scenario 2 – Dirty MRF against the base-case



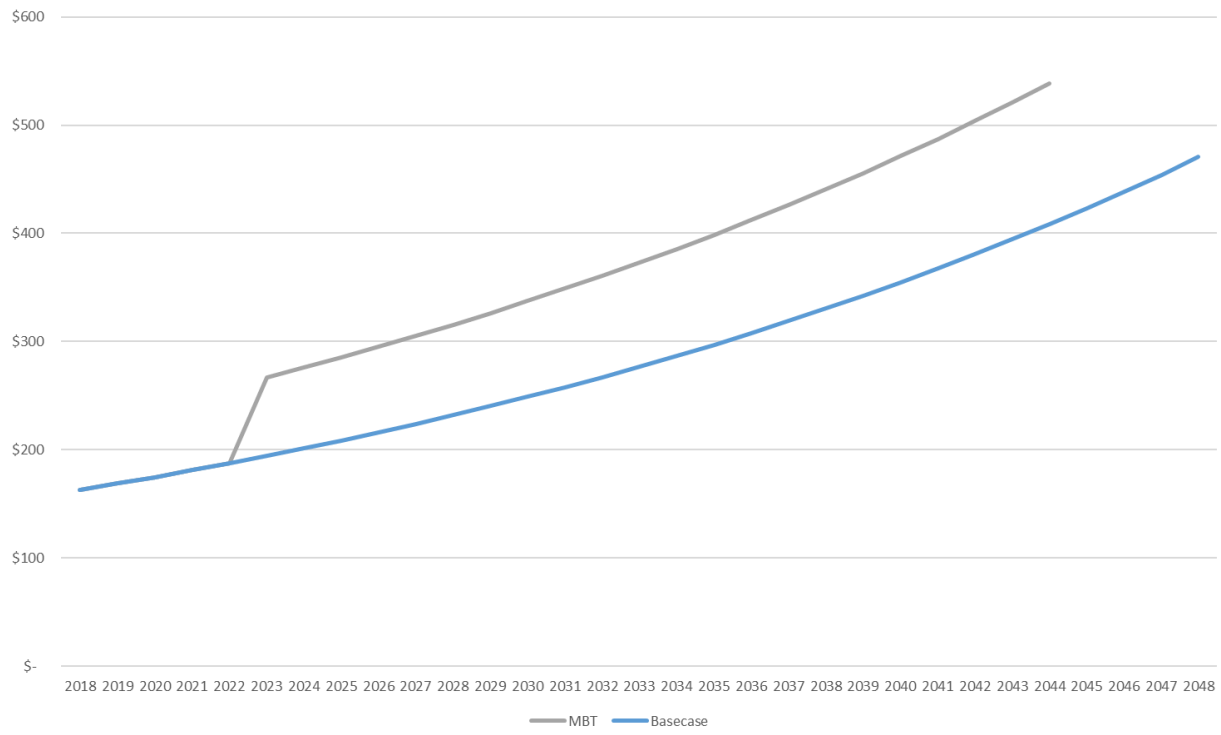
3.1.3 Scenario 3 – Mechanical-biological treatment

The move toward a modest mechanical-biological treatment facility has been scoped in the order of $30 million, which assumes a compost hall / in-vessel processing for the organic fraction rather than construction of a full anaerobic-digestion unit which would add considerable cost. A contract life of 15 – 20 years is likely to be required (the financial modelling assumes 15 years) and capital costs have been amortised over this period. A recovery rate of 55% has been assumed for the MBT.

A small income stream from the recovery of metals has been assumed leading to a minimum gate fee of $194/t and a maximum of $263/t (mid-range gate fee of $248) including bulk transport.

There is an estimated net cost to Scenario 3 of around $85/t in today's money compared to the base case (based on mid-range costs for each scenario). Figure 10 presents high-level gate fee projections for Scenario 3 against the base-case, illustrating a significant increase from circa 2023 when it is assumed that the MBT would come online. Ongoing compliance costs for the treatment of the organic fraction are likely to see this gap widen slightly over time, which aligns with overseas experience where issues associated with the organic fraction have been seen.

Figure 10 High level gate fee projections for Scenario 3 – MBT against the base-case



3.1.4 Scenario 4 – Waste to energy

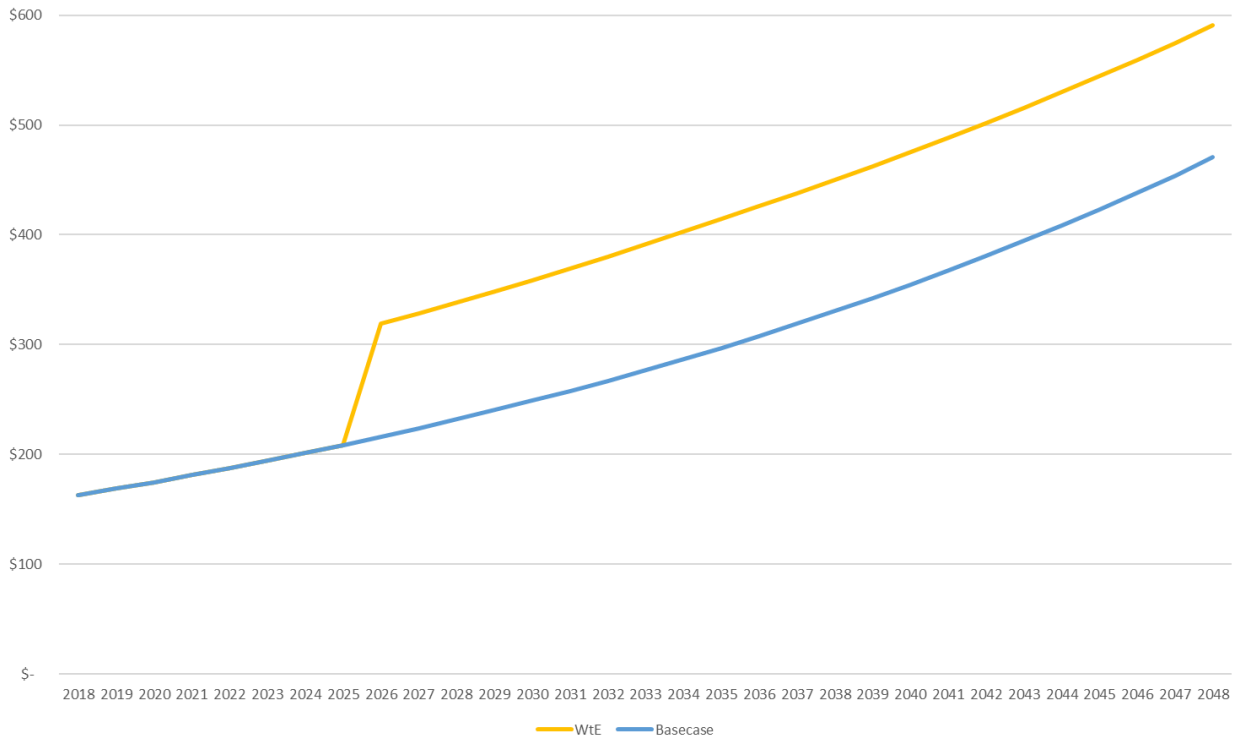
Scenario 4 assumes all residual waste from Gippsland will be processed in a large scale mixed waste combustion WtE facility which is assumed to be located either within the region or within metropolitan Melbourne. The financial analysis assumes the gate-fee would not differ significantly based on the location of the facility as the additional bulk haulage costs (circa $20 – $40/t[13]) would be largely offset by lower processing costs at a larger, centralised facility.

On the basis of a circa $100 million infrastructure investment over a 20-year contract, the analysis suggests a gate fee of between $230/t and $311/t including bulk transport (mid-range gate fee of $290 tonne), which accounts for operational costs of around $15 million per annum as well as amortised capital costs of around $5 million per annum. This has been modelled on a minimum feedstock of 100,000 tonnes per annum which would be the minimum quantity required to make an investment viable.

Due to the size of the required investment, Scenario 4 comes with the largest cost around $127/t in today's money compared to the base case (based on mid-range costs for each scenario). Despite assumed diversion of 95%, the additional cost of managing emissions and fly ash compound the overall project cost.

The gate fee projections presented in Figure 11 shows a dramatic increase in gate fees under this scenario from circa 2025 when the facility comes on line (however in reality such an increase would likely to be staged from the onset of the contract, both to raise capital and ease shock to households).

Figure 11 High level gate fee projections for Scenario 4 – WtE against the base-case



[13] Note that bulk haulage costs are indicative only. It is likely that costs for councils closer to Melbourne (e.g. Baw Baw and Bass Coast) may be less and costs for councils further away (e.g. East Gippsland) may be more.

IMPACTS OF LOWER LANDFILL VOLUMES IN THE REGION

It must be noted that the scenarios modelled above look at "gross" gate fees and do not consider potential secondary costs associated with a move away from regional landfilling. For example, many regional landfills use revenue from operating landfills to offset post-closure and rehabilitation costs at their other landfill sites. These costs have not been estimated and should be considered by individual councils in considering the overall impacts of resource recovery options.

