



MINUTES

CERTIFICATION OF CONFIRMATION OF COMMITTEE MEETING MINUTES

6 JUNE 2013

I, Cr Cuccaro, hereby certify that the following minutes pages 1 to 19 of the Meeting of **RESOURCE RECOVERY COMMITTEE** held on 6 June 2013 were confirmed at a meeting of the Committee held on 5 September 2013.

A handwritten signature in black ink, appearing to read "Tony Cuccaro", written over a horizontal line.

Signature

Cr Tony Cuccaro

Person presiding at the Committee Meeting held on 5 September 2013

RESOURCE RECOVERY COMMITTEE

MINUTES

6 June 2013

(REF: COMMITTEES-15275)

A meeting of the Resource Recovery Committee was held at the EMRC Administration Office, 1st Floor, 226 Great Eastern Highway, BELMONT WA 6104 on **Thursday, 6 June 2013**. The meeting commenced at **5:02pm**.

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1 DECLARATION OF OPENING AND ANNOUNCEMENT OF VISITORS

The Chairman opened the meeting at 5:02pm.

2 ATTENDANCE, APOLOGIES AND LEAVE OF ABSENCE PREVIOUSLY APPROVED

Committee Members

Cr Tony Cuccaro (Chairman)	EMRC Member	Shire of Mundaring
Cr Alan Radford (Deputy Chairman)	EMRC Member	City of Bayswater
Cr Jennie Carter	EMRC Member	Town of Bassendean
Cr David Färdig	EMRC Member	City of Swan
Mr Simon Stewart-Dawkins	Director Operational Services	Town of Bassendean
Mr Doug Pearson	Director Technical Services	City of Bayswater
Mr Ric Lutey	Director Technical Services	City of Belmont
Mr Sam Assaad (Deputising for Mr Higham)	Manager Infrastructure Services	Shire of Kalamunda
Mr Shane Purdy	Director Infrastructure Services	Shire of Mundaring
Mr Jim Coten	Executive Manager Operations	City of Swan
Mr Peter Schneider	Chief Executive Officer	EMRC

Apologies

Cr Frank Lindsey	EMRC Member	Shire of Kalamunda
Mr Clayton Higham	Director Development and Infrastructure Services	Shire of Kalamunda

Deputy Committee Members - Observers

Cr Gerry Pule	EMRC Member	Town of Bassendean
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EMRC Officers

Mr Stephen Fitzpatrick	Manager Project Development
Mr Brian Jones	Director Waste Services
Mr Hua Jer Liew	Director Corporate Services
Mr Johan Le Roux	Manager Waste Services
Ms Mary-Ann Winnett	Personal Assistant to Director Corporate Services

3 DISCLOSURE OF INTERESTS

Nil

4 ANNOUNCEMENT BY THE CHAIRMAN OR PERSON PRESIDING WITHOUT DISCUSSION

Nil



5 CONFIRMATION OF MINUTES OF PREVIOUS MEETINGS

5.1 MINUTES OF THE RESOURCE RECOVERY COMMITTEE MEETING HELD ON 7 FEBRUARY 2013

That the Minutes of the Resource Recovery Committee meeting held on 7 February 2013, which have been distributed, be confirmed.

RRC RESOLUTION(S)

MOVED CR FÄRDIG

SECONDED CR CARTER

THAT THE MINUTES OF THE RESOURCE RECOVERY COMMITTEE MEETING HELD ON 7 FEBRUARY 2013, WHICH HAVE BEEN DISTRIBUTED, BE CONFIRMED.

CARRIED UNANIMOUSLY

6 PRESENTATIONS

Nil

7 ANNOUNCEMENT OF CONFIDENTIAL MATTERS FOR WHICH THE MEETING MAY BE CLOSED TO THE PUBLIC

Nil

8 BUSINESS NOT DEALT WITH FROM A PREVIOUS MEETING

Nil



9 REPORTS OF OFFICERS

9.1 RESOURCE RECOVERY PROJECT UPDATE

REFERENCE: COMMITTEES-15477

PURPOSE OF REPORT

To update Council on the progress of the Resource Recovery Facility (RRF) project.

KEY ISSUES AND RECOMMENDATION(S)

- The environmental impact assessment process continues for the proposed Resource Recovery Facility at Red Hill.
- The Office of the Environmental Protection Authority (OEPA) have advised that the Department of Environment and Conservation require time to review the odour modelling study completed in October 2012 for the Lot 8 Toodyay Road location before they can take the assessment to the EPA.
- In April 2013 the EPA released their advice in relation to a review of the environmental and health performance of waste to energy technologies.
- The gasification technology option for the RRF at Red Hill will comply with the majority of the recommendations in the EPA advice on waste to energy technologies.

Recommendation(s)

That the report be received.

SOURCE OF REPORT

Manager Project Development

BACKGROUND

On 30 April 2009 (Ref: Committees-9127), Council resolved to proceed with the Expression of Interest process.

