

#### **4.5 ADVANCED WASTE PROCESSING – REGIONAL BUSINESS CASE, COLLECTIVE PROCUREMENT AND CONTRACT MODELS** (SH ENV 17)

Responsible Director: Ossie Martinz

##### **EXECUTIVE SUMMARY**

###### ***PURPOSE***

This report seeks to update and seek support from Council on the regional business case, collective procurement and suitable contract models that are designed to foster private sector investment into the establishment of Advanced Waste Processing Facilities (AWP) in South-east Melbourne to provide long-term waste processing services that are alternatives to disposing waste to landfill.

###### ***KEY CONSIDERATIONS / ISSUES:***

- Increasing volumes of waste and the practice of landfilling is a critical global issue that requires urgent action at domestic, municipal and regional levels
- Monash currently sends 32,400 tonnes of kerbside waste and 5000 tonnes of waste from the transfer station to landfill each year.
- South-east cluster Councils are involved in a collaborative arrangement facilitated by the Metropolitan Waste and Resource Recovery Group (MWRRG) to investigate AWP in Melbourne.
- Monash has signed a MOU to participate in the confidential business case which is now complete (summary attached).
- The business case supports the establishment of AWP, formation of a special purpose vehicle (SPV) as the preferred contract model and details the steps in the procurement process for AWP.
- Council is now asked to sign an Expression of Interest and later this year will be asked to commit to the collective tender process for an AWP and join the SPV.

###### ***FINANCIAL IMPLICATIONS:***

Council's budget for residual waste disposal for the year 2018/19 is \$3,194,079. There are no direct financial implications from this report for 2019/20.

###### ***CONCLUSION***

That Council; notes the confidential business case; notes the formation of a SPV as the preferred contract model for establishment of AWP facilities and ; advises MWRRG that it wishes to participate in an expression of interest for AWP as outlined in the business case and authorises the CEO to sign the relevant documents with MWRRG.

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##### **RECOMMENDATION**

*That Council:*

1. *Notes the advanced waste processing confidential summary business case.*
2. *Notes the formation of a Special Purpose Vehicle as the preferred contract model for the establishment of advanced waste processing facilities.*
3. *Advises the Metropolitan Waste and Resource Recovery Group that it wishes to participate in an expression of interest for advanced waste processing including further expenditure for a special purpose vehicle, as outlined in the business case and authorises the Chief Executive Officer to sign the relevant documents.*
4. *Notes that any contractual arrangements will be brought back to Council for approval.*

##### **INTRODUCTION**

Council currently disposes of its putrescible kerbside waste at Wyndham Landfill in Werribee and its transfer station waste to Suez Landfill in Hallam. It is likely that these arrangements will continue for several years until alternates to landfills are made available.

Given the dilemmas associated with disposing of municipal waste to landfill, there are growing expectations and opportunities for Councils to collaboratively procure waste Management services from a future facility employing advanced waste processing (AWP) that optimise the recovery of resources from waste streams. Such a facility has the potential to transform the waste management sector and contribute to Melbourne's liveability and sustainability.

##### **BACKGROUND**

###### **The problems with landfills**

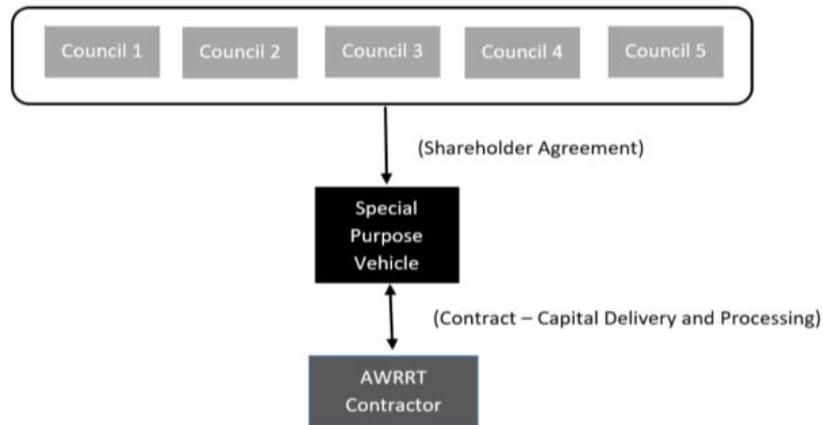
Increasing volumes of waste and the practice of landfilling is a critical global issue that requires urgent action at domestic, municipal and regional levels. The disposal of waste to landfill is problematic for the following reasons;