3.1.5 Comparison with Gippsland Collaborative Waste Investment Initiative

The resource recovery scenarios presented above have been developed using industry intelligence, which has been "sanity checked" by key industry sources for accuracy. The gate fee ranges provided reflect the likely capital and operational expenditures based on the approximate size of each facility. There is scope for these gate fees to be lower than those quoted, particularly where proponents are seeking feedstock from multiple sources for a large resource recovery facility (for example, a proponent bidding for feedstock through the MWRRG South-east Residual Waste Tender).

Comparative analysis of MBT gate fees and WtE gate fees from the market sounding exercise and this Business Case are presented in Figure 12 and Figure 13 respectively.

Figure 12 Market sounding gate fee ranges for waste to energy facilities compared to business case

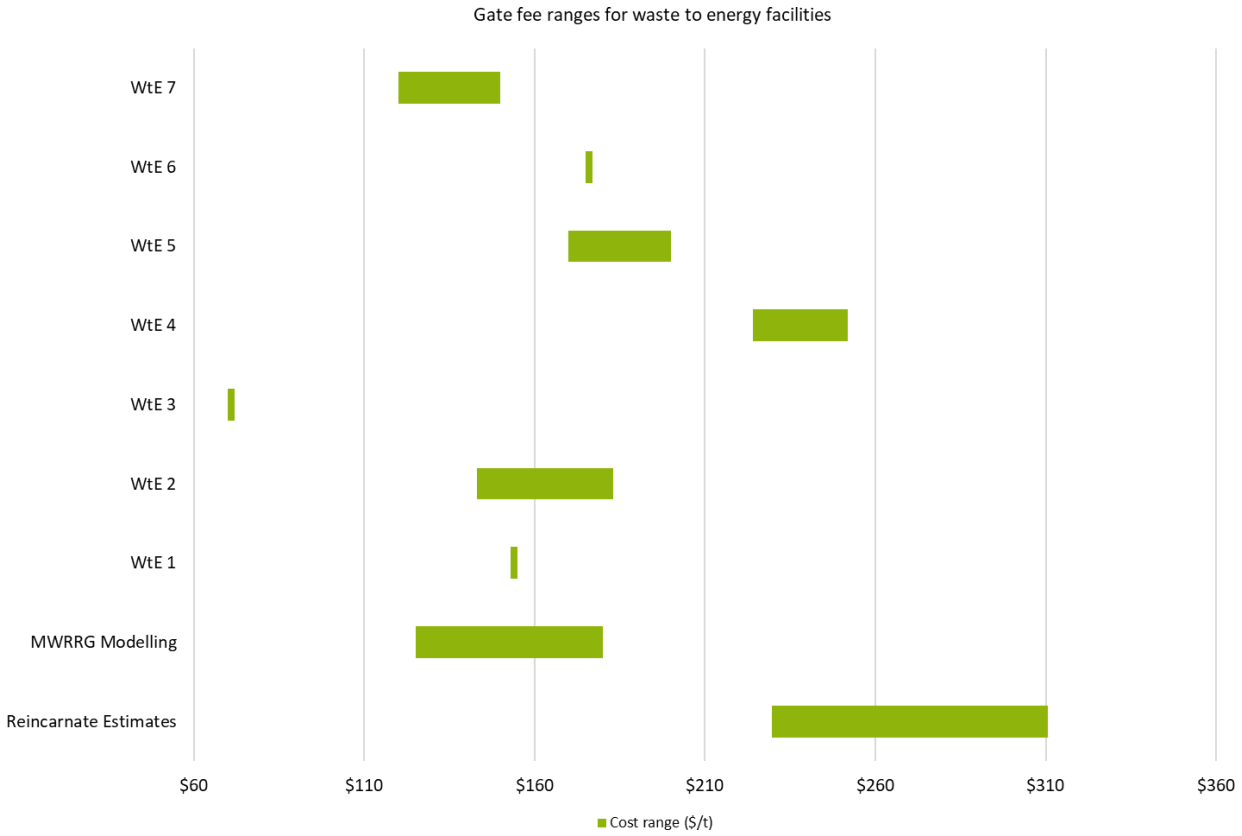
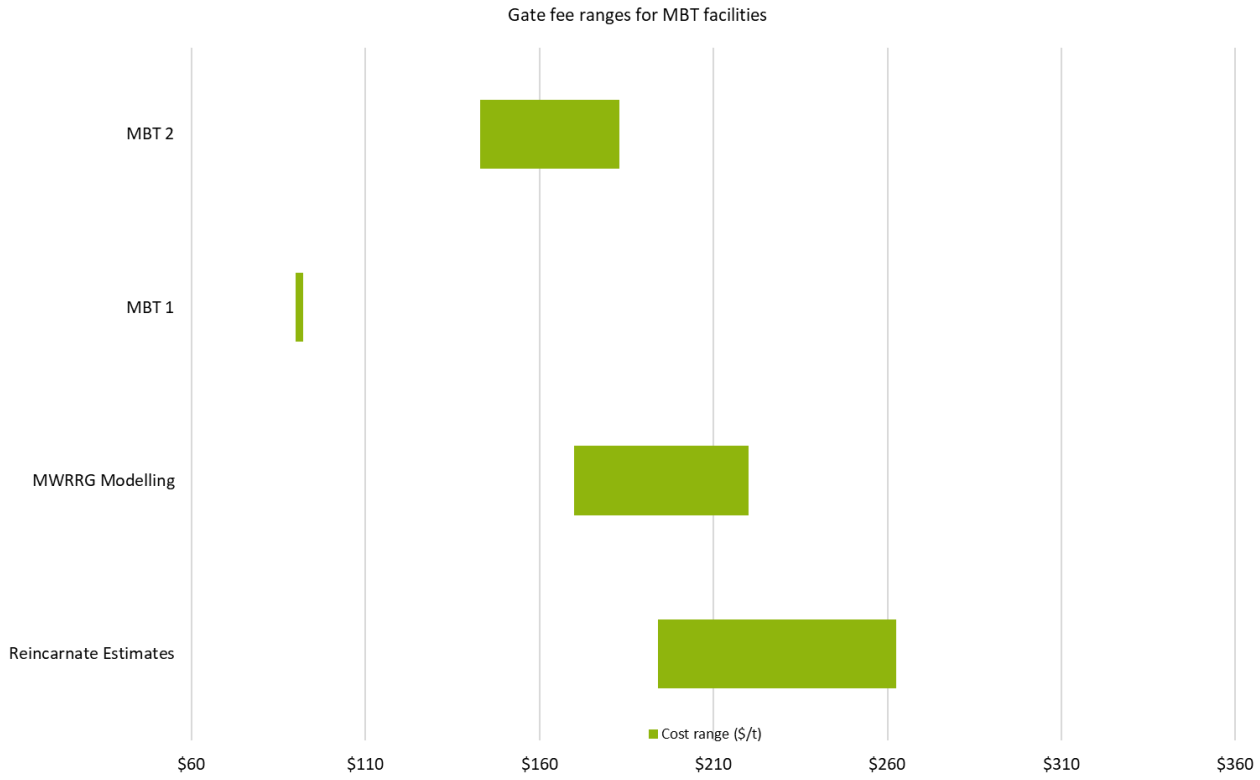


Figure 13 Market sounding gate fee ranges for MBT facilities compared to business case

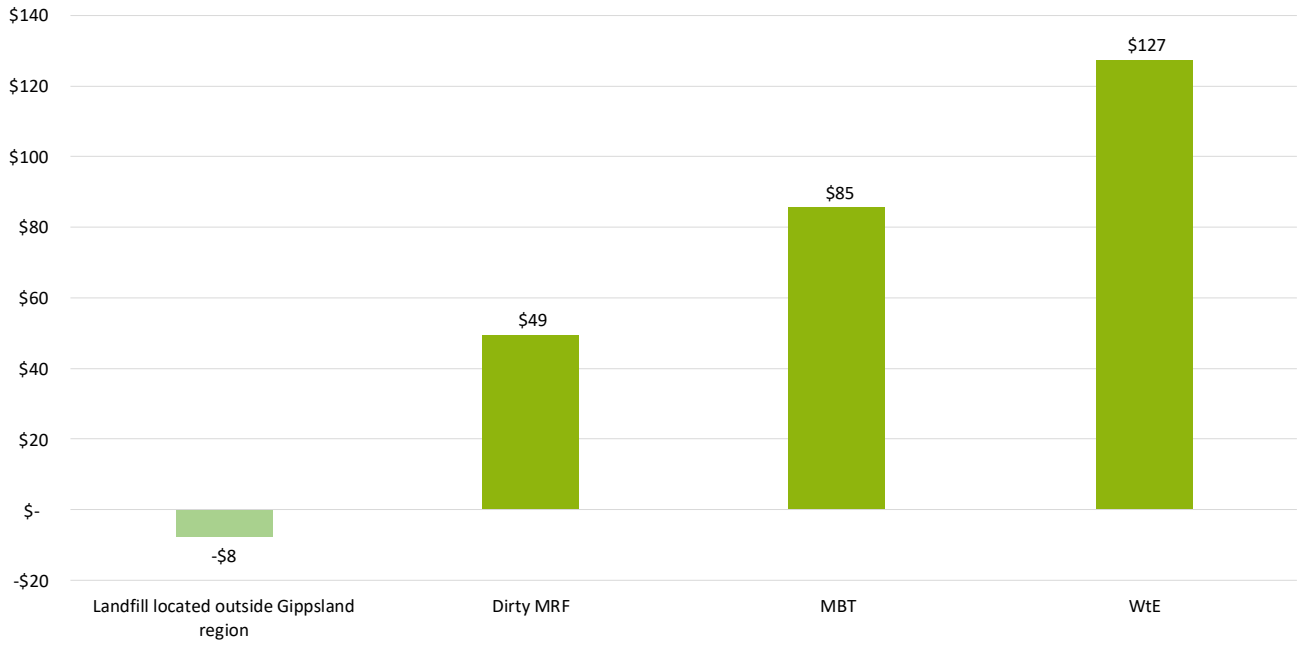


3.1.6 Comparison of resource recovery scenarios and base-case

It should be clear that this Business Case does not seek to pinpoint exact costs for joint procurement scenarios, rather it has provided analysis on the potential savings available if the six Gippsland councils came together to jointly procure waste services. In addition, the Business Case looks at alternative scenarios for increased recovery of residual waste through new infrastructure.