At the 27 August 2009 meeting of Council (Ref: Committees-9571), it was resolved that:

"1. THE FOLLOWING RESPONDENTS TO THE EXPRESSION OF INTEREST ARE LISTED AS ACCEPTABLE TENDERERS:

- A. ENERGOS AS;*
- B. EVERGREEN ENERGY CORPORATION PTY LTD;*
- C. GRD MINPROC LIMITED;*
- D. MOLTONI ENERGY PTY LTD;*
- E. SITA ENVIRONMENTAL SOLUTIONS;*
- F. TRANSPACIFIC CLEANAWAY LIMITED; AND*
- G. WSN ENVIRONMENTAL SOLUTIONS.*



Item 9.1 continued

2. *THE FOLLOWING RESPONDENTS TO THE EXPRESSION OF INTEREST ARE NOT LISTED AS ACCEPTABLE TENDERERS:*
 - A. *ANAECO LIMITED; AND*
 - B. *THIESS SERVICES PTY LTD.*
3. *THE RESPONDENTS TO EXPRESSION OF INTEREST 2009-10 BE ADVISED OF THE OUTCOME OF THE ASSESSMENT.*
4. *THE ATTACHMENT REMAINS CONFIDENTIAL AND BE CERTIFIED BY THE ACTING CHIEF EXECUTIVE OFFICER AND THE EMRC CHAIRMAN.*
5. *THE TENDER EVALUATION COMMITTEE BE ACKNOWLEDGED FOR THE SIGNIFICANT EFFORT PUT INTO EVALUATING THE EOI SUBMISSIONS."*

On 24 September 2009 (Ref: Committees-9922), Council resolved that:

- "1. *THE FOLLOWING PRELIMINARY RECOMMENDATIONS OF THE RESOURCE RECOVERY COMMITTEE FORM THE BASIS OF CONSULTATION BETWEEN THE EMRC AND THE MEMBER COUNCILS AND THE COMMUNITY WITH THE INTENTION OF REPORTING BACK TO COUNCIL IN APPROXIMATELY MARCH 2010 WITH A FINAL RECOMMENDATION:*
 - A) *RED HILL WASTE MANAGEMENT FACILITY IS THE PREFERRED SITE FOR THE RRF BASED ON ENVIRONMENTAL, ECONOMIC AND PLANNING CONSIDERATIONS, COMMUNITY RESEARCH AND THE POTENTIAL VALUE OF THE EMRC HAZELMERE SITE AS A RESOURCE RECOVERY PARK.*
 - B) *THE DESIGN & CONSTRUCT CONTRACT OWNERSHIP MODEL IS PREFERRED TO A BUILD OWN OPERATE CONTRACT MODEL.*
 - C) *THE RRF TECHNOLOGY OPTIONS INCLUDING ANAEROBIC DIGESTION, GASIFICATION AND PYROLYSIS ARE RANKED HIGHER THAN COMBUSTION AND PLASMA AT THIS STAGE BUT MORE INFORMATION IS REQUIRED BEFORE A FINAL PREFERENCE CAN BE DETERMINED.*
 - D) *A THIRD BIN FOR HOUSEHOLD ORGANIC WASTE COLLECTION IS CONSIDERED IN CONJUNCTION WITH ANAEROBIC DIGESTION TECHNOLOGY."*

Further, on 3 December 2009 (Ref: Committees-10346), Council resolved that:

- "1. *COUNCIL APPROVE A VISIT TO EASTERN STATES AND OVERSEAS RESOURCE RECOVERY REFERENCE FACILITIES TO BE UNDERTAKEN BY THE CHAIRMAN, RESOURCE RECOVERY COMMITTEE, MR JOHN KING, PROJECT DIRECTOR FOR CARDNO LIMITED AND THE MANAGER PROJECT DEVELOPMENT.*
2. *INFORMATION GAINED FROM THE VISIT BE REPORTED TO THE RRC AND COUNCIL IN EARLY 2010 AS PART OF THE FINAL RECOMMENDATION ON THE PREFERRED RESOURCE RECOVERY FACILITY OPTIONS."*

On 22 April 2010 (Ref: Committees-10694), Council resolved in relation to the reference facility visits that:

- "1. *THE REPORT BE RECEIVED.*
2. *INFORMATION GAINED FROM THE RESOURCE RECOVERY FACILITY VISITS BE APPLIED TO THE ANALYSIS OF THE PROJECT OPTIONS ON TECHNOLOGY, CONTRACT MODEL AND BIN COLLECTION SYSTEM.*
3. *THAT THE ATTACHMENT TO THIS REPORT REMAIN CONFIDENTIAL AND BE CERTIFIED BY THE CHIEF EXECUTIVE OFFICER AND CHAIRMAN."*



Item 9.1 continued

On 20 May 2010 (Ref: Committees-10810), Council resolved that:

- "1. *THE FOLLOWING OPTIONS ARE CONFIRMED AS THE PREFERRED OPTIONS FOR THE RESOURCE RECOVERY FACILITY:*
 - A) *RED HILL WASTE MANAGEMENT FACILITY IS THE PREFERRED SITE FOR THE RRF.*
 - B) *THE DESIGN & CONSTRUCT CONTRACT OWNERSHIP MODEL IS PREFERRED TO A BUILD OWN OPERATE CONTRACT MODEL AT THIS STAGE OF THE PROJECT.*
 - C) *THE RRF TECHNOLOGY OPTIONS INCLUDE ANAEROBIC DIGESTION, GASIFICATION, PYROLYSIS AND COMBUSTION. PLASMA TECHNOLOGY WILL ONLY BE CONSIDERED IF IT IS AN INTEGRAL PART OF ONE OF THESE TECHNOLOGIES.*
 - D) *A THIRD BIN FOR HOUSEHOLD ORGANIC WASTE COLLECTION BE CONSIDERED IN CONJUNCTION WITH ANAEROBIC DIGESTION TECHNOLOGY, OTHERWISE A TWO BIN SYSTEM IS RECOMMENDED FOR THE THERMAL TECHNOLOGY OPTIONS.*
2. *COUNCIL PROCEEDS WITH THE ENVIRONMENTAL AND PLANNING APPROVALS TASK FOR THE RESOURCE RECOVERY PROJECT BASED ON THE PREFERRED SITE AND TECHNOLOGY OPTIONS."*

On 21 October 2010 (Ref: Committees-11544), Council resolved to amend the Resource Recovery budget to allow for the predicted cost of baseline environmental monitoring and additional consultant costs as follows:

"THAT THE BUDGET FOR SEEK ENVIRONMENTAL APPROVALS (TASK 15) IN THE ANNUAL BUDGET UNDER RESOURCE RECOVERY BE INCREASED FROM \$220,000 TO \$525,000 AND THAT THIS INCREASE BE FUNDED FROM THE SECONDARY WASTE RESERVE."

