MINUTES

CERTIFICATION OF CONFIRMATION OF COMMITTEE MEETING MINUTES

5 APRIL 2012

I, Cr Radford, hereby certify that the following minutes pages 1 to 16 of the Meeting of **RESOURCE RECOVERY COMMITTEE** held on 5 April 2012 were confirmed at a meeting of the Committee held on 9 August 2012.

Signature

Cr Alan Radford

Person presiding at the Committee Meeting held on 9 August 2012

RESOURCE RECOVERY COMMITTEE

MINUTES

5 April 2012

(REF: COMMITTEES-13900)

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, 5 April 2012**. The meeting commenced at 5.01pm.

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1 DECLARATION OF OPENING AND ANNOUNCEMENT OF VISITORS

The Acting Chairman opened the meeting at 5.01pm.

2 ATTENDANCE, APOLOGIES AND LEAVE OF ABSENCE PREVIOUSLY APPROVED

Committee Members

Cr Alan Radford (**Deputy Chairman**)	EMRC Member	City of Bayswater
Cr Jennie Carter	EMRC Member	Town of Bassendean
Cr Glenys Godfrey	EMRC Member	City of Belmont
Cr Alan Pilgrim (Deputising for Cr Cuccaro)	EMRC Member	Shire of Mundaring
Cr Charlie Zannino (Deputising for Cr Färdig)	EMRC Member	City of Swan
Mr Doug Pearson	Director Technical Services	City of Bayswater
Mr Kevin Davidson (Deputising for Mr Ric Lutey)	Manager Health & Ranger Services	City of Belmont
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

Leave of Absence Previously Approved

*Cr Tony Cuccaro (**Chairman**), (from 9/03/2012-23/04/2012 inclusive)*

Apologies

Mr Ric Lutey	Director Technical Services	City of Belmont
Mr Clayton Higham	Director Development and Infrastructure Services	Shire of Kalamunda

Deputy Committee Members - Observers

Cr Gerry Pule	EMRC Member	Town of Bassendean

EMRC Officers

Mr Brian Jones	Director Waste Services
Mr Hua Jer Liew	Director Corporate Services
Mr Stephen Fitzpatrick	Manager Project Development
Mrs Annie Hughes-d'Aeth	Administration Support Officer (Minutes)

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 8 MARCH 2012

That the Minutes of the Resource Recovery Committee meeting held on 8 March 2012, which have been distributed, be confirmed.

RRC RESOLUTION(S)

MOVED CR GODFREY SECONDED MR PURDY

THAT THE MINUTES OF THE RESOURCE RECOVERY COMMITTEE MEETING HELD ON 8 MARCH 2012, 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-13902

PURPOSE OF REPORT

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

KEY ISSUES AND RECOMMENDATION(S)

- Meetings have been held with the Office of the Environmental Protection Authority (OEPA) and representatives of the Department of Environment and Conservation (DEC) branches that provided feedback on the draft Public Environmental Review (PER).
- Cardno and the sub consultants are in the process of conducting further investigations or finalising aspects of the PER to address the OEPA feedback.
- Taking into account the finalisation process and the OEPA final approval process, the release of the PER for public comment is not expected until May 2012.
- Preparations for communicating the availability of the PER for the public review period are almost complete.

Recommendation(s)
That the report be received.

SOURCE OF REPORT

Manager Project Development

BACKGROUND

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

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

"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, Council resolved that (*Ref: Committees-9922):*

"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, Council resolved that (*Ref: Committees-10346*):

"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 DVELOPMENT.

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, Council resolved in relation to the reference facility visits that (*Ref: Committees-10780*):

"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, Council resolved that (*Ref: Committees-10810*):

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

"*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, Council resolved that (*Ref: Committees-12150*):

"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, Council resolved (*Ref: Committees-12849*):

"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, a clarification of gasification technology was provided and what this class of thermal waste treatment technology includes. (*Ref: Committees-13114)*

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.

Item 9.1 continued

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

REPORT

Public Environmental Review (PER) Development

Meetings have been held with the OEPA, DEC branches and the project team to discuss responses to the issues raised in the OEPA feedback before final changes are made to the PER. The sub consultants are reviewing aspects of their respective studies to satisfy DEC concerns which will require additional expenditure and is provided for in their existing contracts. When the PER amendments are completed, the OEPA require a 2 week period to check any changes and approve the report for public release.