The estimated cost differential between the base case and the gate fees for all scenarios (using the estimated mid-range gate fee plus bulk haulage costs) is presented in Figure 14. As has been noted in the analysis above, disposal to a large, centralised landfill is likely to result in a cost saving in order of $8/t. Resource recovery infrastructure ranges in likely net cost of $49/t for a Dirty MRF, $85/t for MBT and $127/t for WtE. These figures are all presented in today's money which may not reflect the ultimate cost given facilities such as WtE could take 7 – 10 years to come online.

Figure 14 Cost differential per tonne of each scenario compared to the base case including bulk transport (mid-range gate fee)



It should be noted that the financial modelling assumes a relatively flat rate of landfill levy escalation, based on the current policy that aligns with annual increases at the Treasurers Rate. If there was a significant increase in the landfill levy in Victoria via a step change, this would quickly change the cost differential of the dirty MRF, MBT and WtE scenarios given the impact of levies is applied only on the portion of material that cannot be recovered. This cannot be predicted, however given interstate landfill levies in NSW and SA are at higher levels, it should not be ruled out and must be part of the long-term considerations for all waste related procurement.

These costs can also be broadly applied at household level, recognising that there are differences in per tenement costs for all six councils and differing methodologies for calculating household waste charges. However, applying the financial analysis across the total number of tenements serviced for residual waste (around 128,000 across the region), the likely impact on per tenement service fees is presented in **Error! Reference source not found.**.

Table 9 Estimated per tenement costs for each scenario (based on mid-range gate fee plus transport)

Technology	*Additional cost*	*Approx. no. Households*	*Cost Per Tenement*
Landfill located outside Gippsland region	-$409,000	128,000	-$3
Dirty MRF	$2,577,000	128,000	$20
MBT	$4,459,000	128,000	$35
WtE	$6,635,000	128,000	$52

3.1.7 Increased FOGO diversion considerations for residual processing

It is understood that kerbside FOGO diversion from the kerbside residual waste will continue to increase as councils in the region implement this system or further develop their current systems. This will directionally increase the FOGO to be processed in the region and hence increase the volume available for any joint

procurement process. This is positive from the perspective of cost reductions for processing of FOGO compared to residual waste and the environmental benefits of organics out of landfill and available for compost to soil.

Another potential opportunity that could be explored through the joint procurement process is the impact of moving to a weekly FOGO, fortnightly residual waste kerbside collection service. Based on other councils' experience, this significantly increases the diversion of source separated organics whilst reducing the residual waste stream by the same amount. This would benefit processors of organics in the region (should they be successful in a joint procurement) with the additional tonnes. It would also change the composition of the residual waste which typically would have in the order of 50% by weight food and garden waste, to a lighter/drier stream for disposal to landfill or processing (MBT, WtE). A drier residual stream improves the calorific value of the material for a potential further Waste to Energy facility or a MBT that generates a refuse derived fuel (RDF) product.

Based on analyses undertaken by Gippsland Waste and Resource Recovery Group, if all councils were to roll out FOGO, the reduction in general waste collected at kerbside would reduce by approximately 40%, while organics collected would increase by approximately 90% by weight. This would increase the diversion rate by approximately 20% and lead to further processing of organic material in the region, diverting it from landfill and creating a valuable product from this stream (e.g. compost). Note that the reduction in general waste would reduce the tonnes available for the previously discussed alternative options for general waste disposal, and it would be important to consider this if all councils roll out a FOGO service.

Considering this option to increase FOGO through changing the frequency to a weekly FOGO and fortnightly residual waste kerbside service maximises the potential for processing of FOGO in the region and reduces the possible volume of residual waste for transporting/processing out of the region.

This should be considered in further detail in the procurement planning phase of any joint procurement.

3.2 Non-financial costs and benefits of joint procurement

Whilst the financial analysis illustrates the potential costs and savings associated with a joint procurement for waste services, there are other non-financial costs and benefits that should be considered.

3.2.1 Potential benefits of joint procurement

REDUCED EXPOSURE TO INTERNATIONAL COMMODITY TRENDS

As noted previously, the aggregation of material as part of a joint procurement is likely to provide a buffer to Gippsland councils from local and international commodity trends. Whilst it is impossible to remain completely immune to significant market issues, such as China's restrictions in the import of poorly sorted recyclables, larger contracts with longer durations tend to provide greater leverage than smaller contracts.

DECREASED ADMINISTRATION RESOURCE COSTS ACROSS COUNCILS

Given each council is likely to retain a permanent waste officer, reduction in administrative burden may be realised through additional staff capacity than through direct savings. Waste officers would presumably have more time to focus on strategic and operational issues, such as transfer stations and recovery of problematic waste streams.

GREATER REGIONAL ALIGNMENT, SKILLS AND KNOWLEDGE TRANSFER

Working together, not only through the procurement exercise itself but on an ongoing basis, councils undertaking a joint procurement are likely to realise additional skills and knowledge transfer across waste and procurement

areas. In addition, smaller councils may enjoy secondary benefits where additional capacity and capability of staff from larger councils becomes available.

POTENTIAL FOR REDUCED WASTE TO LANDFILL AND ASSOCIATED ENVIRONMENTAL BENEFITS

Where suitable solutions for residual waste processing can be achieved, there are likely to be significant environmental benefits generated through a joint procurement. Waste disposed to landfill is a key contributor to greenhouse gas emissions, can lead to amenity issues from odour and generates leachate which can enter ground and surface water. Processing of residual waste, when done in controlled conditions and within the regulatory framework, can reduce overall impacts of residual waste management considerably when compared to disposal to landfill.

3.2.2 Potential costs / impacts from joint procurement

POTENTIAL FOR REDUCED COMPETITION AND IMPACT ON SMALL OPERATORS

In addition to the potential benefits, there are non-financial costs that should also be considered. As it currently stands, a number of small to medium sized operators hold collection and processing contracts in the Gippsland region. The move toward joint procurement may in some instances preclude these operators as they struggle to meet the minimum requirements to service the contract and to compete against the large multinationals. The impacts of this can be lessened through the procurement process with criteria that provides incentive for local businesses to apply, or equally, larger businesses to partner with local businesses through the tender.

POTENTIAL IMPACTS TO COUNCILS OPERATING LANDFILLS

Where a joint procurement can generate additional landfill diversion, there may be financial impacts for those councils that currently own and operate existing landfill facilities in the region. This may support the ultimate closure of some or all the landfills in Gippsland over time (depending on the preferred solution for residual waste disposal) and may require job redeployment, new training and potentially the loss of some on-ground staff. In addition, there is likely to be a loss of landfill expertise in the region over time which may pose a risk in the event that landfills are required again in the future.

NOTE ON APPORTIONING COSTS

The purpose of this Business Case is to provide an overview of the potential benefits and impacts that could arise from a joint procurement of waste services. As is noted on numerous occasions, there are a wide range of potential scenarios that could arise from such a process and as such it is not possible to model all potential outcomes. However, it is important to note that costs and benefits are unlikely to be apportioned evenly across all six councils. Some are likely to benefit more than others, depending on the preferred tender solution.

Ultimately, the tender should be structured in a way that clearly articulates the clear break up of costs for each council, considering the impacts of bulk transport and gate fees.