On 23 June 2011 (Ref: Committees-12150), Council resolved that:

- "1. *COUNCIL NOTES THE ADVICE FROM SITA ENVIRONMENTAL SOLUTIONS AND WSN ENVIRONMENTAL SOLUTIONS OF THEIR INTENTION TO WITHDRAW FROM THE TENDER PROCESS FOR THE EMRC RESOURCE RECOVERY FACILITY.*
2. *THE LIST OF ACCEPTABLE TENDERERS BE AMENDED TO REMOVE SITA ENVIRONMENTAL SOLUTIONS AND WSN ENVIRONMENTAL SOLUTIONS.*
3. *SITA ENVIRONMENTAL SOLUTIONS BE ADVISED OF COUNCIL'S ACKNOWLEDGEMENT OF BOTH SITA ENVIRONMENTAL SOLUTIONS AND WSN ENVIRONMENTAL SOLUTION'S WITHDRAWAL FROM THE EMRC RESOURCE RECOVERY FACILITY TENDER PROCESS.*
4. *THE REPORT AND ATTACHMENTS REMAIN CONFIDENTIAL AND BE CERTIFIED BY THE CHAIRMAN AND THE CHIEF EXECUTIVE OFFICER."*

On 18 August 2011 (Ref: Committees-12849), Council resolved:

"THAT COUNCIL CONFIRMS THE TECHNOLOGY OPTIONS FOR THE RESOURCE RECOVERY FACILITY AT RED HILL WASTE MANAGEMENT FACILITY AS ANAEROBIC DIGESTION AND GASIFICATION."

At the 3 November 2011 meeting of Council (Ref: Committees-13114), a clarification of gasification technology was provided and what this class of thermal waste treatment technology includes.

On October 2012 (Ref: Committees-14718), Council resolved that:

- "1. *THE PREFERRED LOCATION FOR THE RESOURCE RECOVERY FACILITY BE CHANGED FROM SITE B2 IN THE NORTH-WEST CORNER OF LOT 12, RED HILL WASTE MANAGEMENT FACILITY TO LOT 8 (SITE E), TOODYAY ROAD, SUBJECT TO THE GRANTING OF APPROVAL FOR THE REZONING OF LOTS 8, 9 AND 10 AND COMPLETION OF THE LAND TRANSACTION WITH BORAL.*



Item 9.1 continued

2. *THE CURRENT PROPOSAL BEFORE THE ENVIRONMENTAL PROTECTION AUTHORITY FOR A RESOURCE RECOVERY FACILITY AT RED HILL IS AMENDED NOMINATING SITE E AS THE PREFERRED LOCATION."*

By way of explanation, the three contract ownership models being considered for the RRF are as follows:

Build Own Operate

Under a Build Own Operate (BOO) contract delivery model, the Contractor will be required to build, finance, own and operate the facility for a fixed period of time (the economical life of the facility and anticipated to be for 20 years). Under this contract model, some of the project risks, and in particular, the risks associated with the design, construction and performance of the RRF, are transferred to the Contractor.

Design and Construct

Under a Design and Construct (D&C) contract delivery model, the Contractor will design and construct a facility that conforms to agreed standards and performance requirements. If the D&C model was adopted by the EMRC, the Contractor will also be required to operate the facility for a minimum of 12 months and up to two years after the completion of wet commissioning. Under this contract model, the operational and ownership risks would be assumed by the EMRC, particularly following transfer of operational responsibilities to the EMRC and expiry of warranties and defects liability periods. The EMRC may operate the facility using its own staff or enter into a separate contract for the operation of the facility under this D&C contract delivery model.

Design, Build Operate and Maintain

Under a Design, Build Operate and Maintain (DBOM) contract delivery model, ownership of the RRF is with the EMRC but operation and maintenance is with the Operator. The EMRC will contract with the main contractor, who is most likely to be an Operator or technology provider who will be responsible for subcontracting and managing the risk of a builder for the construction phase. The EMRC will be required to obtain its own funding for the RRF and will have to fund construction payments during the construction phase and service payments during the operation phase, usually by way of regular monthly payments linked to the amount of waste processed by the RRF.

As with the BOO, the Operator's involvement in the RRF continues until the expiry of the operation term. However, unlike the BOO, the operating period under a DBOM can be less than under a BOO as it does not have to match the duration of the debt repayments. This is because the debt repayments are made by the EMRC direct to its financier, rather than by the Operator to its financier.

Under this contract model, the project risks associated with the design, construction and performance of the RRF, are transferred to the Contractor whereas the ownership risk resides with the EMRC.

