



## MINUTES

### CERTIFICATION OF CONFIRMATION OF COMMITTEE MEETING MINUTES

**22 NOVEMBER 2012**

I, Cr Cuccaro, hereby certify that the following minutes pages 1 to 32 of the Meeting of **RESOURCE RECOVERY COMMITTEE** held on 22 November 2012 were confirmed at a meeting of the Committee held on 7 February 2013.

A handwritten signature in blue ink, consisting of several loops and a long horizontal stroke, positioned above a thin horizontal line.

**Signature**

Cr Tony Cuccaro

**Person presiding at the Committee Meeting held on 7 February 2013**

## RESOURCE RECOVERY COMMITTEE

### MINUTES

22 November 2012

(REF: COMMITTEES-14859)

A meeting of the Resource Recovery Committee was held at the EMRC Administration Office, 1<sup>st</sup> Floor, 226 Great Eastern Highway, BELMONT WA 6104 on **Thursday, 22 November 2012**. The meeting commenced at **5:00pm**.

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## 1 DECLARATION OF OPENING AND ANNOUNCEMENT OF VISITORS

The Chairman opened the meeting at 5:00pm.

## 2 ATTENDANCE, APOLOGIES AND LEAVE OF ABSENCE PREVIOUSLY APPROVED

### Committee Members

Cr Tony Cuccaro ( <b>Chairman</b> )	EMRC Member	Shire of Mundaring
Cr Alan Radford ( <b>Deputy Chairman</b> )	EMRC Member	City of Bayswater
Cr Jennie Carter	EMRC Member	Town of Bassendean
Cr Glenys Godfrey	EMRC Member	City of Belmont
Cr Frank Lindsey ( <i>from 5:15pm</i> )	EMRC Member	Shire of Kalamunda
Cr David Färdig	EMRC Member	City of Swan
Mr Simon Stewert-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 Shane Purdy	Director Infrastructure Services	Shire of Mundaring
Mr Colin Pumphrey (Deputising for Mr Coten)	Manager Fleet and Waste Services	City of Swan
Mr Peter Schneider	Chief Executive Officer	EMRC

### Apologies

Mr Clayton Higham	Director Development and Infrastructure Services	Shire of Kalamunda
Mr Jim Coten	Executive Manager Operations	City of Swan

### 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
Mrs Annie Hughes-d'Aeth	Administration Support Officer

## 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 4 OCTOBER 2012**

That the Minutes of the Resource Recovery Committee meeting held on 4 October 2012, which have been distributed, be confirmed.

**RRC RESOLUTION(S)**

MOVED CR FÄRDIG

SECONDED CR GODFREY

THAT THE MINUTES OF THE RESOURCE RECOVERY COMMITTEE MEETING HELD ON 4 OCTOBER 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-14935**

#### **PURPOSE OF REPORT**

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

#### **KEY ISSUES AND RECOMMENDATION(S)**

- A submission on the Public Environmental Review (PER) from the Department of Environment and Conservation (DEC) Air Quality Management Branch was received on 10 October 2012.
- The project team are preparing responses to the DEC and Office of the Environmental Protection Authority (OEPA) comments to the submissions and waiting for the summary of issues to be addressed from the public submissions.
- A section 43A amendment to the RRF proposal has been lodged with the EPA and the proposed relocation of the RRF site to Lot 8 (site E) has been approved.

#### **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 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, 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).

On October 2012, Council resolved that (Ref: Committees-14694):

- "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**

<b>Acceptable Tenderers as at 1 September 2011</b>	<b>Technology Offered at EOI Stage</b>
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**

A submission on the PER from the DEC's Air Quality Management Branch was received on 10 October 2012 and contains 33 recommendations. The most significant issues from the DEC perspective are:

- Provenness of gasification at the scale proposed and on a mixed waste stream;
- Potential odour and noise impacts at sensitive receptors; and
- Air quality modelling shortcomings.