3.3 Summary of joint procurement findings and considerations

The analysis of financial costs and benefits undertaken in this section of the Business Case can be summarised as follows:

1. There appears to be a compelling case for all six councils to undertake a joint procurement exercise, ideally putting all waste, recycling and collection services to the market. The cost savings, which could potentially be more than $1.7 million per annum (or 7% of the estimated total contract value), are significant and would justify the additional risk and resources required to undertake the procurement. The financial analysis suggests there is a sliding scale of return based on the number of councils participating and the number of services put to market.
2. Whilst the analysis does not nominate a strict benchmark in terms of procurement size, it does suggest that at the very least 4 councils would need to be involved and collection contracts would ideally make up part of the contract given their significant representation in the overall cost of waste services.
3. Smaller joint procurement exercises are still likely to realise some benefits; however, these may be small when compared to the overall contract size and the degree of additional risk being taken on.
4. There are a number of options for the disposal or processing of general waste which could be delivered through a joint procurement exercise. The analysis shows the following:

Scenarios for residual waste	Mid-range gate fee ($/T)	Likely additional cost ($/t)	Likely additional cost ($/tenement/yr)
Landfill Councils BAU (base case)	$163	$0	**$0**
SC1 - Landfill located outside Gippsland region	$155	-$8	**-$3**
SC2 - Dirty MRF	$212	$49	**$20**
SC3 - MBT	$248	$85	**$35**
SC4 - WtE	$290	$127	**$52**

4 IMPLEMENTATION

It should be noted that GWRRG is developing a full procurement strategy that will expand considerably and in more specific detail than the high-level information provided in this section of the Business Case. The procurement strategy will be an essential tool in executing the process. The recently formed Gippsland Regional Procurement Excellence Network may be a useful vehicle to support contracting and procurement processes

4.1 Indicative program and milestones

The implementation timeline for this project will be heavily dependent on how quickly the councils can come together and agree on both the Participation Agreement and the Strategic Procurement Strategy. However, a typical approach would likely involve the following milestones.

Milestone	Description	Approx Duration
	Market Sounding The Gippsland Collaborative Waste Investment tender was a pre-emptive market sounding exercise to solicit potential interested parties for the processing and recovery of residual waste. This has provided valuable intelligence to inform this Business Case.	
1	**Approval of business case** Approval / endorsement of this document and other supporting information) by GWRRG and circulation to councils. It is likely that GWRRG would solicit some form of initial agreement at this stage prior to moving forward.	12 weeks
2	**Development of Participation Agreement** Development and agreement (likely via Council Resolution) of the Participation Agreement and governance model.	8 weeks
3	**Development of Strategic Procurement Strategy** Development of the Strategic Procurement Strategy which will set the formal requirements for the procurement and, most importantly, work to align the goals, programs, activities and resources across the participating councils.	8 weeks
4	**Development of tender specifications and documentation** Development of the formal tender documents for release to the market.	20 weeks
5	**ACCC Approval** GWRRG seeks ACCC approval on behalf of tendering councils (assume this happens concurrently with the tender in the market)	16 weeks
6	**Appointment of procurement team** Appointment of legal / probity advisors, tender evaluation panel and specialist consultants to provide specific pieces of work / advice where required.	2 weeks

7	**Release of tender** Tender specification and documents released to the market.	1 week
8	**Tender period** Tender remains open for circa 3 months to provide suitable time for tenders to complete submissions and costing	12 weeks
9	**Tender close** Tender closes	1 week
10	**Evaluation** The evaluation panel will undertake full evaluation and ranking of submissions. A preferred tenderer(s) will be chosen, at which stage further approvals will be required through the governance board and subsequently each of the councils involved.	16 weeks
11	**Negotiation** A period of negation with the preferred tenderer(s) to refine and finalise the project conditions, costs, contracts etc.	16 weeks
12	**Appointment** The tenderer(s) is appointed.	1 week
13	**Transition in period** A transition period, most likely of 6 – 12 months is provided to allow for capital items to be purchased (for example, collection vehicles, transfer stations and retrofits to depots.	52 weeks

A high-level Gantt chart is presented in Appendix 2 for reference (this should be seen as indicative only).

As noted previously, waste volumes will progressively enter the contract as existing contracts sunset over time. This will be factored into the overall timeline as part of the procurement tender specifications.

4.1.1 Alignment with other procurement processes

There are two current procurement / waste infrastructure projects that may tie in well with a collaborative procurement by Gippsland councils. MWRRG is currently developing a business case to support a joint tender for residual waste processing of more than 300,000 tonnes of waste from councils in the south-east. Due for release in late 2018, the tender links geographically with Gippsland with the south-east metropolitan councils bordering Bass Coast and Baw Baw and may provide opportunities for residual waste processing into the future.

Similarly, a private sector company operating in the Gippsland region has received funding from both state and federal governments to undertake a feasibility assessment on a waste to energy facility in Gippsland. The project, which would seek significantly greater tonnages than Gippsland councils could offer, may again provide a long-term opportunity for processing residual waste.

These processes could be flagged as part of the tender documentation, highlighting the opportunity to align or link into these other procurement processes.

4.2 Governance

From a legislative standpoint, Section 186 of the *Local Government Act 1989* (the Act) sets out the requirements for local government procurement. The Act does not provide significant detail here, simply stating that procurement should be managed through a public register and that all councils are required to have a specific procurement policy.

It should be noted that the Victorian Government has signalled its intention to redraft the Act in 2018 in order to reflect the significant reforms that have been undertaken through the local government sector since 1989 (including consolidation from 210 to 79 councils). A Draft Bill has been developed and contains areas that may be directly relevant for joint procurement activities, namely:

> *"The Draft Bill confers powers for councils to engage in beneficial enterprises and co-operative business opportunities which deliver public value. Councils may establish a beneficial enterprise with other councils, other levels of government or private sector organisations so long as the enterprise is consistent with the role of a council"* (DELWP, 2017)[14].

It is likely that any joint procurement would be facilitated by GWRRG on behalf of the councils taking part, and the group has the statutory ability to do this. However, should councils wish to develop alternate vehicles, such as a joint venture or commercial entity, to procure and/or manage the process then approval would be required from the Minister for Local Government and in some circumstances the Treasurer. Beyond this, a decision needs to be made as to where the contract rests, whether this is with GWRRG or with individual councils.

PROCUREMENT GUIDELINES

The *Victorian Local Government: Best Practice Procurement Guidelines* provide extensive guidance to assist local government with undertaking and evaluating procurements. The Business Case does not seek to replicate this guidance and recognises that most councils will have specific internal expertise and resources to assist with the procurement process. However, there are some areas of governance that are particularly relevant to a joint procurement of this nature; these are outlined below. Prior to undertaking the procurement, a strategic procurement plan should be developed across the participating councils to clearly define roles, responsibilities, governance, delegations and approvals, probity and market considerations.

PARTICIPATION AGREEMENT

As noted, a full strategic procurement plan should be developed, including a clear governance framework.

The most common governance model for implementing a joint procurement of this size and nature would be a Participation Agreement. This is essentially the document that brings the councils together to establish a joint contract. The six councils would be the parties to the Participation Agreement and not the waste contractor as a separate contract would exist with them for the services procured. The primary areas in the Participation Agreement would be:

- Decision making criteria and processes (and legal character of these decisions)
- Approvals
- Contract administration
- Roles and responsibilities

[14] DELWP, 2017. A New Local Government Act for Victoria, Department of Environment, Land, Water and Planning, 2017.

A governance board would also likely be structured in the Participation Agreement, for example the relevant General Managers / Directors from each of the councils involved. The Board would provide oversight over the operational aspects of the service, including the tender process, evaluation and final appointment of a successful tenderer.

PROBITY

Underpinning the governance framework are the probity principles that ensure rigorous oversight and transparency throughout the procurement process. Good probity management should be built into both the Participation Agreement and the Strategic Procurement Strategy and include:

- Legal and policy compliance
- Fair access to competition
- Fairness and impartiality
- Consistency
- Transparency
- Management of conflicts of interest
- Security and confidentiality of data and information
- Grievance processes
- Oversight over the evaluation process

4.3 Key risks

COMPETITION RISKS

As noted previously, one of the critical risks of joint procurement relates to competition risk. Australian competition law (as enforced through the *Competition and Consumer Act 2010*) prohibits anticompetitive behaviours, including procurement that is exclusionary, contains a cartel provision or otherwise lessens competition. There are mechanisms for addressing these risks, for example:

- Allowing tenderers to bid for specific parts of the contract rather than the whole
- Providing incentives to use local market participants
- Establishing a joint venture
- Reducing the complexity of the tender as far as is practicable
- Clearly demonstrating the public benefits

However, the majority of councils undertaking joint procurement of this nature have opted to apply for authorisation by the Australian Competition and Consumer Commission (ACCC) to ensure these issues are dealt with. The ACCC authorisation process can be undertaken concurrently with the tender period.

It is recommended that ACCC authorisation be sought as part of the joint procurement process.

4.4 Joint procurement model / contract options

Joint procurement and the associated contracting can be undertaken via a variety of models which differ in their structure, governance and allocation of costs and risks. This is particularly the case if large scale residual waste processing infrastructure is part of the preferred solution, as this will require more complex financing and risk allocation. Ultimately, the right model will depend on the successful tenderer, the project size and project duration, and the tender process should provide adequate guidance on which models are preferred.

CONTRACTING OPTIONS

One of the critical decisions that will need to be made early in the procurement process is the preferred contracting model. The role of GWRRG will be central to this discussion as this could have an impact on the project pathway as Ministerial approval is required for any joint procurement for waste services that is **not** undertaken with a waste and resource recovery group.