Item 9.1 continued

An updated schedule for the PER is as follows:

Details	Commencement	Completion	Target Timeframe
Submit draft PER to EPA	14 November 2011	19 December 2011	Milestone
Review by EPA	19 December 2011	3 February 2012	7 weeks
Revise PER & resubmit to OEPA	3 February 2012	10 April 2012	9 weeks
OEPA approval to Release	10 April 2012	23 April 2012	2 Weeks
Printing of PER, advertising	24 April 2012	4 May 2012	2 weeks
Public Review	7 May 2012	29 June 2012	8 weeks
EPA provide summary of submissions	2 July 2012	20 July 2012	3 weeks
Proponent Response	23 July 2012	3 August 2012	2 weeks
EPA Bulletin Preparation/Assessment	6 August 2012	26 October 2012	12 weeks
Appeals Period	29 October 2012	9 November 2012	2 weeks
Minister Consideration	12 November 2012	12 February 2013	3 Months

Community Engagement

Further to discussions at the March 2012 Resource Recovery Committee Meeting, community briefing sessions are planned at both Gidgegannup and at the Shire of Mundaring. Dates will be confirmed once the PER has been approved for release for public comment. In the meantime, the website updates are continuing (including a new question and answer page), a newsletter drop was done in the Gidgegannup/Red Hill area to inform residents of progress and the Resource Recovery Project database has been emailed a similar update.

Other Project Activities

Consultants Parsons Brinkerhoff have been contracted to undertake a preliminary geotechnical assessment of Lots 8, 9 and 10 and this work will complement work being undertaken by Cardno on the feasibility of using Lot 8 as an alternative location for the RRF once the rezoning application is resolved.

Over the next few months, Cardno are scheduled to review the financial model to address the impacts of the Clean Energy Act 2011 and to review the future sizing and staging of the RRF.

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. Cardno have been advised they have expended their approved budget for the environmental approvals for the project (Task 15) and a response is pending.

Item 9.1 continued

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.

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.

Discussion ensued
The Manager Project Development provided a brief update of the Resource Recovery Project.

Cr Pule left the meeting at 5.12pm.

The Chief Executive Officer summarised a press release issued on 4 April 2012 by the Minister for Environment; Water, the Hon. Bill Marmion on the Government's Review of the operation of Waste to Energy (WtE) facilities around the world.

RRC RECOMMENDATION(S)

MOVED CR ZANNINO SECONDED CR GODFREY

That the report be received.

CARRIED UNANIMOUSLY

9.2 INVESTIGATION INTO THE FEASIBILITY OF CONVERTING WOODWASTE AND OTHER RESIDUALS AT HAZELMERE INTO RENEWABLE POWER

REFERENCE: COMMITTEES-13576

PURPOSE OF REPORT

To advise Council on the progress of the investigation into the feasibility of pyrolysing woodwaste and other residuals at the EMRC's Hazelmere site as well as seek Council approval for the second stage detailed engineering study into a pyrolysis plant at EMRC's Hazelmere site.

KEY ISSUES AND RECOMMENDATION(S)

- Ansac, through their UK engineering and project services arm Anergy, have completed a report into the basic engineering assessment of the pyrolysis of woodwaste, greenwaste and refuse derived fuel (RDF).
- Samples of woodchip from Hazelmere and greenwaste from Red Hill were prepared and sent for analysis as requested by Anergy.
- The report shows that pyrolysis of these feedstocks to generate renewable power and a char product is technically feasible.
- The financial feasibility of the project has been investigated and results are presented.
- The project collaboration is proposed to be between EMRC, Ansac, and UWA's Centre for Energy for which a memorandum of understanding (MOU) has been drafted.
- A second stage detailed engineering study, costing $80,000 is proposed which will give better specification of the plant equipment required and a better capital cost estimate.
- It is proposed that the project partners, through Ansac, seek Federal funding support from the Clean Technology Innovation Fund at the appropriate time, likely to be early July 2012.

Recommendation(s)

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.

SOURCE OF REPORT

Manager Project Development

BACKGROUND

Previous report items to the Resource Recovery Committee have covered the EMRC's interest in the Ansac pyrolysis technology and the preparation and supply of a 30 tonne sample of refuse derived fuel (RDF) in conjunction with the City of Swan (*Ref: Committees 12821*). EMRC and City of Swan officers have visited the Ansac Bunbury site on several occasions, most recently in July 2011 to inspect the pilot plant and observe the processing of the RDF material.