- Increasing cost of landfilling: the Victorian State government's approach of approving less airspace for new landfills, charging a levy to all disposed material and ever increasing landfill regulations have increased the cost of landfilling,

- Inefficient use of resources: waste materials that could be recovered for re-use, recycling or conversion to energy; and
- Potential environmental impacts: the decomposition of organic matter in landfills produces methane, a potent greenhouse gas. Landfills have also been known to contaminate land, groundwater and freshwater streams when liners and caps fail. Ongoing monitoring and management of landfills is required to address these risks.

The State Government allocated funding to the Metropolitan Waste and Resource Recovery Group from the Sustainability Fund to support Councils to develop a region-wide business case and procurement strategy for procuring AWP solutions. The business case and procurement strategy informs how State Government departments and agencies might support the procurement and deployment of residual waste processing solutions by local government. A number of Councils in Melbourne's south-east are collaborating with the assistance of the MWRRG to facilitate the development of the business case to explore procurement options for AWP solutions. Such regional collaboration is imperative to the aggregation of waste volumes to make the establishment of an AWP facility a viable proposition. A lack of aggregation due to waste management being distributed among 31 metropolitan municipalities has been a barrier to private sector investment in AWP facilities to date.

Council officers from Sustainable Monash, Finance and Strategic Procurement have provided the MWRRG with data on Monash's waste quantities and composition and have attended a series of briefings and workshops in between June 2018 and March 2019 to explore suitable contract models. These forums have also provided an opportunity to provide feedback to the MWRRG for the development of a proposed contract model, known as a Special Purpose Vehicle (SPV) where participating Councils form a company to engage and manage a contract to provide a long term waste management solution. Councils participate as stakeholders in the company (see Figure 1 below).



**Figure 1 Aggregating Demand from Multiple Councils Through a SPV**

The *Local Government Act 1989*, Section 193 provides the powers for Council to enter into such an arrangement. Contracting options include a simple service provision model, design and construct options, and build/own/operate with variations on ownership of the final facility solution at the end of the contract. A regional business case for procuring AWP solutions has been developed and a region-specific business case for a cluster of Councils in Melbourne’s south-east is under development.

Monash landfill diversion targets set within the Waste Management Strategy 2017 aim to increase our waste to landfill diversions rates to 60% by 2022 and 75% by 2027. The introduction of food waste into the green bin will help to reduce our waste to landfill and AWP will treat the majority of what’s left.

MWRRG has compiled the waste quantities and composition data submitted by member Councils and feedback received on the suitability of the procurement and contract model. It is proposed to test options with industry throughout the procurement process.