The comments/recommendations from the DEC together with those from the OEPA and the Department of Health, Department of Indigenous Affairs, Department of Water and the City of Belmont are being addressed by the project team and a response will be made by mid-November 2012. This has involved input from the sub-consultants on their work and obtaining feedback from the acceptable tenderers, where applicable.

The summary of issues to be addressed covering in particular the public submissions is still pending from the OEPA. When this is received, the timeline for the PER process will be reviewed with the EPA.

An amendment to the proposal relating to the relocation of the preferred site for the RRF to Lot 8 (site E) Toodyay Road has been submitted to the EPA and the proposed change has been approved by the EPA Chairman.

### **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 have prepared a summary of costs to support a contract variation. This may be the subject of a future report, subject to final negotiations.

### **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**

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

### **ATTACHMENT(S)**

Nil



*Item 9.1 continued*

**VOTING REQUIREMENT**

Simple Majority

**RECOMMENDATION(S)**

That the report be received.

**Discussion ensued**

The Chief Executive Officer advised members that the proposed relocation of the RRF site to Lot 8 (site E) had been approved by the EPA.

Cr Pule commended Officers on the approval process.

**RRC RECOMMENDATION(S)**

MOVED CR FÄRDIG

SECONDED CR CARTER

That the report be received.

**CARRIED UNANIMOUSLY**



## 9.2 HAZELMERE PYROLYSIS PROJECT UPDATE

**REFERENCE: COMMITTEES-14934**

### PURPOSE OF REPORT

To advise Council on the progress of the investigation into the feasibility of pyrolysing wood waste at EMRC's Hazelmere site.

### KEY ISSUES AND RECOMMENDATION(S)

- The second stage detailed engineering study is continuing and is due for completion in mid November 2012.
- The draft application to the Clean Technology Innovation Fund was submitted in October and supportive feedback is being used to amend the proposal ahead of a mid November 2012 submission.
- Planning for stakeholder engagement is completed.

#### **Recommendation(s)**

That the report be received.

### SOURCE OF REPORT

Manager Project Development

### BACKGROUND

Previous report items to the Resource Recovery Committee have covered the EMRC's interest in the Anzac 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 Anzac Bunbury site on several occasions, most recently in July 2011 to inspect the pilot plant and observe the processing of the RDF material.

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.”

At the 8 March 2012 meeting of the RRC, the Manager Project Development gave a presentation on the status of the initial feasibility study (Ref: Committees-13461).



*Item 9.2 continued*

The 19 April 2012 meeting of Council resolved that (Ref: Committees-13603):

“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.”

The 4 October 2012 RRC meeting was briefed on the outcomes of the August 2012 visit to China to inspect gas engines being considered for the project (Ref: Committees-14717).

## REPORT

### **Second Stage Detailed Engineering Study**

Anergy have continued to develop the detailed engineering design, which is now scheduled for completion mid November 2012 at which point we will be provided with the following documentation:

- Plant Flowsheets;
- Piping and Instrument Drawing;
- Control Philosophy; and
- Equipment List.

The final report from Anergy with the commercial aspects will follow 1 to 2 weeks later.

### **Grant application to the Clean Energy Innovation Fund**

A draft application to the Clean Energy Innovation Fund was made by Ansac on 15 October 2012 and a meeting was held with AusIndustry on 18 October 2012 to receive feedback. The AusIndustry officers were very supportive of the application and the questions and actions have been constructive and positive. Subsequent to this meeting, Ansac and the EMRC have been working to address the comments received and a final submission will likely be made the week of 12 November 2012.

The Clean Technology Innovation Committee will meet once more prior to Christmas and again after January 2013 to assess applications.

### **Site services**

Further discussions have been held with Western Power on the process and timeline for a grid connection and it is proposed to commence the connection application due to the long lead time. Site electrical drawings and built drawings have been updated.

### **Project Timeline**

The project schedule has been revised in conjunction with Ansac to include the milestones identified in the Clean Technology Innovation Fund application.