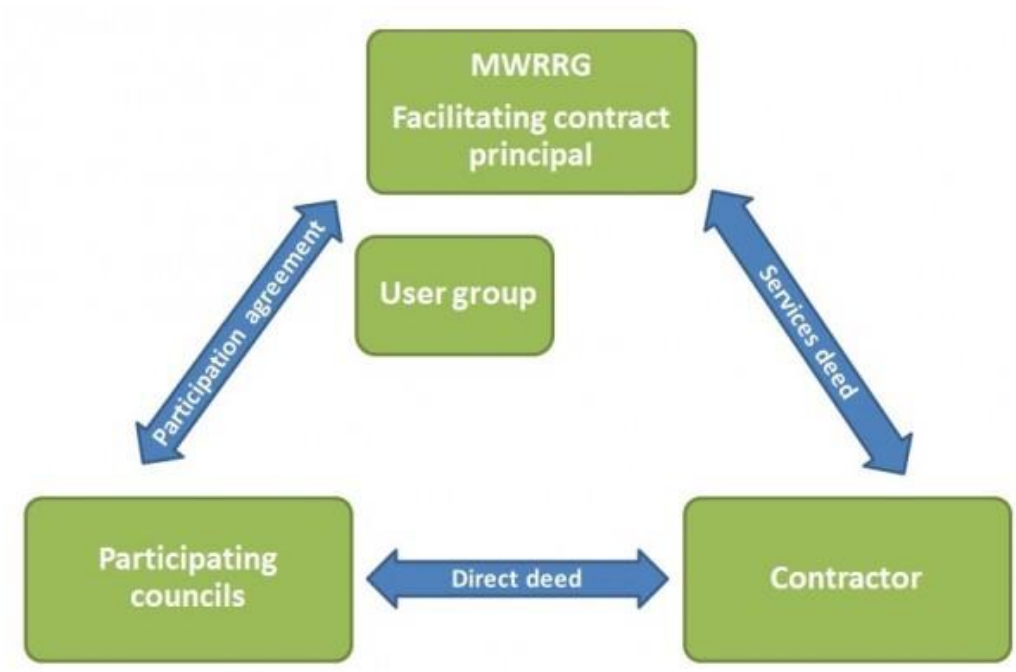
Typical contracting / procurement models involving waste and resource recovery groups are outlined in the Victorian Government Guideline *Collaborative Procurement Guidelines for Regional Waste and Resource Recovery Groups 2015* which are presented in Table 10.

Table 10 Overview of WRRG procurement and contracting options

Level of involvement	Option	Function
High	Joint Entry Model: Facilitate, contract and manage	Facilitate the procurement process, enter into the subsequent contract/s with the supplier (jointly with the councils) and manage the contract/s
	Agency Model: Facilitate, contract and manage as agent	Act as an agent of the councils to facilitate the procurement process, enter into the subsequent contract/s with the supplier/s as agent for the councils, and manage the contract
Moderate	Management Model: Facilitate and manage	Facilitate the procurement process and manage the subsequent contract/s
	Part Management Model: Facilitate	Facilitate the procurement process only
	Part Management Model: Manage	Manage contract/s only
Minimal	Other: Advise	Provide advice and consult on the procurement process and contract management
	Other: Outsource	Outsource the procurement process and contract management to a third-party provider

As an example, MWRRG uses a high involvement model where it plays the role of contract principle, overseeing a service deed with the contractor and a participation agreement with councils. In addition, councils have a direct deed with the contractor also. The contracting model commonly used by MWRRG is presented in Figure 15.

Figure 15 Example of contracting model used by MWRRG in joint procurements



PROCUREMENT AND FINANCING MODELS

As with contracting, there are a wide range of procurement models that can be considered. For larger procurements, a two-stage process is commonly used, with a broad approach to the market followed by a detailed submission from shortlisted tenders. The advantage of this process is that tenderers are not required to invest significant money and time in their bids unless they have been shortlisted. However, it is likely to add additional time to the procurement process and may be more applicable for very large procurements.

When evaluating procurement and contracting models, the following should be considered:

- Agency capacity and risk sharing
- Objectives of the procurement
- Type of infrastructure
- Funding / finance model
- Market maturity

The most common procurement models and a summary of some key strengths and weaknesses are presented in Table 11[15].

[15] Finance WA (2010). Information summarised from Infrastructure Procurement Options Guide, Department of Finance WA, November 2010.

Table 11 Main procurement models appropriate for joint procurement of waste services and infrastructure

Model	Description	Pros	Cons
Public Private Partnerships (PPPs)	PPPs are cooperative arrangements between public and private sector organisations. A PPP is typically a funding and delivery model and can be applied across many of the procurement models outlined below, however there remain ongoing arguments as to what constitutes a PPP. Essentially, a PPP is any arrangement where a private entity provides funding, management or construction for a promised return, either directly from the agency or from users (for example, a toll road). A significant number of PPPs for waste infrastructure exist in the UK where a specific government initiative was used to encourage private sector investment (private finance initiative or PFI) in new waste infrastructure, in return the contracts are underpinned by government waste contracts. PPPs are commonly used where the required outputs can be clearly defined, and the project is likely to involve complexity and scope for innovation.	- Full integration of all project elements in the tender - Greater transfer for of risk for the agency - Opportunity for private sector innovation - Transfer of life-cycle cost through the contract	- Higher tendering costs - Longer process for tendering and approvals - Requires internal agency skills to manage tender process
Construct Only	Under this model, an agency would go to market for the construction of a predesigned project, such as a road or building that has been fully designed by architects or engineers. It is the most common procurement approach taken in Australia. This is a good approach to use where the scope is extremely well defined and there is little chance of scope creep or need for innovation and there are no technology choices that need to be made. As such, it is not likely to be the best option for this joint procurement.	- Agency has a high level of control - Contract value is known from the outset as full design is completed PRIOR to tendering	- Limited opportunity for innovation - Agency would have to pick project before going to the market
Design and Construct (D&C)	Under a D&C contract, an agency would prepare a tender brief that outlines the key requirements for the project and then seeks tenders for the completion of the detailed design and construction work. The model can be extended to incorporate maintenance (DC&M) which has can potentially reduce whole of project life costs as the contractor brings the D&C background into the long-term operation.	- The agency is able to appoint a single contractor - Lump sum fee - Maintenance efficiency can be generated, and contractor knows the design (DC&M)	- Limited opportunity for innovation - Limited room for scope changes - Agency would have to pick project before going to the market

	Again, this model assumes that the project is already well designed and that there are no technology options to assess. A D&C model is not likely to be suitable for this joint procurement, however it may be used by the successful tenderer to pick a construction partner if new resource recovery infrastructure is required.		
Construction management	Similar to a construct only model, under construction management the authority appoints and manager to oversee and coordinate construction works. Under this model, the authority still appoints the design consultants and would essentially be required to stipulate the project and requirements from the outset.	- Agency gets benefit of specialist skills - Risk is shifted to the construction manager	- Limited opportunity for innovation - Limited room for scope changes - Agency would have to pick project before going to the market
Build, own, operate (BOO)	The BOO model provides a high level of delegation from the authority where the successful contractor builds, owns and operates the facility, most likely for a minimum defined period. This model is particularly well applied to PPPs where there is a high level of private sector investment and a need to innovate, and the contract is underpinned directly by government payments (via gate fees that are guaranteed over a period of time). This is commonly used for a discrete asset (i.e. a single piece of infrastructure) and has been used for waste facilities in Australia and overseas. There are many derivatives of the BOO model, including BOOT (build, own, operate, transfer) which gives ownership to the contractor for a period of time which is suitable enough for them to generate payback and a return (for example 15 years), at which stage the infrastructure ownership automatically transfers back to the authority. Other variations include: Build lease transfer (BLT) – Private entity builds and owns the infrastructure and leases it to government for use. Design build finance operate – Similar to BOOT but based on financing rather than ownership.	- Encourages private sector investment - Provides opportunities for knowledge transfer - Focused on innovation - Brings financing parties together - Reduces need for public sector capital	- Public can be impacted by higher costs where market conditions change -

Alliance contracting (AC)	AC is a collaborative delivery model where the agency joins forces with non-owners to share risk and responsibility in delivery. This aims to spread the overall project risk and encourage a collaborative, delivery focused culture. A separate vehicle is generally created ("alliance vehicle") to bring the parties together (much like a Participation Agreement outlined earlier) and the contract is based on a risk – reward model.	- Highly focused on shared responsibility - Less punitive, more collaborative - Good for complex projects	- Higher costs as each entity seeks to ensure they can generate margin - Resource intensive - High upfront administrative expenses
Early contractor involvement (ECI)	ECI is a relatively new model which combines AC with D&C approaches. Rather than engaging a contractor after an exhaustive scoping process, the contractor is engaged early based on their relevant project experience. The agency and contractor then work closely together through the design and construction phase. Project risks are costed and shared via the Risk Adjusted Price (RAP) for the delivery stage of the project.	- Shorter, less intense tender period - Team approach - Opportunities for innovation	- Options costing may lead to additional costs - Lack of competition at tender stage

4.4.2 Supporting private sector investment

As part of or in addition to procurement models, there are a number of ways in which councils could encourage private sector investment in a procurement of this nature. It should however be noted that private sector investment will depend on the risk and potential for payback and profit and would more likely be viable for larger projects where straight debt finance (i.e. finance obtained by a bank) would be difficult to obtain.