Acceptable Tenderers and Technologies

Acceptable Tenderers as at 1 September 2011	Technology Offered at EOI Stage
Energos AS	Gasification
Evergreen Energy Corporation Pty Ltd	Anaerobic Digestion
Amec (formerly Amec Minproc Limited)	Anaerobic Digestion and Combustion
Phoenix Energy	Combustion
Transpacific Cleanaway Limited	Anaerobic Digestion



Item 9.1 continued

REPORT

Public Environmental Review (PER) Process

The OEPA have been waiting for the strategic advice on waste to energy technologies to be accepted by the EPA. This occurred in April 2013, as discussed below, facilitating the finalisation of assessment on the EMRC proposal and others in the system.

The OEPA were due to present the assessment methodology to the EPA in May 2013 but received a late request from the Department of Conservation and Environment to review the odour modelling for the proposed location of the RRF on Lot 8, resulting in further delay to the assessment process. They now expect the assessment strategy to be considered by the EPA on 20 June 2013 and for the completed assessment report to be provided to the Minister for Environment and released publicly on 15 July 2013. This delay is reflected in the table below.

The timeline for the completion of environmental approval is estimated as follows:

Details	Commencement	Completion	Target Timeframe
EPA Assessment	4 December 2012	28 February 2013	12 weeks
Prepare and finalise report to EPA	1 March 2013	5 July 2013	15 weeks
Appeals Period	15 July 2013	30 July 2013	2 weeks
Minister Consideration	15 July 2013	15 October 2013	3 Months

EPA/Waste Authority Waste to Energy Review

In April 2013, the EPA issued a report and recommendations of the EPA and the Waste Authority on the "Environmental and health performance of waste to energy technologies" as advice to the Minister for Environment under section 16(e) of the Environmental Protection Act.

This followed the December 2012 briefing on the review by a representative of the consultant WSP Environmental. The EPA have issued a summary report which contains two conclusions and twenty one recommendations which are reproduced below. In addition there are three accompanying reports:

1. INVESTIGATION INTO THE PERFORMANCE (ENVIRONMENTAL AND HEALTH) OF WASTE TO ENERGY TECHNOLOGIES INTERNATIONALLY
Stage One - Review of Legislative and Regulatory Frameworks for Waste to Energy Plants.
2. REVIEW OF STATE-OF-THE-ART WASTE-TO-ENERGY TECHNOLOGIES
Stage Two – CASE STUDIES
3. AN INVESTIGATION INTO THE PERFORMANCE (ENVIRONMENTAL AND HEALTH) OF WASTE TO ENERGY TECHNOLOGIES INTERNATIONALLY
Stage Three - A Review of recent research on the health and environmental impacts of Waste to Energy Plants

Conclusions and recommendations

Conclusion 1 - Waste to energy plants have the potential to offer an alternative to landfill for the disposal of non-recyclable wastes, with the additional benefit of the immediate capture of stored energy.

Conclusion 2 - It has been demonstrated internationally that modern waste to energy plants can operate within strict emissions standards with acceptable environmental and health impacts to the community when a plant is well designed and operated using best practice technologies and processes.



Item 9.1 continued

Recommendation 1 - Given the likely community perception and concern about waste to energy plants, a highly precautionary approach to the introduction of waste to energy plants is recommended.

Recommendation 2 - As part of the environmental assessment and approval, proposals must address the full waste to energy cycle - from accepting and handling waste to disposing of by-products, not just the processing of waste into energy.

Recommendation 3 - Waste to energy proposals must demonstrate that the waste to energy and pollution control technologies chosen are capable of handling and processing the expected waste feedstock and its variability on the scale being proposed. This should be demonstrated through reference to other plants using the same technologies and treating the same waste streams on a similar scale, which have been operating for more than twelve months.

Recommendation 4 - Waste to energy proposals must characterise the expected waste feedstock and consideration made to its likely variability over the life of the proposal.

Recommendation 5 - The waste hierarchy should be applied and only waste that does not have a viable recycling or reuse alternative should be used as feedstock. Conditions should be set to require monitoring and reporting of the waste material accepted over the life of a plant.

Recommendation 6 - Waste to Energy operators should not rely on a single residual waste stream over the longer term because it may undermine future recovery options.

Recommendation 7 - Regulatory controls should be set on the profile of waste that can be treated at a waste to energy plant. Plants must not process hazardous waste.

Recommendation 8 - In order to minimise the discharge of pollutants, and risks to human health and the environment, waste to energy plants should be required to use best practice technologies and processes. Best practice technologies should, as a minimum and under both steady state and non-steady state operating conditions, meet the equivalent of the emissions standards set in the European Union's Waste Incineration Directive (WID) (2000/76/EC).

Recommendation 9 - Pollution control equipment must be capable of meeting emissions standards during non-standard operations.

Recommendation 10 - Continuous Emissions Monitoring must be applied where the technology is feasible to do so (e.g. particulates, TOC, HCl, HF, SO₂, NO_x, CO). Non-continuous air emission monitoring shall occur for other pollutants (e.g. heavy metals, dioxins and furans) and should be more frequent during the initial operation of the plant (minimum of two years after receipt of Certificate of Practical Completion). This monitoring should capture seasonal variability in waste feedstock and characteristics. Monitoring frequency of non-continuously monitored parameters may be reduced once there is evidence that emissions standards are being consistently met.

Recommendation 11 - Background levels of pollutants at sensitive receptors should be determined for the Environmental Impact Assessment process and used in air dispersion modelling. This modelling should include an assessment of the worst, best and most likely case air emissions using appropriate air dispersion modelling techniques to enable comparison of the predicted air quality against the appropriate air quality standards. Background monitoring should continue periodically after commencement of operation.

Recommendation 12 - To address community concerns, proponents should document in detail how dioxin and furan emissions will be minimised through process controls, air pollution control equipment and during non-standard operating conditions.