### **Independent review of the Anergy design**

The independent review of the design is expected to occur in late November 2012 through Enertech, UK.



*Item 9.2 continued*

### **Community Engagement**

A community engagement strategy has been prepared by the Community Engagement Officer for the Hazelmere Resource Recovery Park with input from consultant's Synnott Mulholland. A planning workshop with the executive management team is to be held soon to set the vision for the Resource Recovery Park.

### **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 2012/2013 and 2013/2014 for expenditure to complete the necessary studies into the project feasibility and commence capital works if the project should proceed.

### **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**

<b>Member Council</b>	<b>Implication Details</b>
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.



*Item 9.2 continued*

Discussion ensued

The Chairman acknowledged EMRC officers' commitment to the project.

**RRC RECOMMENDATION(S)**

MOVED CR GODFREY

SECONDED CR FÄRDIG

That the report be received.

**CARRIED UNANIMOUSLY**



### **9.3 RENEWAL OF WASTE MANAGEMENT COMMUNITY REFERENCE GROUP MEMBERSHIPS**

**REFERENCE: COMMITTEES-14938**

#### **PURPOSE OF REPORT**

To advise Council of a proposed extension of membership terms for the Waste Management Community Reference Group (WMCRG) to 30 June 2013.

#### **KEY ISSUES AND RECOMMENDATION(S)**

- WMCRG members have continued to meet on a quarterly meeting schedule as required throughout 2012 to keep informed and provide feedback on community engagement and waste education matters.
- The term of the current thirteen members of the WMCRG expires on 31 December 2012.
- With the environmental approval process for the Resource Recovery Facility extending into 2013 and the development of the Resource Recovery Park at Hazelmere, the EMRC believes the terms of the WMCRG should be extended to mid 2013 to cover this period.
- The WMCRG members present at the meeting on 8 October 2012 indicated a willingness to continue in their current role as the Resource Recovery Project progresses through the environmental approvals phase.
- Acceptances have been received from all thirteen current members to renew their membership terms until 30 June 2013.
- Before the 30 June 2013, the future role of the WMCRG will be reconsidered and a recommendation made to Council.

#### **Recommendation(s)**

That Council accept the nominations for reappointment to the WMCRG 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



*Item 9.3 continued*

## **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

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).

## **REPORT**

WMCRG members have continued to meet on a quarterly basis as required throughout 2012 to keep informed and provide feedback on community engagement and waste education matters.

With the term of the current thirteen members of the WMCRG expiring on 31 December 2012, the EMRC has suggested extending their terms until 30 June 2013 to cover the environmental approval process for the Resource Recovery Facility and the development of the Resource Recovery Park at Hazelmere.

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.

Under the Terms of Reference for the WMCRG, nominations for renewal of memberships were sought and acceptances were received from all thirteen current members.





*Item 9.3 continued*

The following thirteen renominations were received:

- 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

Before the 30 June 2013, 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



*Item 9.3 continued*

### **RECOMMENDATION(S)**

That Council accept the nominations for reappointment to the WMCRG 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

### **RRC RECOMMENDATION(S)**

MOVED CR GODFREY

SECONDED CR RADFORD

That Council accept the nominations for reappointment to the WMCRG 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

**CARRIED UNANIMOUSLY**



## 9.4 WASTE EDUCATION STRATEGY

**REFERENCE: COMMITTEES-14925**

### PURPOSE OF REPORT

To seek endorsement from Council for the revised Regional Waste Education Strategy.

### KEY ISSUES AND RECOMMENDATION(S)

- The Regional Waste Education Strategy developed in 2005 has been reviewed and updated.
- A workshop was held with the Regional Waste Education Steering Group in September 2012 to review the Regional Waste Education Strategy, with follow up meetings to develop a revised strategy.
- The Waste Management Community Reference Group was asked for input into the revised strategy in October 2012.
- The Regional Waste Education Strategy continues to position the EMRC and the six member Councils as key players in regional waste management projects and programs.
- Maintaining and improving member Council waste education and communication will provide more effective education and partnership outcomes for the member Councils and the community.

