

## **10 COLLABORATIVE PROCUREMENT FOR ADVANCED WASTE PROCESSING SOLUTIONS**

FILE REFERENCE INT1939203

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### **RECOMMENDATION**

That Council:

1. Supports joining the collaborative procurement for advanced waste processing solutions in 2019, facilitated by MWRRG;
2. Supports using a Special Purpose Vehicle to aggregate waste and to provide a viable proposition to the market and drive investment;
3. Provides delegated authority to the CEO to participate in establishing a Special Purpose Vehicle;
4. Provides delegated authority to the CEO to make necessary decisions to progress the procurement, until a binding commitment to enter into contract is required;
5. Notes a full-services concession contract model was identified as being the most suited contract approach and it will be further explored.

### **Attachments**

- 1 Confidential Attachment, circulated to Councillors only 24 Pages
- 2 Confidential Attachment, circulated to Councillors only 148 Pages

### **EXECUTIVE SUMMARY**

This report provides an overview of the confidential Advanced Waste Processing South East Business Case and recommends Council joins a collaborative procurement for advanced waste processing solutions, facilitated by MWRRG.

### **BACKGROUND**

In 2018, Council agreed to a MoU and confidentiality agreement with Metropolitan Waste and Resource Recovery Group (MWRRG) to support developing the Advanced Waste Processing South East Business Case.

Fourteen other councils in the south east also committed to develop the business case which assesses what the future holds for managing residual waste collected from households throughout the 15 council areas.

The business case unpacks the problems associated with landfill as the current solution to residual waste and assesses potential alternatives to reduce reliance on landfill. It follows a standard Department of Treasury and Finance template used for high value infrastructure projects.

A number of principles guided the development of business case:

- the waste hierarchy - minimising waste generation, maximising resource recovery, and minimising disposal to landfill
- rigorous assessment - consider a range of alternative interventions available to south east councils, not just assume advanced waste processing is the only way forward
- outcomes focused - rather than selecting a preferred technology, establish the economic, social and environmental outcomes the south east councils want to achieve.

Council officers from waste, procurement and finance have been directly involved in informing the business case through workshops, regular working group meetings and details of councils' waste composition and services.

Developing the business case was funded by MWRRG through the landfill levy. MWRRG used this funding to dedicate staff to the project and to also commission a range of specialist consultants including probity, legal, technical and financial advisers, facilitators and social research. These consultants provided professional advice, research, services, connections and detailed cost benefit modelling to inform the business case.

MWRRG conducted a formal market sounding exercise in October 2018 to understand the capacity and capability of industry to establish advanced waste processing solutions. In 2018 MWRRG also researched community attitudes to advanced waste processing and to waste to energy in particular. The high level findings from both are included in the business case.

### **Key issues**

#### **Waste growth**

By 2021, the 15 councils are projected to send around 500,000 tonnes of residual waste to landfill. Waste growth within the 15 south east councils is expected to grow by 2% each year (from 2021), so by 2046, around 725,000 tonnes of residual waste (kerbside rubbish bins and hard waste) will be sent to landfill from these councils alone if no alternative solutions are implemented.

South east councils will need more landfill capacity in coming years to manage the increased waste amount of residual waste, unless an alternative solution is sought.

SUEZ Hallam landfill is the principal landfill and resource recovery site serving the south east of Melbourne. Nine of the fifteen south east councils use the SUEZ Hallam landfill. This landfill is scheduled to close in 2040 but it may fill faster than expected, potentially as early as 2028. There is no other new landfill scheduled for the south east.

#### **The problems with BAU**

Council is responsible for delivering efficient and appropriate waste management services on behalf of the community, and to pursue the best possible outcomes for those communities.

Historically landfills were the only option for managing residual waste and were perceived to offer a low cost, reliable and long term solution to dispose of waste that couldn't be recycled. This is not the case today and such perceptions are increasingly being questioned.

Continuing to rely solely on landfill to manage residual waste will not deliver the best outcomes for Councils' community. The most significant impacts from landfill include:

- The negative environmental and social impacts of landfills - landfills produce greenhouse gases and smells, create litter and attract vermin, while contaminated water can potentially leak into surrounding land or water. Emissions from landfill make up a significant proportion of councils' overall greenhouse gas emissions.

- Sending waste to landfill is a lost opportunity to recover resources - landfills don't fully capture the value of discarded resources, despite containing materials with commercial value.
- Costs for councils to transport and dispose of waste at landfill will increase in coming years as councils would be required to travel greater distances for any available landfill options, however the amount and rate is unknown. This uncertainty creates challenges for councils to plan their municipal waste services.
- Uncertain access to sustainable residual waste containment and disposal - with the future closure of SUEZ Hallam landfill, south eastern councils will have limited access to local, cost-effective, secure supplies of landfill.