Recommendation 13 - Proposals must demonstrate that odour emissions can be effectively managed during both operation and shut-down of the plant.

Recommendation 14 - All air pollution control residues must be characterised and disposed of to an appropriate waste facility according to that characterisation.

Recommendation 15 - Bottom ash must be disposed of at an appropriate landfill unless approval has been granted to reuse this product.



Item 9.1 continued

Recommendation 16 - Any proposed use of process bottom ash must demonstrate the health and environmental safety and integrity of a proposed use, through characterisation of the ash and leachate testing of the by-product. This should include consideration of manufactured nanoparticles.

Recommendation 17 - Long term use and disposal of any by-product must be considered in determining the acceptability of the proposed use.

Recommendation 18 - Standards should be set which specify the permitted composition of ash for further use.

Recommendation 19 - Regular composition testing of the by-products must occur to ensure that the waste is treated appropriately. Waste by-products must be tested whenever a new waste input is introduced.

Recommendation 20 - Waste to energy plants must be sited in appropriate current or future industrial zoned areas with adequate buffer distances to sensitive receptors. Buffer integrity should be maintained over the life of the plant.

Recommendation 21 - For a waste to energy plant to be considered an energy recovery facility, a proposal must demonstrate that it can meet the R1 Efficiency Indicator as defined in WID.

Copies of the reports can be located at:

<http://www.epa.wa.gov.au/EIA/EPARReports/Pages/default.aspx>

Impact on proposed RRF at Red Hill

The EMRC were required to address most of these recommendations as part of the environmental impact assessment process for the waste to energy (gasification) option for the RRF at Red Hill, either in the PER document or in the response to questions and submissions. The proposal complies with these recommendations with the possible exception of Recommendation 21. The gasification option proposed was based on the Energos technology and this goes close to achieving the R1 Efficiency Indicator. The R1 Efficiency Indicator is designed for the northern hemisphere where waste heat can be utilised and where ambient conditions are more conducive to meeting this target.

If Recommendation 21 is applied to the approval for the RRF at Red Hill, the EMRC will consider a challenge as the classification as an energy recovery facility is only relevant in Europe.

STRATEGIC/POLICY IMPLICATIONS

Key Result Area 1 – Environmental Sustainability

1.3 To provide resource recovery and recycling solutions in partnership with member Councils

FINANCIAL IMPLICATIONS

All costs covered within this report are accounted for in the annual budget approved by Council.

SUSTAINABILITY IMPLICATIONS

The Resource Recovery Facility and/or Resource Recovery Park will contribute toward minimising the environmental impact of waste by facilitating the sustainable use and development of resources.



Item 9.1 continued

MEMBER COUNCIL IMPLICATIONS

Member Council	Implication Details
Town of Bassendean	} Nil
City of Bayswater	
City of Belmont	
Shire of Kalamunda	
Shire of Mundaring	
City of Swan	

ATTACHMENT(S)

Nil

VOTING REQUIREMENT

Simple Majority

RECOMMENDATION(S)

That the report be received.

RRC RECOMMENDATION(S)

MOVED CR RADFORD

SECONDED CR FÄRDIG

That the report be received.

CARRIED UNANIMOUSLY



9.2 HAZELMERE PYROLYSIS PROJECT UPDATE

REFERENCE: COMMITTEES-15654

PURPOSE OF REPORT

To advise Council on the status of the Hazelmere wood waste pyrolysis project and the next steps in the project implementation.

KEY ISSUES AND RECOMMENDATION(S)

- Following completion of the plant design in late 2012, independent reviews of the Hazelmere pyrolysis plant design have now been completed by Enertech, UWA's Centre for Energy and Verve Energy, the results of which have been forwarded to Ansac and Anergy for consideration.
- Ansac's application for grant funding for a full scale demonstration plant of wood waste to electricity, based on the Ansac kiln design was considered by the approving body for the Clean Technology Innovation Fund in May 2013 and Ansac have been advised they were successful.
- Ansac are in the process of finalising the funding agreement with the Commonwealth Government's Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, following which there will be an announcement.
- Meetings have been held with senior representatives of Ansac and Anergy to progress the project and facilitate the preliminary stages of project implementation.
- The financial model for the project is under review following which a business case will be developed.
- Project development costs will be required to develop a contract with Ansac, obtain environmental approvals and initiate applications for grid connection, electricity generation and the match grant payments to Ansac.
- Community engagement on the proposed project is being planned for the Hazelmere community.

Recommendation(s)

That Council proceed with the Hazelmere wood waste pyrolysis project subject to:

- a) Execution of a funding agreement between the Commonwealth Government and Ansac Pty Ltd for grant funding under the Clean Energy Innovation Fund;
- b) Development of a conditional contract between EMRC and Ansac for the engineering, procurement, construction and commissioning of the Hazelmere wood waste pyrolysis plant;
- c) Receipt of environmental and other statutory approvals for the project; and
- d) Development of a power purchase agreement between EMRC and an electricity retailer.