#### **Recommendation(s)**

That Council endorse the revised Regional Waste Education Strategy 2013-2015.

### SOURCE OF REPORT

Manager Project Development  
Waste Education Coordinator

### BACKGROUND

The Regional Waste Education Steering Group (RWESG) was formally endorsed by member Councils and the EMRC in 2004 to guide the development and delivery of a waste education program on a regional basis.

During April and May 2005, each member Council adopted in principle support for:

- "1. A REGIONAL STRUCTURE FOR WASTE EDUCATION IN THE EMRC REGION WITH THE EMRC AS COORDINATOR AND THE MEMBER COUNCILS, THROUGH THE MEMBER COUNCIL STEERING GROUP, PROVIDING DIRECTION AND INPUT;  
AND*
- 2. THE DEVELOPMENT OF A 3-YEAR, COSTED, REGIONAL WASTE EDUCATION STRATEGY TO BE REVIEWED BY THE MEMBER COUNCILS STEERING GROUP, TECHNICAL ADVISORY COMMITTEE (TAC), EMRC AND MEMBER COUNCILS."*

### REPORT

The Regional Waste Education Strategy is a model for continuous improvement and in February 2012 consultants Research Solutions were commissioned to evaluate community perceptions, knowledge and attitudes towards waste management and the effectiveness of EMRC waste education initiatives. A series of focus groups and online surveys were conducted with residents from Perth's Eastern Region.

Results from the research were presented at RWESG, WMCRG and RRC meetings between May and July 2012. The results from the research have helped to inform and guide the future direction of the Regional Waste Education Strategy.



*Item 9.4 continued*

### **Review Workshops and Planning**

A consultative approach was taken to develop the new strategy. A workshop was held with the Regional Waste Education Steering Group (RWESG) in September 2012 to review the strategy and make changes. The RWESG provided further input to the plan during their October meeting and the final strategy was developed. The revised strategy was presented to the Waste Management Community Reference Group (WMCRG) during their October 2012 meeting for comment. The strategy was endorsed by both the RWESG and WMCRG.

The workshops and meetings focussed on the following:

- Outcomes of the existing Regional Waste Education Strategy and communication campaign;
- Desired outcomes of a new Regional Waste Education Strategy;
- Change management approaches (considering future Resource Recovery options);
- Existing and new activities to be included and the rationale behind their inclusion; and
- Prioritising implementation of the selected activities.

### **Strategy**

The revised Regional Waste Education Strategy (2013 – 2015) aims to position the EMRC and the six member councils as key players in regional waste management and programs. The Strategy is aligned with the EMRC Strategic Plan for the Future and the Western Australian Waste Strategy (March 2012). It has been streamlined to focus on four objectives:

- To increase awareness of the region's waste management initiatives, in particular the Resource Recovery Project;
- To increase community involvement in the region's waste management initiatives and capacity to practise waste avoidance;
- To continue to develop sustainable regional partnerships for effective local and regional waste education and communications; and
- To provide, advice and advocacy on waste-related issues.

The revised strategy is applicable for a three year (financial year) period. A summary of the strategy with actions is shown in the Attachment. Specific performance measures will be developed from the considerations provided in the table.

### **Implementation**

The model developed for the operation of the Regional Waste Education Strategy is based on that of the previous Waste Education Strategy and includes:

<b>Planning</b>	Workshops with the RWESG and the WMCRG
<b>Implementing</b>	Implementation of agreed activities, coordinated by EMRC Waste Education
<b>Ongoing liaison and support</b>	Provided by the Waste Education Coordinator and Waste Education Officer, with specific roles and responsibilities for members of the RWESG and the WMCRG
<b>Ongoing monitoring</b>	Undertaken through monthly meetings of the RWESG and quarterly meetings of the WMCRG
<b>Assessing and reviewing</b>	Qualitative and quantitative surveys conducted by external consultant
<b>Evaluating and reporting</b>	Evaluation of program activities will be incorporated into the planning phase to ensure continual improvement