Item 9.2 continued

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.

4. THE OUTCOMES OF THE FIRST STAGE FEASIBILITY STUDY WILL BE REPORTED TO COUNCIL AND APPROVAL SOUGHT TO PROCEED WITH THE SECOND STAGE FEASIBILITY STUDY."

At the 8 March 2012 meeting of the RRC, the Manager Project Development gave a presentation on the status of the initial feasibility study.

REPORT

Anergy Ltd is the Cardiff based project and engineering services arm of the Actinon Group, which includes kiln and thermal processing manufacturer Ansac Pty Ltd of Bunbury. Anergy commenced work on the initial feasibility study in late November 2011 looking at the pyrolysis of wood waste, green waste and RDF.

Samples of pine woodchip, jarrah woodchip and a mixed pine/jarrah woodchip together with shredded greenwaste were analysed by HRL's laboratory in Victoria for proximate analysis (moisture, ash content, volatile matter and fixed carbon), ultimate analysis (major and minor elements) and calorific value. RDF has not been analysed for the study, instead Anergy have used generic values from elsewhere. A quantitative characterisation for the baled waste from the City of Stirling was reviewed as a possible source of RDF but it was thought that it would be unsuitable feedstock without significant pre-treatment.

Bore water from Hazelmere was also analysed to assess its suitability as process water for the facility and found to be acceptable.

Anergy have completed a draft report on the basic engineering assessment while the financial feasibility is still under review as at the time of writing. The study shows that pyrolysis of these feedstocks is technically feasible with the Ansac technology and pyrolysis of 10,000 tonnes/year of feedstock would result in the generation of between 2.5 MW and 3.08 MW of electrical energy (dependent upon the feedstock) and the production of approximately 1,000 tonnes/year of biochar. The capital cost is estimated at $9.27 million (plus or minus 20%).

The footprint of the facility is quite small at about 1,800 m^2 or 0.18 hectares. Emissions of pollutants to the atmosphere are expected to be very low because of the nature of the pyrolysis process, the syngas cleanup and the incorporation of a thermal oxidizer for heat treatment of off gases before discharge to the exhaust flue.

The financial feasibility has been analysed by EMRC and independent consultant Mr Terry Ord, based on the economic modelling provided by Anergy. This has involved testing and correcting the assumptions made by Anergy for revenues and costs and making these relevant to local conditions and gaining a better understanding of the electricity market and the potential for carbon credits and biochar revenue under the Federal Government Clean Energy initiative.

Current preliminary advice is that any emissions from the pyrolysis facility would not be "covered emissions" under section 30(3) of the Clean Energy Act 2011 and therefore would not give rise to any liability under the Carbon Price mechanism because woodchip (or greenwaste) feedstock is classed as biomass. Secondly, as a stand-alone facility at Hazelmere, the plant emissions would be well under the facility threshold of 25,000 t CO_2 equivalent per annum. Also, the project would not qualify for carbon credits under the Carbon Farming Initiative (CFI) because:

1 There is not any applicable determined methodology for estimating abatement for pyrolysis or any of the alternative waste treatment (AWT) technologies; and

2 The AWT projects are not listed on the Positive List (part of the CFI's additionality test).

Item 9.2 continued

To get pyrolysis or any other AWT project on the Positive List and an approved applicable determined methodology could be achieved but would take some time and require expenditure on consultants to develop the methodology and have it considered and endorsed by the Domestic Offsets Integrity Committee (DOIC) and then approved by the Federal Minister for Climate Change.

Even if these hurdles were passed, the AWT projects would only qualify as non-Kyoto projects to be issued non-Kyoto Australian Carbon Credit Units (ACCU's) that could not be used for compliance under the Carbon Price, and therefore likely have a lesser value. The AWT projects may be able to qualify for Kyoto ACCU's if the Kyoto Protocol (or any successor) is amended to allow such projects to be used to meet Australia's climate change targets under the Kyoto Protocol (or any successor).

Therefore, financial modelling for the Hazelmere pyrolysis project has excluded any liability for carbon emissions and any potential revenue from carbon credits. Carbon credits for biochar produced and applied to soil may be applicable but this has been excluded for the time being.