SOURCE OF REPORT

Chief Executive Officer
Manager Project Development



Item 9.2 continued

BACKGROUND

The 8 December 2011 meeting of Council (Ref: Committees-13323) considered the proposed investigation into the feasibility of pyrolysing wood waste and other residuals at EMRC's Hazelmere site and resolved that:

- "1. COUNCIL APPROVE EMRC PARTICIPATION IN A PROJECT TO ESTABLISH THE FEASIBILITY OF PYROLYSIS OF WOOD WASTE AND OTHER RESIDUALS AT HAZELMERE TIMBER RECYCLING CENTRE INVOLVING AN INITIAL FEASIBILITY STUDY FOLLOWED BY A SECOND STAGE DETAILED ENGINEERING STUDY.*
- 2. THE OUTCOMES OF THE FIRST STAGE FEASIBILITY STUDY WILL BE REPORTED TO COUNCIL AND APPROVAL SOUGHT TO PROCEED WITH THE SECOND STAGE FEASIBILITY STUDY."*

The 19 April 2012 meeting of Council (Ref: Committees-13576) resolved that:

"COUNCIL, BY ABSOLUTE MAJORITY:

- 1. APPROVES EXPENDITURE OF \$80,000 FOR THE SECOND STAGE DETAILED ENGINEERING STUDY INTO A PYROLYSIS PLANT AT EMRC'S HAZELMERE SITE INVOLVING THE SPECIFICATION OF THE PLANT EQUIPMENT REQUIRED AND A BETTER COST ESTIMATE.*
- 2. APPROVES THE REALLOCATION OF \$80,000 FROM 24399/00.JH (CONSTRUCT AND COMMISSION RESOURCE RECOVERY PARK) TO 72884/00.JF (EVALUATE RESOURCE RECOVERY PARK OPTIONS) TO COVER THE COSTS OF THE SECOND STAGE DETAILED ENGINEERING STUDY.*
- 3. SUPPORTS A GRANT APPLICATION TO THE CLEAN TECHNOLOGY INNOVATION FUND IN JULY 2012, TO BE PREPARED AND SUBMITTED BY ANSAC WITH INPUT FROM EMRC AND UWA AND SEEKING PROJECT FUNDING SUPPORT FOR A DEMONSTRATION WOOD WASTE PYROLYSIS FACILITY AT HAZELMERE."*

REPORT

Anergy completed the detailed engineering study of the Hazelmere wood waste pyrolysis plant in December 2012. Following this, as agreed with Anergy, independent reviews of the plant design were undertaken by Enertech, UWA's Centre for Energy and Verve Energy, the results of which have been forwarded to Ansac and Anergy for consideration. No major design flaws were identified but there were several suggestions made to simplify or enhance the efficiency of the process. These suggestions will be reviewed during the finalisation of the design.

Ansac's application to the Clean Technology Innovation Fund for a full scale demonstration plant of wood waste to electricity, based on the Ansac kiln design was considered by the approving body in May 2013 and Ansac have been advised they were successful in being granted the \$5 million requested. In awarding the funding, the Commonwealth considered the project an innovative example of a clean technology for energy generation utilising wood chip derived from waste timber, reducing greenhouse gas emissions by displacing grid connected power and with the potential benefit of producing a saleable bio-char by-product.

This will be the first plant of its type in Western Australia, using locally developed technology and could generate market development opportunities for Ansac and Anergy elsewhere in Australia and overseas.

Ansac are in the process of finalising the funding agreement with the Commonwealth Government's Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, following which there will be an announcement by the Hon. Greg Combet, Minister for Climate Change, Industry and Innovation.



Item 9.2 continued

Meetings have been held with senior representatives of Ansac and Anergy to progress the project and facilitate the preliminary stages of project implementation. This includes a requirement by the Commonwealth for both parties to sign a Heads of Terms agreement to facilitate the finalisation of the funding agreement with the Commonwealth Government together with preparations for an environmental approval for the project and a power purchase agreement with an energy retailer.

A draft contract will be developed between EMRC and Ansac for the engineering, procurement, construction and commissioning of the Hazelmere wood waste pyrolysis plant (EPC contract) and will be the subject of a future report to Council. Council approval to proceed with the project will be conditional on the execution of a contract between Ansac and EMRC, statutory approvals and a power purchase agreement with an electricity retailer. These aspects of the project development will require expenditure prior to Council approval to proceed with the project and before all the conditions of Council approval are met. Expenditure is estimated at up to \$150,000 (ex GST), which includes fees associated with the Western Power access application, fees to register as a participant in the electricity generation market, energy consultant fees and legal fees to prepare an EPC contract. There may also be a requirement for a matching payment of \$250,000 to Ansac under the terms of their agreement with the Commonwealth, once their agreement comes into effect. These costs can be met from the 2012/2013 and 2013/2014 Resource Recovery budget.

Other key aspects of the project which will be progressed in the lead up to a Council decision to proceed include the following:

Power purchase agreement

The sale of electricity is a key aspect of the project success and requires a power purchase agreement between EMRC and an electricity retailer. Preliminary discussions have been held with Synergy's power procurement section and further talks are being organised with other businesses in this market. Revenue from electricity sales includes the sale of the net output of the plant, sale of renewable energy certificates and capacity payments as a scheduled generator.

The other key aspect to the sale of electricity is access to the Western Power South West Interconnected System (SWIS) for export of power from the plant. An access application will be submitted as soon as the detailed information can be provided by Anergy because this process can take up to two years and will have to be carefully managed to meet the project requirements.

Financial Analysis

Financial analysis of the project economics is ongoing and is subject to internal review. Based on the preliminary assessment it appears to meet the EMRC investment criteria for net present value and an internal rate of return. A business case for investment by the EMRC is being developed as part of the Council approval process.

To maximise revenue from the sale of electricity, the hours of operation of the facility will need to match the peak electricity demand period of 8:00 am to 10:00 pm, requiring a two shift operation, Monday to Friday.

The supply of wood chip is not seen as an issue and the price of wood chip to the project is based on a marginal cost of \$10.00 per tonne. There is a significant surplus of wood chip due to the Laminex Group not having renewed their supply agreement and additional wood waste could be accepted if there was a market for hardwood wood chip.