CONTRACT LENGTH

One of the critical factors in encouraging private sector investment will be contract length. Reincarnate recently undertook consultation on waste to energy infrastructure on behalf of the Victorian Government, with the overwhelming number of industry players noting contract duration as the most critical commercial element. Financiers (public or private) will require long term contracts based on minimum volumes of waste being provided over a significant period of time (for waste to energy projects this would be a minimum of 20 years, most likely 25 years). Councils involved in a joint procurement for waste services, particularly with a focus on increased recovery of residual waste, should be prepared for longer contracting periods than the typical 7-year (+2) landfill contracts.

Indicative contract lengths for various infrastructure solutions are presented in Table 12.

Table 12 Indicative contract durations

Infrastructure type	Approx. capital cost	Likely minimum contract length
Large landfill	NA	1 year (price dependent)
Transfer station	$5 - $10 million	5 years – 10 years
Collection contracts	$20 million +	7 years – 10 years
Dirty MRF	$5 - $20 million	10 years – 15 years
MBT	$30 – $50 million	10 years – 15 years
WtE	$100 - $300 million	20 years – 30 years

CONCESSION DEEDS / AGREEMENTS

A critical barrier in developing waste management infrastructure, particularly advanced processing technology just as MBT and WtE, lies in finding appropriately zoned and sited land. Councils, particularly regional councils, own significant tracts of land that could be provided under a guaranteed minimum lease arrangement to further encourage investment. Appropriately zoned land with existing buffers, such as closed landfills, may be ideally placed for development of new waste infrastructure.

Ideally, this would be included at the tender stage, for example the six councils could nominate suitable council land in a few locations and include clear caveats about the required permitting / zoning changes that may be required. The lease or even gift of said land to the project would act as a very strong incentive to the private sector and remove a significant barrier for the development of waste infrastructure.

OFFTAKE AGREEMENTS

Procurement of a waste management facility is likely to be underpinned by a “supply agreement” in which the contracting councils would provide assurances of minimum waste volumes as part of the contract. However, in encouraging private sector investment, councils could also look at using offtake agreements to support the overall business case.

5 CONCLUSIONS & SUMMARY

This Business Case examines the potential cost savings (benefits) of the collective tendering of waste services by the six councils in the Gippsland region. It does this firstly by estimating the cost savings associated with joint procurement, and secondly by overlaying the potential costs associated with improved resource recovery and landfill diversion through the processing of residual waste. The Business Case builds on the previous market sounding exercise undertaken through the Gippsland Collaborative Waste Investment Initiative but develops new cost benchmark data based on 2018 industry knowledge.

BENEFITS OF JOINT PROCUREMENT

The analysis undertaken in Section 2 of the Business Case (and in more detail at Appendix 1) shows that significant potential savings could be generated from a joint procurement, particularly if all 6 councils participate in the process. If all councils tendered all services, the likely savings will be in the order of $1.145 million per annum (savings range of between savings $531,000 and $1,759,000), which constitutes a material saving for councils across a contract of this size (between 2% and 7% of total contract value).

The savings diminish as the contract size and amount of waste tendered reduces and at the lowest scales, for example two councils joint procuring one service such as organics processing, the additional costs are likely to exceed any benefits gained. Similarly, the potential savings are not equally distributed across the different services, with the collection contract likely to generate the highest savings. Table 13 summarises the financial analysis of joint procurement savings across the three options, which are essentially based on the potential number of councils participating.

Table 13 Summary of potential financial savings based on the number of councils participating in a joint tender

Option	Potential savings per annum		
	Minimum	Likely (mid-point)	Maximum
JP1 – Joint procurement involving ~2 councils	$0	**$43,000**	$86,000
JP2 – Joint procurement involving ~4 councils	$88,000	**$433,500**	$779,000
JP3 – Joint procurement involving all 6 councils	$531,000	**$1,145,000**	$1,759,000

Given the purpose of a joint procurement is to generate service efficiencies and cost savings, the preferred joint procurement option is JP3 with all six councils going out to market to procure all waste services. The benefits of such an approach are attractive in terms of both financial and non-financial benefits. In addition to cost savings, jointly procuring all waste services provides the market with an excellent opportunity to innovate, provides a buffer from the impact of sudden commodity shocks, allows technology types to consider all waste streams and would deliver knowledge and capability building across all councils in the region.

However, there are critical risks for joint procurement of this nature related to Australian competition law and any joint procurement exercise should be suitably transparent and inclusive to avoid anti-competitive behaviour or cartel activity. For this reason, it is recommended that ACCC authorisation be sought during the tender process.

OPPORTUNITIES FOR RESOURCE RECOVERY

In addition to simply outlining the potential benefits of joint procurement, the Business Case also analyses the potential costs involved in diversion of residual waste from landfill, which is a key regional priority. With this in mind, four potential scenarios were considered:

SC1 Landfill located outside the Gippsland region – This option assumes all residual waste would be disposed to a large, centralised landfill in either metropolitan Melbourne or a large regional landfill. This is the lowest cost option, however there would be no improvement in resource recovery for the region.

SC2 Dirty MRF – This option assumes all residual waste would be processed at a Dirty MRF, where around 45% of material would be recovered for recycling.

SC3 Mechanical-biological treatment – This option assumes all residual waste would be processed at an MBT facility, where around 55% of the material would be recovered for recycling, including a composting hall for processing of the organic fraction.

SC4 Waste to energy – This option assumes all residual waste would be processed in an WtE facility, generating electricity and process heat. This is the most expensive option however it has the greatest resource recovery rate at around 95%.

A summary of the financial analysis for the resource recovery scenarios (based on gate fees and likely additional cost per tenement) is presented in

Table 14 Summary of resource recovery options and likely costs (gate fee $/t and $/tenement)

Scenarios for residual waste	Mid-range gate fee ($/T)	Likely additional cost ($/t)	Likely additional cost ($/tenement/yr)
Landfill Councils BAU (base case)	$163	$0	**$0**
SC1 - Landfill located outside Gippsland region	$155	-$8	**-$3**
SC2 - Dirty MRF	$212	$49	**$20**
SC3 - MBT	$248	$85	**$35**
SC4 - WtE	$290	$127	**$52**

It is important to note that the analysis of resource recovery options does not constitute a recommendation for any of these particular scenarios. These are essentially hypothetical scenarios that illustrate the ranges of costs likely to be incurred. Ultimately, it will be up to the market to provide the best value for money options through the tendering process.

PRIVATE SECTOR INVESTMENT

There are a broad number of procurement models that could be considered for a project of this nature. It is not the role of the Business Case to stipulate which model is the most appropriate as ultimately this will depend on the infrastructure solution, cost, level of risk and availability of financing required. The tender process should look to solicit preferred procurement models without necessarily narrowing the field, considering the vast number of derivatives on offer.

However, outside of stipulating a procurement or financing model, private-sector investment can be encouraged through the tender process in a number of ways, for example:

- Through extended contract lengths and a strong signal to the market that contracts of 20 years or greater (which would likely be required for WtE infrastructure) would be considered
- By providing public land through a concession deed, gift or lease arrangement, particularly land that has existing buffers such as closed landfills (where appropriate)
- By entering into offtake agreements for outputs such as processed organic fractions (from an MBT or dirty MRF) that would provide further surety for investment.

NOTE ON JOINT PROCUREMENT

Ultimately, the Business Case highlights the critical importance of undertaking a procurement process that is as open and technology agnostic as possible. It should not pick winners or stipulate the types of technologies that should be considered. Rather, the tender specification should clearly articulate the **OUTCOMES** that are sought by the region and allow the market to determine its preferred option for delivering those outcomes. This may include a focus on increased resource recovery, local economic development and jobs creation, support for local industries and other areas of focus.

APPENDIX A – COST STRUCTURE SUMMARIES

Waste collection services

This includes the analysis on the potential savings through joint procurement of collection. The cost structure (i.e. how costs are approximately divided for collection companies) is included, as is the potential savings areas based on industry consultation. The analysis below explores the potential range of savings (from minimum to maximum) based on the contract size (tonnes per annum or contract cost per annum). As the contract size increases, so do the potential savings, as further discounts become available.

The assumed cost structure for waste collection contracts is presented in Table 15 with the resulting cost savings based on contract size presented in Table 16.