Grid Connection and electricity revenue

Discussions have commenced with Western Power to determine the cost and timeline for a grid connection for the project at Hazelmere and independent advice has been obtained on the potential revenue earned from the export of renewable electricity into the grid system. Revenue is in three parts – capacity payments, energy payments and renewable energy certificates (REC's). Capacity payments are based on being a generator in the interconnected grid system for which annual payments are received, currently around $150,000/MWe per year, subject to meeting supply obligations when requested. The energy payments are for units of energy sold wholesale to a retailer or sold on the balancing market (likely to be around $0.05/KWh) plus renewable energy certificates (REC's) for producing renewable energy, currently worth around $25/MWh exported.

Applications for Western Power connections are queued and the delay can be several years for a large generator. In this case, the plant would be classed as a small to medium sized generator and could take in excess of a year for a connection agreement to be finalised. At this stage, the application and connection time is not seen as a delay in the project schedule, if it were to proceed.

Federal Funding Support

Ansac and the EMRC believe this project would be eligible for funding under the Federal Government Clean Technology Innovation Program which supports the research, development and commercialisation of clean technology products, processes and services.

This is a $200 million program operating over 5 years with the first round of applications likely to be called for around June 2012. This program provides grants of between $50,000 and $5 million on a dollar for dollar matching funding basis for early stage commercialisation activities that lead to the development of new clean technologies including low emission and energy efficient solutions that reduce greenhouse gas emissions.

If the project was successful in receiving matching funding from the Clean Technology Innovation Program, this would reduce the capital cost to approximately $4.6 million enhancing the viability of the project. This funding would have to be sought by Ansac because the applications are limited to incorporated businesses in Australia (a non- tax exempt company incorporated under the Corporations Act 2001) which undertake manufacturing activities in Australia. The funding application will be prepared by Ansac with help from UWA and reviewed by EMRC officers.

The EMRC would fund the remainder of the capital investment (through Ansac) together with the two stage feasibility costs. At the end of the project, EMRC would own and operate the asset.

At the conclusion of the second stage detailed engineering study, the project feasibility will be reassessed to examine the financial viability and whether to proceed further, subject to grant funding.

Item 9.2 continued

Financial modelling

Discounted cash flow analysis has been used to model the project over a 20 year period. Key assumptions are that:

1. Net electricity exported would be partly sold (1 MW) to a third party at $0.10/KWh and partly (1.9 MW) to the IMO at $0.05/KWh.
2. REC's of $25/MWh are received.
3. A Capacity Credit of $150,000/MW per year is received.
4. Gate fees of $40/tonne are derived from the wood waste processed.
5. Biochar is disposed as an inert waste at $10/tonne.
6. Discount rate of 8%.

The financial analysis shows a positive Net Present Value (NPV) of $3.7m with grant funding from the Federal Government Clean Technology Innovation Program. More definitive data is needed from Anergy on the capital costs to justify the project proceeding.

For example, if Anergy were able to reduce the capital cost estimate by 10% through the second stage engineering study, the capital cost would reduce to $8.43m, which has a positive effect on the NPV

These results will be presented at the meeting and show that the second stage engineering study by Anergy is worthwhile as is a grant application to the Federal Government Clean Technology Innovation Program. Also the possibility of energy sales to dedicated customers should be investigated further together with other possible revenue streams such as biochar CFI credits.

Project partners

It was previously proposed to establish the feasibility of the Hazelmere pyrolysis plant as a collaborative effort with Ansac together with input from Verve Energy and UWA Centre for Energy under a memorandum of understanding. Discussions were held with Verve Energy seeking a financial contribution but the officers involved were unable to make such a commitment. Their preferred involvement is to provide assistance and support as necessary but not to enter into an MOU at this stage. They are happy to provide a letter of support for any grant application and are also happy to sign a confidentiality agreement if required to enable open communications going forward.

A draft MOU has been prepared for the collaboration between EMRC, Ansac/Anergy and UWA for final approval by the participants.

Next Steps

It is proposed to proceed with the second stage detailed engineering study involving the specification of the plant equipment required and a better capital cost estimate. This detailed engineering study will involve expenditure of approximately $80,000 and is proposed to be funded from the Resource Recovery budget by reallocating capital expenditure from cost centre 24399/00.JH - Construct and Commission Resource Recovery Park to cost centre 72884/00.JF – Evaluate Resource Recovery Park Options. If approved, the study could be completed by late July 2012.