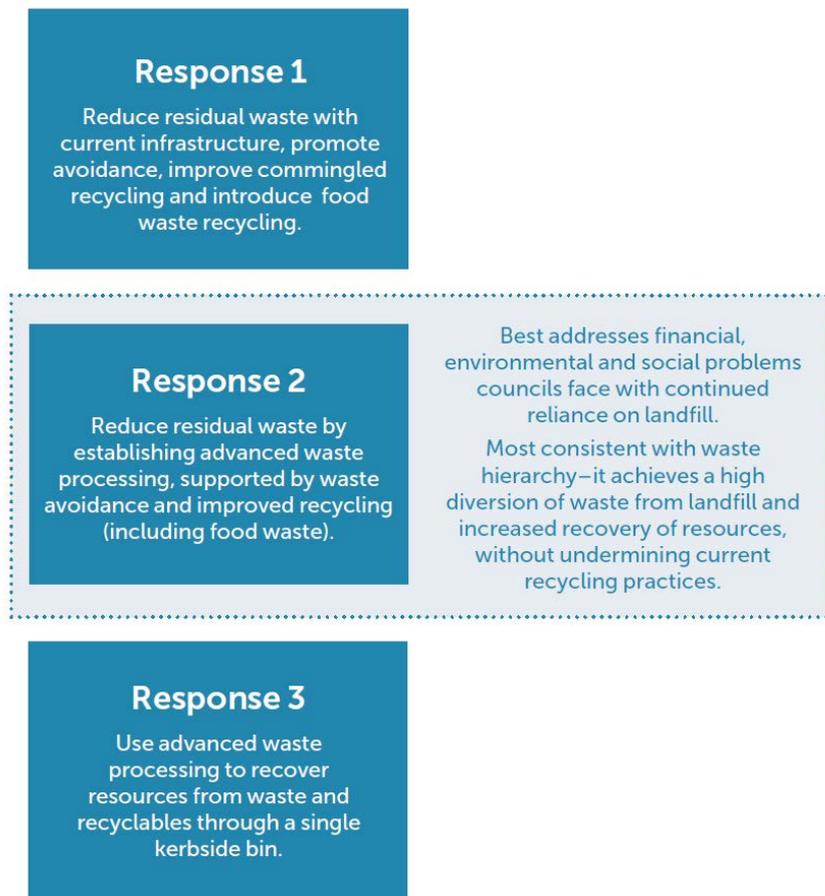
The findings in the regional business case are that the technologies that have the strongest technical and commercial track records of recovering value from municipal waste are; 1) mass burn combustion with energy recovery; and 2) mechanical biological treatment, coupled with some form of energy recovery (either combustion or gasification).

MWRRG has taken a waste hierarchy approach (refer Figure 2 below) to identifying a range of potential interventions that could achieve the objectives of restricting the disposal of residual municipal waste to landfill.



**Figure 2 The Waste Management Hierarchy**

The modelling of resource recovery options indicates that for Monash and other member Councils of MWRRG to reach the landfill diversion objectives, local government could procure and deploy a range of options that include expanding the collection and processing of food and garden waste (FOGO options), together with new waste processing infrastructure to manage residual municipal waste. The initial work on a regional cost-benefit analysis has taken the regional options appraisal to the next level and has considered the following three scenarios:



**Figure 3 The preferred waste management response**

The Monash Waste Management Strategy supports Response 2.

### **Next Steps**

MWRRG has commenced a process to seek expressions of interest from the market to register interest for establishment of AWP facilities. Participating councils will be required to sign an expression of interest with MWRRG to continue in the procurement process.

Later this year it is expected that Councils will be asked to consider committing to a SPV and tender process.

## Delivery timeline

Establishing new processing solutions for residual waste will take at least five to seven years, from procurement through to construction and commissioning. To have the necessary infrastructure in place by 2026, a collaborative procurement needs to start in 2019.



**Figure 4 Project timeline for AWP**

### **SOCIAL IMPLICATIONS**

The provision of AWP facilities will enable Council to continue to provide the essential waste collection and disposal services for the community in a more sustainable and responsible manner.

### **POLICY IMPACTS**

The provision of AWP facilities supports the following Council Objective:

A Liveable and Sustainable City – *Delivering responsible and sustainable waste management services*

It also aligns with the:

Waste Management Strategy 2017 for the provision of kerbside waste collection services. *Action - The Waste Management Strategy aims to reduce waste sent to landfill to minimise the costs of waste disposal to the community; and*

Waste Management Strategy 2017 item 5.8 aims to minimise reliance on landfills and reduce the need for large transportation distances for waste disposal. *Action – New technologies, Council to work with industry and State Government to promote investment in alternative waste management options, including Waste to Energy.*

### **FINANCIAL IMPLICATIONS**

Council's budget for residual waste disposal for the year 2018/19 is \$3,194,079. There are no direct financial implications from this report for 2019/20. It is considered that continued participation in this stage of the collective procurement process will deliver Monash the best long term waste disposal options.

***CONCLUSION***

That Council notes the confidential business case; notes the formation of a SPV as the preferred contract model for establishment of AWP facilities and advises MWRRG that it wishes to participate in an expression of interest for AWP as outlined in the business case and authorises the CEO to sign the relevant documents with MWRRG.