*Item 9.4 continued*

## **STRATEGIC/POLICY IMPLICATIONS**

The strategic/policy implications of regional waste education initiatives are encapsulated in the following EMRC Strategic Plan Key Result Areas:

### Key Result Area 1 – Environmental Sustainability

- 1.1 To provide sustainable waste disposal operations
- 1.2 To improve regional waste management
- 1.3 To provide resource recovery and recycling solutions in partnership with member Councils

### Key Result Area 4 – Good Governance

- 4.2 To provide advice, lobbying and advocacy
- 4.4 To manage partnerships and relationships with stakeholders

## **FINANCIAL IMPLICATIONS**

The Waste Education Program is funded through the waste education charge of \$3.00 per tonne of member Council waste to landfill. A total expenditure of \$401,014 has been allowed for in the 2012/2013 from the Waste Education budget.

## **SUSTAINABILITY IMPLICATIONS**

Reducing and managing waste in Perth's Eastern Region is fundamental to ensuring a healthy environment and a good quality of life for residents.

A well coordinated waste education program with the EMRC, the member Councils and the WMCRG working together will result in long term sustainable outcomes.

## **MEMBER COUNCIL IMPLICATIONS**

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

## **ATTACHMENT**

Regional Waste Education Strategy 2013-2015 (Ref: Committees-14955)



*Item 9.4 continued*

**VOTING REQUIREMENT**

Simple Majority

**RECOMMENDATION(S)**

That Council endorse the revised Regional Waste Education Strategy 2013–2015.

**RRC RECOMMENDATION(S)**

MOVED CR RADFORD

SECONDED CR CARTER

That Council endorse the revised Regional Waste Education Strategy 2013–2015.

**CARRIED UNANIMOUSLY**

**Objective 4 To provide lobbying and advocacy on waste-related issues**

**Strategy 4.1 Undertake lobbying and advocacy activities to support waste reduction and recycling**

Initiative	
4.1.1	Participate in consultative groups regarding state and local government directions in waste education
4.1.2	Contribute knowledge in regional and state forums in the development of cohesive waste education communications and programs

**Objective 5 To research and continually improve waste education programs**

**Strategy 5.1 Develop monitoring & research systems to maintain an understanding of stakeholder knowledge, attitudes and behaviour regarding waste management in the region**

Initiative	
5.1.1	Maintain and develop qualitative and quantitative research and evaluation (biennially and ongoing)

**Strategy 5.2 Create opportunities for enabling research and evaluation of existing and potential waste education projects**

Initiative	
5.2.1	Continue to foster relationships with tertiary institutions to develop research opportunities in waste education
5.2.2	Research and develop education programs focused on transition/change management
5.2.3	Research current waste education learning and practices in the region's primary schools

**Strategy 5.3 Monitor local and international waste education developments and trends**

Initiative	
5.3.1	Monitor local and international waste education developments and trends which are applicable for the region
5.3.2.	Monitor national curriculum developments and how they might impact on waste education
5.3.3	Present papers at conferences on waste education projects and initiatives

# Regional Waste Education Strategy 2013 - 2015



**Objective 1 To increase awareness of the region’s waste management initiatives, in particular the Resource Recovery Project**

**Strategy 1.1 Maintain a dynamic regional and local waste education and communication campaign**

Initiative	
1.1.1	Maintain and improve the annual Waste & Recycling Guide and A-Z Disposal Guide
1.1.2	Develop a streamlined promotional plan which uses a variety of media for different target audiences
1.1.3	Maintain, review and update the RGang website
1.1.4	Increase profile of Red Hill Environmental Education Centre & Red Hill Waste Management Facility
1.1.5	Continue updating and improving existing displays in Environmental Education Centre
1.1.6	Develop regular Regional Recycling [Waste Management] Reports for residents
1.1.7	Support new recycling initiatives through the development of new promotional materials and integration into existing communications
1.1.8	Undertake regular review of future financial requirements for waste education
1.1.9	Continue promoting the events recycling trailer for use in council events
1.1.10	Promote waste management through major national campaigns & events (e.g. National Recycling Week; KAB week; International Composting Awareness Week ICAW)