The detailed engineering study will include documenting:

- A comprehensive scope of work for a design and build contract (DBC);
- A fixed and firm capital cost at which Anergy would complete the DBC;
- Commercial terms and conditions for the DBC;
- Confirmation of operating costs; and

Item 9.2 continued

- Plant technical details including:
  - Site layout;
  - Plant arrangement drawings including plan and elevations;
  - Plant design criteria;
  - Process flow sheets including materials and energy balance data;
  - Piping and instrumentation diagrams;
  - Control philosophy;
  - Electrical single line diagram;
  - Preliminary hazard analysis;
  - Major equipment drawings; and
  - Project schedule.

This information will define the detail of the plant to enable capital and operating costs to be consolidated, financial modelling to be refined and a business case established before a decision can be made on proceeding with the project, subject to Federal Government funding support.

Project Timeline

The project timeline is currently being developed. Anergy have provided a timeline for the completion of the detailed engineering study (12 weeks) and the building of the pyrolysis plant (52 weeks from contract award). This timeframe will include Council approval stages and regulatory approval stages.

Milestone	Week
Award of Detailed Engineering Study	0
Detailed Engineering Study Completion	12
Award of Project Build Phase	0
Purchase Order for Gas Engines	2
Purchase Order for Pyrolysis Kiln(s)	4
Commencement of Site Construction	24
Delivery of Gas Engines	42
Delivery of Pyrolysis Kiln(s)	36
Mechanical Completion	46
Project Completion and Handover	**52**

Independent review of the Anergy Report

Approval has been sought from Anergy to have the finalised feasibility study subject to an independent review.

Community Engagement

EMRC officers have had preliminary discussions with the DEC regarding the proposed development of the Hazelmere site and approvals required. It is proposed to submit a Works Approval application for the proposed pyrolysis plant at Hazelmere at the appropriate time after the conclusion of the second stage of the feasibility study and once Council has resolved to proceed with the project. At the same time as the approvals are commenced, community engagement with the Hazelmere community through the Hazelmere Progress Association will be initiated. The last briefing of the Hazelmere Progress Association was in 2010 in relation to the Resource Recovery Facility prior to the Red Hill site being confirmed as the preferred site.

Item 9.2 continued

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

The engineering study will involve approximately $80,000 in expenditure and will be funded from a reallocation of capital expenditure in the cost centre 24399/00.JH – Construct and Commission Resource Recovery Park to 72884/00.JF – Evaluate Resource Recovery Park Options. The annual budget provides for an amount of $215,500 in cost centre 24399/00.JH - Construct and Commission Resource Recovery Park and an amount of $10,000 in cost centre 72884/00.JF – Evaluate Resource Recovery Park Options.

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	

ATTACHMENT(S)

Nil

VOTING REQUIREMENT

Absolute Majority

Item 9.2 continued

RECOMMENDATION(S)

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.

Discussion ensued

The Manager Project Development gave a presentation on the Hazelmere Waste to Energy (Pyrolysis) Project.

Cr Pule re-entered the meeting at 5.15pm.

A brief discussion ensued on the reallocation of the $80,000 for the second stage detailed engineering study.

The Acting Chairman thanked the Manager Project Development for his presentation.

RRC RECOMMENDATION(S)

MOVED CR PILGRIM SECONDED CR GODFREY

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.

CARRIED UNANIMOUSLY

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

Nil

11 GENERAL BUSINESS

The closure of the SMRC facility in Canning Vale was briefly discussed in relation to any potential impact on the EMRC.

12 FUTURE MEETINGS OF THE RESOURCE RECOVERY COMMITTEE

The next meeting of the Resource Recovery Committee will be held on ***Thursday, 10 May 2012*** **(*if required)*** at the EMRC Administration Office, 1st Floor, Ascot Place, 226 Great Eastern Highway, Belmont WA 6104 commencing at 5.00pm.

Future Meetings 2012

Thursday	10	May (if required)	at	EMRC Administration Office
Thursday	7	June	at	EMRC Administration Office
Thursday	5	July (if required)	at	EMRC Administration Office
Thursday	9	August	at	EMRC Administration Office
Thursday	6	September (if required)	at	EMRC Administration Office
Thursday	4	October	at	EMRC Administration Office
Thursday	22	November (if required)	at	EMRC Administration Office

13 DECLARATION OF CLOSURE OF MEETING

There being no further business, the Chairman closed the meeting at 5.37pm.