Table 15 Cost structure for waste collection services

Cost item	% of operating revenue
Vehicle Depreciation	9.3%
Labour	34.7%
Fuel	15.3%
R&M	15.3%
Tyres	3.5%
On Road Costs (licence, rego, insurance, GPS, radio)	1.2%
Other costs (ACC, uniforms, training, truck washing)	1.8%
Operations Support	0.0%
Support Vehicles (depreciation and fuel)	0.4%
Customer Service Staff and Supervisor	1.8%
Supervisors, managers, trainers and officers	2.8%
Depot lease costs and outgoings	2.2%
Other (education, calendars, audits, safety supplies)	1.4%
Administration	4.6%
Corporate Charges	5.6%
Total	100.0%
Profit	10.0%

Table 16 Overview of potential savings for waste collection services based on contract size

Number of Councils in joint procurement	1 - 2		2 - 4		4 - 6	
Contract size (t.p.a.)	**0 - 10,000**		**10,000 - 20,000**		**20,000 - 30,000**	
Contract size ($)	***$0 - $5 million p.a.***		***$5 - $10 million p.a.***		***$10 - $15 million p.a.***	
Savings area	Min saving	Max saving	Min saving	Max saving	Min saving	Max saving
Vehicle price discount	$-	$-	$13,973	$93,153	$34,932	$167,675
Fuel price discount	$-	$21,865	$15,305	$43,730	$22,958	$65,594
Consolidation of fleet	$-	$-	$-	$31,669	$47,503	$79,171
Consolidation of vehicle depots	$-	$-	$2,224	$11,119	$16,678	$26,685
Vehicle maintenance fee discount	$-	$-	$-	$23,022	$34,533	$69,066
Kerbside collection efficiencies	$-	$-	$-	$50,008	$75,011	$150,023
Customer service efficiencies	$-	$-	$2,669	$8,895	$13,343	$21,348
Administration efficiencies	$-	$-	$6,853	$22,844	$34,266	$54,826
Sub-total	**$-**	**$21,865**	**$41,024**	**$284,439**	**$279,225**	**$634,390**
Profit Margin	$-	$-	$-	$150,000	$-	$300,000
Total potential savings	**$-**	**$22,000**	**$41,000**	**$434,000**	**$279,000**	**$934,000**
Savings as a proportion of overall contract size	0%	0.4%	0.4%	4%	2%	6%
Maximum contract size ($.p.a.)	**$5,000,000**		**$10,000,000**		**$15,000,000**	

Bulk Transport

This includes the analysis on the potential savings through joint procurement of bulk transport of waste. It assumes bulk transport of all kerbside collected waste is potentially available across all six Councils. Importantly, this is not a saving from the current arrangement. Rather, this is the potential savings of joint procuring these services if bulk transport of all waste in the region were undertaken.

The cost structure for bulk transport (i.e. how costs are divided for bulk transport companies) is included to the right, as is the potential savings areas as the tonnes bulk transported increases. The analysis below explores the potential range of savings (from minimum to maximum) based on the contract size (tonnes per annum or contract cost per annum). As the contract size increases, so do the potential savings, as further discounts become available.

The assumed cost structure for bulk transport of waste is presented in Table 19 with the resulting cost savings based on contract size presented in Table 20.

Table 17 Cost structure for bulk transport

Cost item	% of operating revenue	Cost item efficiency gain for minimum 25,000 tonne increase*
Labour	29%	NA
Depreciation of assets	36%	Medium
Operating costs	29%	NA
Licensing	2%	Low
Overheads	4%	Low
Total	100.0%	
Profit Margin	10.0%	

** Note NA = no efficiency gains from additional tonnes, Low = efficiency gains between 0% and 2%, Medium = efficiency gains between 2% and 4%, and High = efficiency gains between 4% and 6%. Efficiency gains translate to potential reduced costs per the nominated tonne increase.*

Table 18 Overview of potential savings for bulk transport services based on contract size

Number of Councils in joint procurement	**1 - 2**		**2 - 4**		**4 - 6**	
Contract size (t.p.a.)	**0 - 25,000**		**25,000 - 50,000**		**50,000 - 100,000**	
Contract size ($)	***$0 - $0.875 million p.a.***		***$0.875 - $1.75 million p.a.***		***$1.75 - $3.5 million p.a.***	
Savings area	Min saving	Max saving	Min saving	Max saving	Min saving	Max saving
Labour	$0	$0	$0	$0	$0	$0
Depreciation of assets	$0	$12,600	$12,600	$50,400	$25,200	$151,200
Operating costs	$0	$0	$0	$0	$0	$0
Licensing	$0	$350	$0	$1,400	$1,400	$5,600
Overheads	$0	$700	$0	$2,800	$2,800	$11,200
Sub-total	**$0**	**$13,650**	**$12,600**	**$54,600**	**$29,400**	**$168,000**
Profit Margin	$0	$0	$0	$26,250	$0	$70,000
Total potential savings	**$0**	**$13,650**	**$12,600**	**$80,850**	**$29,400**	**$238,000**
Savings as a proportion of overall contract size	**0%**	**2%**	**1%**	**5%**	**1%**	**7%**
Maximum contract size ($.p.a.)	**$875,000**		**$1,750,000**		**$3,500,000**	

Residual waste disposal (landfill costs)

This includes the analysis on potential savings on landfill disposal fees through joint procurement. The total kerbside general waste tonnes collected, and the total disposed of in the region is provided, as well as the cost structure for operating a landfill, and the cost efficiency gain as the tonnes increase (i.e. the percentage savings for each cost item as the tonnes increase). The analysis on the potential savings is below, which includes the total savings if all Councils combined their tonnes of general waste.

The assumed cost structure for residual waste disposal (landfill) is presented in Table 19 with the resulting cost savings based on contract size presented in Table 20.

Table 19 Cost structure for residual waste disposal (landfill)

Cost item	% of operating revenue	Cost item efficiency gain for minimum 25,000 tonne increase*
Staff	18%	Medium
Fuel / maintenance	4%	NA
Environmental compliance	7%	Low
General	5%	Low
Overheads	3%	Low
Amortisation of capital investment (cell)	43%	NA
PC Costs	15%	NA
Plant depreciation	5%	Low
Total	100%	
Profit Margin	20%	

** Note NA = no efficiency gains from additional tonnes, Low = efficiency gains between 0% and 2%, Medium = efficiency gains between 2% and 4%, and High = efficiency gains between 4% and 6%. Efficiency gains translate to potential reduced costs per the nominated tonne increase.*

Table 20 Overview of potential savings for residual waste disposal (landfill) based on contract size

Number of Councils in joint procurement	**1 - 2**		**2 - 4**		**4 - 6**	
Contract size (t.p.a.)	**0 - 25,000**		**25,000 - 50,000**		**50,000 - 75,000**	
Contract size ($)	***$0 - $1 million p.a.***		***$1 - $2 million p.a.***		***$2 - $3 million p.a.***	
Savings area	Min saving	Max saving	Min saving	Max saving	Min saving	Max saving
Staff	$-	$7,200	$7,200	$28,800	$10,800	$64,800
Fuel/ maintenance	$-	$-	$-	$-	$-	$-
Environmental	$-	$1,400	$-	$2,800	$4,200	$8,400
General	$-	$1,000	$-	$2,000	$3,000	$6,000
Overheads	$-	$600	$-	$1,200	$1,800	$3,600
Amortisation of capital investment (Cell)	$-	$-	$-	$-	$-	$-
PC Costs	$-	$-	$-	$-	$-	$-
Plant depreciation	$-	$1,000	$-	$2,000	$3,000	$6,000
Sub-total	**$-**	**$11,200**	**$7,200**	**$36,800**	**$22,800**	**$88,800**
Profit Margin	$-	$-	$20,000	$40,000	$30,000	$90,000
Total potential savings	**$-**	**$11,000**	**$27,000**	**$77,000**	**$53,000**	**$179,000**
Savings as a proportion of overall contract size	**0%**	**1%**	**1%**	**4%**	**2%**	**6%**
Maximum contract size ($.p.a.)	**$1,000,000**		**$2,000,000**		**$3,000,000**	

Commingled recycling

This includes the analysis on potential savings on comingled recycling fees through joint procurement. The total kerbside comingled recycling tonnes collected is provided, as well as the cost structure for operating a MRF and the cost efficiency gain as the tonnes increase (i.e. the percentage savings for each cost item as the tonnes increase).

The analysis on the potential savings is below, which includes the total savings if all Councils combined their tonnes of comingled recycling.

The assumed cost structure for commingled recycling is presented in Table 21 with the resulting cost savings based on contract size presented in Table 22.

Table 21 Cost structure for commingled recycling

Cost item	% of operating revenue	Cost item efficiency gain for minimum 10,000 tonne increase*
Labour	48%	Low
Repair and maintenance	5%	Low
Utilities (electricity, gas, water, other)	3%	Low
Plant/equipment depreciation	9%	Medium
Waste disposal costs (e.g. contamination, off spec)	13%	NA
Operations support		
Support vehicles (depreciation and fuel)	*4%*	*Low*
Customer service staff and supervisor	*0%*	*NA*
Supervisors, managers, trainers and officers	*2%*	*Medium*
Depot / site costs (lease) and outgoings	*1%*	*Low*
Other (training, audits, safety supplies)	*2%*	*Low*
Other	8%	NA
Administration / corporate charges	4%	Medium
Total	100%	
Profit	15%	

** Note NA = no efficiency gains from additional tonnes, Low = efficiency gains between 0% and 2%, Medium = efficiency gains between 2% and 4%, and High = efficiency gains between 4% and 6%. Efficiency gains translate to potential reduced costs per the nominated tonne increase.*

Table 22 Overview of potential savings for commingled recycling based on contract size