The capital cost, which will be the subject of an EPC contract between Ansac and EMRC, is expected to be for a maximum consideration of \$5 million. This is provided for in the budget forecasts for 2013/2014 and 2014/2015.

For the purpose of the financial modelling, biochar has been costed as a disposal cost rather than a revenue. The potential market for biochar is believed to be substantial in the horticultural area and if able to be combined with carbon credits under the Federal Government Carbon Farming Initiative, could provide an income stream to the project. Preliminary discussions have been held with brick manufacturers where the biochar can be added to the brick before firing to reduce fuel consumption.



Item 9.2 continued

Environmental approval

Environmental approval will be required and preliminary work has commenced on this. When full details of potential emissions are available from Ansac/Anergy, an environmental approval will be discussed with the EPA/DEC. It is expected that the recent EPA issues paper on waste to energy will assist in the approval process.

Community Engagement

Community engagement planning on the proposed project is being finalised and will focus on the Hazelmere area.

Other Services required at Hazelmere

Natural gas will be required for daily start up of the kiln and back up heating. A connection application for natural gas will need to be progressed once the decision is made to proceed with the project. Similarly, a scheme water connection will be required for potable water and cooling and firewater services.

Project Timeline

The project schedule will be developed in conjunction with Ansac/Anergy and advised as part of the Council approval.

STRATEGIC/POLICY IMPLICATIONS

Key Result Area 1 – Environmental Sustainability

- 1.1 To provide sustainable waste disposal operations
- 1.3 To provide resource recovery and recycling solutions in partnership with member Councils
- 1.4 To investigate leading edge waste management practices

FINANCIAL IMPLICATIONS

Funds are provided in the annual budget for 2013/2014 and 2014/2015 for expenditure to undertake capital works for the project and once in operation would reduce expenditure to dispose of excess wood chip that the wood waste project may incur.

SUSTAINABILITY IMPLICATIONS

The Resource Recovery Project is aimed at reducing greenhouse gas emissions from the EMRC's waste disposal operations and State programmes for reduction of waste to landfill.

MEMBER COUNCIL IMPLICATIONS

Member Council	Implication Details
Town of Bassendean	} Nil
City of Bayswater	
City of Belmont	
Shire of Kalamunda	
Shire of Mundaring	
City of Swan	



Item 9.2 continued

ATTACHMENT(S)

Nil

VOTING REQUIREMENT

Recommendation 1) Simple Majority
Recommendation 2) Absolute Majority

RECOMMENDATION(S)

That Council proceed with the Hazelmere wood waste pyrolysis project subject to:

- a) Execution of a funding agreement between the Commonwealth Government and Ansac Pty Ltd for grant funding under the Clean Energy Innovation Fund;
- b) Development of a conditional contract between EMRC and Ansac for the engineering, procurement, construction and commissioning of the Hazelmere wood waste pyrolysis plant;
- c) Receipt of environmental and other statutory approvals for the project; and
- d) Development of a power purchase agreement between EMRC and an electricity retailer.

Cr Färdig tabled a variation to the officer recommendation and stated that it was important for the EMRC to ensure the Hazelmere wood waste pyrolysis project be progressed. He moved the substantive motion to authorise the CEO to enter into a contract subject to the conditions outlined in points b, c and d of the recommendation.

The reason for the substitute substantive motion is that the Hon. Greg Combet, Minister for Climate Change, Industry and Innovation in conjunction with the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education is very keen to announce this grant to Ansac and commence the funding arrangement. It can only do this if Council has resolved to proceed with the project, albeit a conditional approval as set out in the recommendation.

RRC RECOMMENDATION(S)

MOVED CR FÄRDIG

SECONDED CR RADFORD

That Council:

1. Proceed with the Hazelmere wood waste pyrolysis project.
2. Authorise the CEO to enter into a contract between EMRC and Ansac for the engineering, procurement, construction and commissioning of the Hazelmere wood waste pyrolysis plant subject to a, b, and c;
 - a) Execution of a funding agreement between the Commonwealth Government and Ansac Pty Ltd for grant funding under the Clean Energy Innovation Fund;
 - b) Receipt of environmental and other statutory approvals for the project; and
 - c) Development of a power purchase agreement between EMRC and an electricity retailer.

CARRIED UNANIMOUSLY



9.3 WMCRG PROGRESS REPORT

REFERENCE: COMMITTEES-15656

PURPOSE OF REPORT

To advise Council of a proposed extension of membership terms for the Waste Management Community Reference Group (WMCRG).

KEY ISSUES AND RECOMMENDATION(S)

- The term of the current thirteen members of the WMCRG expires on 30 June 2013.
- With the environmental approval process for the Resource Recovery Facility likely to extend beyond 30 June 2013 and the forthcoming development of the Resource Recovery Park at Hazelmere, the EMRC believes the terms of the WMCRG should be extended beyond 30 June 2013 to cover this development.
- At a previous meeting of the WMCRG, members indicated a willingness to continue in their current role for as long as the EMRC saw a role for the group.
- Meetings of the WMCRG have been held on a quarterly basis or as required to keep the group informed and provide feedback on project and waste education matters.
- With the exception of Mr Trevor Brown representing the Belmont area, it is recommended that all other members be offered an extension of their membership term.
- Endeavours will be made to find a replacement representative from Belmont.

Recommendation(s)

That Council extend the term of the current members of the WMCRG wishing to renominate for a further period of 18 months, from 1 July 2013 to 31 December 2014.