### **A new solution**

The Business Case assessed a range of interventions to reduce reliance on landfill. Three strategic responses to address the problems and achieve the desired benefits were developed. Response 2 involves reducing residual waste by establishing advanced waste processing solutions, supported by waste reduction and improved kerbside recycling (organics and commingled).

Response 2 provides the best combination of interventions to address the financial, environmental and social problems councils face as a result of reliance on landfill. Response 2 is expected to deliver considerable benefits to the environment and community liveability, be a cost-effective solution and provide certainty of service over the long-term. Response 2 is the most consistent with the waste hierarchy, it achieves a high diversion of waste from landfill and increased recovery of resources, without undermining current recycling practices. Landfill is a last resort.

Advanced waste processing is the most significant of the interventions that make up Response 2. Advanced waste processing solutions are sophisticated, proven technologies that recover more resources from household rubbish. These technologies bridge the current gap between recycling and sending kerbside waste to landfill.

### **The case for advanced waste processing**

The business case analysed whether proven advanced waste processing options can achieve better environmental, social and financial outcomes compared to ongoing reliance on landfill. Four proven technology options were shortlisted for evaluation, based on their potential for successful delivery:

- Option 1 - Combustion only
- Option 2 - Mechanical biological treatment (MBT) only
- Option 3 - Mechanical biological treatment plus combustion
- Option 4 - Mechanical biological treatment plus gasification.

This business case does not recommend a preferred technology.

Each option was assessed against landfill as the Business As Usual (BAU) option, based on financial, environmental and social criteria. The analysis found that:

- Options 1, 3 and 4 all have a lower cost than BAU (in today's dollars)
- Option 1 - Combustion has the lowest overall cost (in today's dollars)
- all options deliver better environmental and social outcomes than BAU
- Option 1 - Combustion, Option 3 - MBT + Combustion and Option 4 - MBT + Gasification achieve equal best environmental and social outcomes.
- Overall, Option 1 offers the most cost-effective solution and equal best environmental and social outcomes.

Detailed reference projects will be developed and used to establish performance standards for the procurement. The reference projects will be based on Options 1 and 3, as this will allow for a wider range of technology responses and broader funding parameters.

### **Delivering an advanced waste processing solution**

#### **Timeframes**

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.

### Procurement process

MWRRG recommends a multi-stage procurement. At each phase competitive dialogue will be used to inform and refine the specification. The phases are:

- Expression Of Interest—an open approach to market that will identify an initial pool of potentially suitable bidders
- Invitation to submit an outline solution—an approach to bidders short-listed at the EOI stage that seeks their response to an outline specification
- Invitation to submit a detailed solution—an invitation to bidders to submit responses to the detailed specification. This is the final stage at which councils can choose not to continue in the procurement.
- Call for final tender—an approach to bidders seeking responses to the final specification.

Councils who participate in the call for final tender are committing to enter into a contract with the successful tenderer. Councils cannot 'opt out' after the call for final tender.

Competitive dialogue provides the opportunity for parallel but separate conversations between bidders and procuring councils in which solutions and supporting enablers (e.g. access to suitable sites) can be discussed and co-developed.

Competitive dialogue aims to increase value by encouraging innovation, and maintains competitive pressure in bidding for complex contracts. Competitive dialogue has been used extensively in Europe for complex infrastructure and strategic partnering contracts for advanced waste processing solutions, and in Australia for large, strategic procurements including within the health sector, and information and communication technology industry.

### Using a Special Purpose Vehicle

Establishing the new processing infrastructure will require substantial investment, and aggregation of waste by councils will be the key to drive investment from the private sector.

MWRRG recommends that councils form a Special Purpose Vehicle (SPV) - a company with its own assets and liabilities, as well as its own separate legal identity. A SPV will:

- create economies of scale for the contract (by aggregating waste)
- be attractive to the market as a single contracting entity
- limit a council's liability to its shareholding in the SPV, protecting the council's financial position and wider asset pool
- provide the vehicle to attract investment from other levels of government
- allow the SPV to own, operate or apply for planning permission for a facility.

Prior to the first phase of the procurement (the Expression of Interest), councils will need to agree to form a SPV as the contracting entity. The entity will need to be fully formed by the time councils are ready to contract with the private sector for the delivery of a solution.

MWRRG's market sounding revealed industry support for a Special Purpose Vehicle (SPV).

MWRRG cannot directly contract or operate an advanced waste processing facility. It is prohibited under the Environment Protection Act 1970 from:

- owning or operating a waste management facility
- applying for or holding a planning permit
- entering into contracts for the procurement of waste and resource recovery facilities or services, unless the contract is jointly entered into with one or more of the region's councils.