Number of Councils in joint procurement	1 - 2		2 - 4		4 - 6	
Contract size (t.p.a.)	**0 - 10,000**		**10,000 - 20,000**		**20,000 - 30,000**	
Contract size ($)	***$0 - $1 million p.a.***		***$1 - $2 million p.a.***		***$2 - $3 million p.a.***	
Savings area	Min saving	Max saving	Min saving	Max saving	Min saving	Max saving
Labour	$0	$9,578	$0	$38,310	$28,733	$86,199
Repair and maintenance	$0	$992	$0	$3,968	$2,976	$8,927
Utilities (electricity, gas, water, other)	$0	$601	$0	$2,403	$1,802	$5,407
Plant/equipment depreciation	$0	$3,779	$3,779	$15,114	$5,668	$34,007
Waste disposal costs (e.g. contamination, off spec)	$0	$0	$0	$0	$0	$0
Operations support						
Support vehicles (depreciation and fuel)	*$0*	*$823*	*$0*	*$3,294*	*$2,470*	*$7,410*
Customer service staff and supervisor	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
Supervisors, managers, trainers and officers	*$0*	*$945*	*$945*	*$3,779*	*$1,417*	*$8,502*
Depot / site costs (lease) and outgoings	*$0*	*$236*	*$0*	*$945*	*$708*	*$2,125*
Other (training, audits, safety supplies)	*$0*	*$359*	*$0*	*$1,436*	*$1,077*	*$3,231*
Other	$0	$0	$0	$0	$0	$0
Administration / corporate charges	$0	$1,626	$1,626	$6,504	$2,439	$14,634
Sub-total	**$0**	**$18,938**	**$6,349**	**$75,752**	**$47,290**	**$170,442**
Profit	$0	$0	$0	$30,000	$30,000	$90,000
Total potential savings	**$-**	**$19,000**	**$6,000**	**$106,000**	**$77,000**	**$260,000**
Savings as a proportion of overall contract size	0%	2%	0%	5%	3%	9%
Maximum contract size ($.p.a.)	**$1,000,000**		**$2,000,000**		**$3,000,000**	

Green Organics

This includes the analysis on potential savings on organics recycling fees through joint procurement. The total organics tonnes generated across the Councils is provided, as well as the cost structure for operating an organics facility, and the cost efficiency gain as the tonnes increase (i.e. the percentage savings for each cost item as the tonnes incoming into the facility increase).

The analysis on the potential savings is below, which includes the total savings if all Councils combined their tonnes of organics.

The assumed cost structure for commingled recycling is presented in Table 23 with the resulting cost savings based on contract size presented in Table 24.

Table 23 Cost structure for green organics processing

Cost item	% of operating revenue	Cost item efficiency gain for minimum 20,000 tonne increase*
Labour	30%	Low
Repair and Maintenance	18%	Low
Energy and fuel (Electricity, Gas etc)	20%	Low
Plant/Equipment Depreciation	20%	Medium
Waste Disposal Costs (contamination + other)	3%	NA
Operations Support		
Customer Service Staff and Supervisor	2%	*Low*
Depot/Site costs (lease or ownership) and outgoings	5%	*Medium*
Other (training, audits, safety supplies)	2%	*NA*
Total	100%	
Profit	15%	

** Note NA = no efficiency gains from additional tonnes, Low = efficiency gains between 0% and 2%, Medium = efficiency gains between 2% and 4%, and High = efficiency gains between 4% and 6%. Efficiency gains translate to potential reduced costs per the nominated tonne increase.*

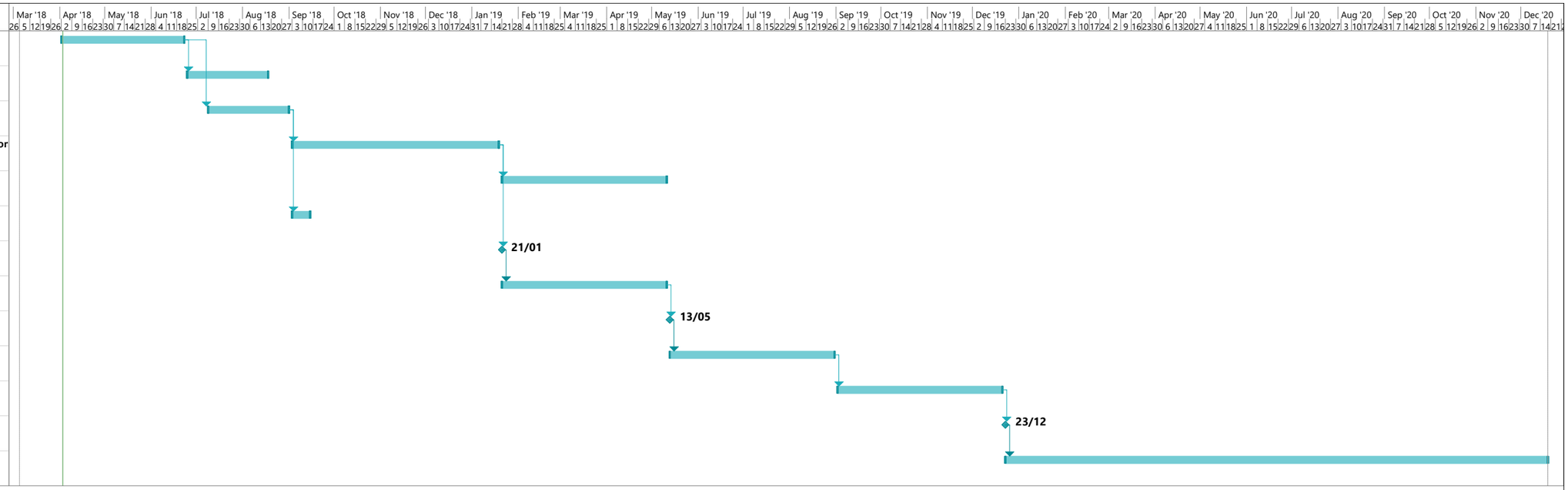
Table 24 Overview of potential savings for green organics recycling based on contract size

Number of Councils in joint procurement	1 - 2		2 - 4		4 - 6	
Contract size (t.p.a.)	**0 - 20,000**		**20,000 - 40,000**		**40,000 - 60,000**	
Contract size ($)	***$0 - $1.4 million p.a.***		***$1.4 - $2.8 million p.a.***		***$2.8 - $4.2 million p.a.***	
Savings area	Min saving	Max saving	Min saving	Max saving	Min saving	Max saving
Labour	$-	$8,400	$-	$33,600	$25,200	$75,600
Repair and Maintenance	$-	$5,040	$-	$20,160	$15,120	$45,360
Energy and fuel (Electricity, Gas etc)	$-	$5,600	$-	$22,400	$16,800	$50,400
Plant/Equipment Depreciation	$-	$11,200	$11,200	$44,800	$16,800	$100,800
Waste Disposal Costs (contamination + other)	$-	$-	$-	$-	$-	$-
Operations Support						
Customer Service Staff and Supervisor	*$-*	*$560*	*$-*	*$2,240*	*$1,680*	*$5,040*
Depot/Site costs (lease or ownership) and outgoings	*$-*	*$2,800*	*$2,800*	*$11,200*	*$4,200*	*$25,200*
Other (training, audits, safety supplies)	*$-*	*$-*	*$-*	*$-*	*$-*	*$-*
Sub-total	**$-**	**$33,600**	**$14,000**	**$134,400**	**$79,800**	**$302,400**
Profit	**$-**	**$-**	**$-**	**$28,000**	**$42,000**	**$84,000**
Total potential savings	**$-**	**$34,000**	**$14,000**	**$162,000**	**$122,000**	**$386,000**
Savings as a proportion of overall contract size	0%	2%	1%	6%	3%	9%
Maximum contract size ($.p.a.)	**$1,400,000**		**$2,800,000**		**$4,200,000**	

Technology	Min. t/a required to ensure commercial viability of technology	Approx. capital cost to build plant	Estimated minimum gate rate ($/t)	Estimated maximum gate rate ($/t)	Bulk Transport ($/t)	Mid-range gate rate plus bulk transport $/t	Total approx. cost ($/annum, processing MSW GW, based on gate rate range midpoint)	Diversion rate from input material	Equivalent waste diverted (t/a)	Lead time until facility is operational (yrs)	Estimated FTEs per 50,000 tonnes	Contract length (years)
Landfill located outside Gippsland region		NA	$110	$130	$35	$155	$8,088,000	0%	0	0.5 – 1 year	1.25	5-10
Dirty MRF	50,000	$15,000,000	$163	$221	$20	$212	$11,074,000	45%	23,000	2 – 3 years	10	5-10
MBT	50,000	$30,000,000	$194	$263	$20	$248	$12,956,000	55%	29,000	3 - 5 years	20	10
WtE	100,000	$100,000,000	$230	$311	$20	$290	$15,132,000	95%	50,000	7 – 10 years	15	20
Landfill Councils BAU		NA	$134	$232	$0	$163	$8,497,000	0%	0	0	1.25	NA

APPENDIX B – INDICATIVE TIMELINE

ID	Task Name
1	**Approval of business case**
2	**Development of Participation Agreement**
3	**Development of Strategic Procurement Strategy**
4	**Development of tender specifications and documentation**
5	**ACCC approval**
6	**Appointment of procurement team**
7	**Release of tender**
8	**Tender period**
9	**Tender close**
10	**Evaluation**
11	**Negotiation**
12	**Appointment**
13	**Transition in period**



Project: Timeline
Date: Tue 3/04/18

Task, Split, Milestone, Summary, Project Summary, Inactive Task, Inactive Milestone, Inactive Summary, Manual Task, Duration-only, Manual Summary Rollup, Manual Summary, Start-only, Finish-only, External Tasks, External Milestone, Deadline, Progress, Manual Progress