SOURCE OF REPORT

Manager Project Development

BACKGROUND

In December 2005, Council resolved to accept nominations for reappointment of the following WMCRG members from 1 January 2006 to 30 June 2007 (Ref: Committees 3920):

- Mr Peter Pearson
- Mrs Sally Paulin
- Mr Edwin Dell
- Ms Dianne Katscherian
- Mr Ted Brereton
- Ms Ruth Balding
- Ms Dot Kingston
- Mr Berry Ambrose
- Mr Ray Lewis
- Mr Malcolm Barker
- Ms Rachel Roberts
- Mr David Strain



Item 9.3 continued

Council also resolved at this meeting to accept the nomination for reappointment of Ms Janet Gee from 1 April 2006 to 30 September 2007.

In March 2006, Council resolved to appoint three new members of the WMCRG for a term of 18 months from 24 March 2006; Mr Anthony Fowler of Kalamunda, Ms Elizabeth Paterson of Cloverdale and Mr Julian Ilich of Kewdale (Ref: Committees-4292).

In October 2009, Ms Janet Gee resigned from the WMCRG upon being elected to Council at the City of Belmont.

In April 2010, (Ref: Committees-10698) Council resolved to accept the nominations for WMCRG membership from Ms Tina Klein and Mr Trevor Brown and to align the terms of all members to 31 December 2012 (Ref: Committees-13315).

On 8 December 2011, Council resolved to renew the memberships of the existing WMCRG members for a 12 month period from 1 January 2012 to 31 December 2012.

In December 2012 (Ref: Committees-14938), Council resolved to extend the terms of the following members for the term of 1 January 2013 to 30 June 2013:

- Ms Tina Klein
- Mr Peter Pearson
- Ms Sally Paulin
- Mr Trevor Brown
- Mr Anthony Fowler
- Mr Mark Simpson
- Ms Ruth Balding
- Mr Edwin Dell
- Ms Dianne Katscherian
- Mr Berry Ambrose
- Mr Malcolm Barker
- Mr Ray Lewis
- Mr David Strain

REPORT

WMCRG members met three times during 2012 and once so far in 2013 to be kept informed and provide feedback on community engagement and waste education matters.

It had been the intention to conclude the term of membership of the current group on 30 June 2013 on the basis that the EMRC would move towards a community engagement group based around Red Hill and Hazelmere.

In view of the extended environmental approval process for the Resource Recovery Facility at Red Hill and the proposed development of the Hazelmere Resource Recovery Park, EMRC officers believe that the current WMCRG can continue to serve a role for both projects, particularly given that two of the WMCRG members are from the Hazelmere area.

The WMCRG members present at the meeting on 8 October 2012, (Ref: Committees-14001) discussed this suggestion and indicated a willingness to continue in their current role as long as the EMRC saw a role for them.



Item 9.3 continued

Under the Terms of Reference for the WMCRG, nominations for renewal of memberships will be sought before 30 June 2013 with the exception of Mr Trevor Brown. Mr Brown has had difficulty attending meetings of the WMCRG and therefore will not be offered a renomination. At the time of writing this report, nine of the twelve members have agreed to renominate for a further term.

Endeavours will be made to find an alternative representative for Belmont.

Before this next term expires in December 2014, EMRC officers will give further consideration to the future role of the WMCRG and make a recommendation to Council on the best way of continuing the community engagement process taking into account the two groups currently being managed (WMCRG and the Red Hill Community Liaison Group) and a possible future role for the Community Task Force which completed its brief in 2011.

STRATEGIC/POLICY IMPLICATIONS

Key Result Area 1 – Environmental Sustainability

- 1.3 To provide resource recovery and recycling solutions in partnership with member Councils

FINANCIAL IMPLICATIONS

All costs covered within this report are accounted for in the annual budget approved by Council.

SUSTAINABILITY IMPLICATIONS

The Resource Recovery Facility and/or Resource Recovery Park will contribute toward minimising the environmental impact of waste by facilitating the sustainable use and development of resources.

ATTACHMENT(S)

Nil

VOTING REQUIREMENT

Simple Majority

RECOMMENDATION(S)

That Council extend the term of the current members of the WMCRG wishing to renominate for a further period of 18 months, from 1 July 2013 to 31 December 2014.

RRC RECOMMENDATION(S)

MOVED CR CARTER

SECONDED MR LUTEY

That Council extend the term of the current members of the WMCRG wishing to renominate for a further period of 18 months, from 1 July 2013 to 31 December 2014.

CARRIED UNANIMOUSLY



10 CONFIDENTIAL MATTERS FOR WHICH THE MEETING MAY BE CLOSED TO THE PUBLIC

Nil

11 GENERAL BUSINESS

The Chairman, on behalf of the Committee, acknowledged that this was the Director Waste Services' last RRC meeting and thanked him for all his work.

12 FUTURE MEETINGS OF THE RESOURCE RECOVERY COMMITTEE

The next meeting of the Resource Recovery Committee will be held on **Thursday, 4 July 2013 (if required)** at the EMRC Administration Office, 1st Floor, Ascot Place, 226 Great Eastern Highway, Belmont WA 6104 commencing at 5:00pm.

Future Meetings 2013

Thursday	4	July (if required)	at	EMRC Administration Office
Thursday	8	August (if required)	at	EMRC Administration Office
Thursday	5	September (if required)	at	EMRC Administration Office
Thursday	10	October (if required)	at	EMRC Administration Office
Thursday	21	November	at	EMRC Administration Office

13 DECLARATION OF CLOSURE OF MEETING

There being no further business, the Chairman declared the meeting closed at 5:40pm.