### Contract models

There are different contract models that councils can use to establish advanced waste processing solutions. The contract model identified as being most suited to delivering the project is a full-

services concession contract model, which includes Build-Own-Operate-Transfer (BOOT), Build-Operate-Transfer (BOT) and Build-Own-Operate (BOO).

Concession models provide councils with a high degree of influence over how services are provided, and also efficiently transfer risk from councils. Concession models have been used extensively overseas to deliver advanced waste processing infrastructure. There is also recent precedent in Australia: Phoenix Energy's waste to energy facility in Kwinana, WA, uses a BOO contract. MWRRG's market sounding suggest that a service concession model is a feasible and efficient approach.

Following a decision to proceed to a procurement, the contract model will be developed into a detailed set of commercial principles and subsequently into draft contractual documents. The draft contract is issued as part of the invitation to submit a detailed solution.

### **Financing and funding**

The business case states capital expenditure for the project can be financed by the private sector, with no financing required from councils, if a full-services concession contract model is used.

Councils will need to fund the processing of each tonne of residual waste at a facility (service charge). No state or federal government grant has been committed to or secured, however the business case provides a solid evidence base for participating councils to seek funding support from state and federal governments.

The business case modelled an average fee per tonne of waste over 20 years for landfill only, Option 1 – Combustion and Option 3 – MBT plus Combustion. Average processing fee for Options 1 and 3 will be less than the forecast fee for landfill. The modelling estimates:

- business as usual (landfill): Over 20 years, the average processing fee per tonne (including transport and processing) is \$260.40
- Option 1 - Combustion: Over 20 years, the average processing fee per tonne (including transport and processing) is \$237
- Option 3 – MBT plus Combustion: Over 20 years, the average processing fee per tonne (including transport and processing) is \$259.

Councils' current funding sources (rates or waste services charges) are likely to be sufficient to implement Options 1 or 3.

The impact of a hypothetical government grant on fees was also modelled. The modelling shows that a potential government contribution would reduce the risk that councils' current funding sources will not be sufficient. With a hypothetical state or federal government grant the modelling shows over 20 years, the average fee per tonne for Option 1 reduces to \$225.50 and Option 3 reduces to \$247.50.

Option 1 is likely to be more affordable than Option 3. Facilities that have high recovery rates and generate marketable products are better-placed to minimise financial impacts for councils.

### **Relationship to landfill contracts**

The current MWRRG landfill services contract expires in March 2021. It is used by 26 metropolitan councils, including Cardinia, for the disposal of municipal waste over four sites.

MWRRG has consulted with metropolitan councils and existing service providers to help develop specifications for new contracts for residual waste disposal services, to start on 1 April 2021.

MWRRG is designing the new residual waste disposal service to complement the procurement for advanced waste processing solutions and to recognise the uncertainties regarding the life of some landfills. The collective procurement will be structured to provide a bridging period for the disposal

of waste until advanced waste processing infrastructure is available. It will ensure workable landfill contingency arrangements, consistency across the metropolitan area, integrate with other household waste services, deliver a robust contract model and aims to appoint multiple providers.

## **POLICY IMPLICATIONS**

Council participating in a model for advanced waste processing solution directly aligns with councils waste strategy.

The WRRS aligns with the objectives of Sustainable environment strategy (SES), which falls under the Council Plan.

## **RELEVANCE TO COUNCIL PLAN**

The relevant actions within the Council Plan are *Our Environment 3.3 Enhance our Environment, 3.3.4 Promote practices that result in the reduction per household of the amount of waste going to landfill, particularly food waste.* Reducing waste to landfill is a strong focus of the WRRS.

## **CONSULTATION/COMMUNICATION**

In collaboration with the MWRRG and associated Council involved in the process, joint communications will be prepared to engage with the community. This will include joint information and documentation to assist with the engagement process.

A Cardinia communications plans will need be prepared to understand how best to utilise these resources and will be prepared at a later date.

## **FINANCIAL AND RESOURCE IMPLICATIONS**

Council will have a number of opportunities throughout the process to decide whether or not to commit to this process. At this stage there is no financial implications associated with being part of the joint procurement process other than staff resource time to provide input and feedback into the process.

## **CONCLUSION**

The Business Case demonstrates that Council has a viable alternative to landfill that can achieve better financial, environmental and social outcomes.

The MWRRG led collaborative procurement provides a robust, cost-effective, competitive process to ensure the most appropriate solution to meet council's objectives is identified.

It is recommended that Council should join the collaborative procurement for advanced waste processing solutions, starting with the Expression of Interest phase.