**Strategy 1.2 Continue to raise awareness of the Resource Recovery Project**

Initiative	
1.2.1	Support emerging resource recovery trials and community consultation processes through communications and education programs
1.2.2	Review the community database and its use for future community consultation and awareness raising projects
1.2.3	Update existing Resource Recovery promotional materials and website
1.2.4	Update the education centre to reflect emerging Resource Recovery options
1.2.5	Support development of marketing plan for Resource Recovery (as options are finalised)

**Objective 2 To increase community involvement in the region’s waste management initiatives and capacity to practise waste avoidance**

**Strategy 2.1 Develop community outreach programs and activities focused on improving waste management and waste**

Initiative	
2.1.1	Provide workshops, education activities and mentoring for targeted community groups
2.1.2	Provide opportunities for WMCRG (and other emerging committees) to participate, contribute and provide feedback for waste education activities

**Strategy 2.1 continued...**

Initiative	
2.1.3	Expand education activities associated with the HHW Program
2.1.4	Expand the schools and public place battery collection program
2.1.5	Continue to work with high Schools in the region to develop waste education projects
2.1.6	Train and utilise volunteers to encourage responsible behaviour at events

**Strategy 2.2 Raise community awareness of how to reduce waste to landfill**

Initiative	
2.2.1	Develop waste avoidance and recycling messages

**Objective 3 To continue to develop sustainable regional partnerships for effective local and regional waste education and communications**

**Strategy 3.1 Continue to foster and enhance regional cooperation with member Councils to implement and support regional waste education initiatives**

Initiative	
3.1.1	Maintain Regional Waste Education Steering Group
3.1.2	Provide advice and support for localised Council initiatives to reduce and manage waste
3.1.3	Support community organisations’ waste management initiatives

**Strategy 3.2 Undertake activities with EMRC and member Council staff to foster knowledge, interest & pride in regional waste management**

Initiative	
3.2.1	Provide regular updates on waste education initiatives and performance to the Resource Recovery Committee and EMRC Council
3.2.2	Provide regular updates on Strategic Waste Management Plan to EMRC Committees and EMRC Council
3.2.3	Provide regular updates on Strategic Waste Management Plan, Resource Recovery, waste education initiatives and performance to staff members
3.2.4	Develop programs to encourage staff participation in waste reduction activities





## 9.5 RESOURCE RECOVERY VISITS

**REFERENCE: COMMITTEES-14937**

### PURPOSE OF REPORT

To advise Council on the outcomes of the October/November 2012 visit to eastern states Resource Recovery facilities.

### KEY ISSUES AND RECOMMENDATION(S)

- A working party of councillors and officers visited resource recovery facilities in Adelaide, Canberra and Melbourne between 28 October and 2 November 2012.
- In Adelaide, the emphasis is on processing organics with windrow composting, C&D processing to recycle concrete, asphalt, bricks, timber, steel and produce a range of aggregates, soils and a RDF material used to partially fuel the Adelaide Brighton Cement Works. Landfill is still a large part of the waste infrastructure.
- In Canberra, the Mugga Lane landfill operation is a good example of an integrated waste processing operation with a MRF, landfill, reuse store, transfer stations and C&D and greenwaste processing.
- In Melbourne the visited facilities included waste transfer stations for MSW and community drop off, a C&I sorting facility, a fluidised bed combustion plant using MRF residual waste and a pilot anaerobic digestion plant using food waste.

#### **Recommendation(s)**

That the information from the visit be noted and used in the design and development of the Hazelmere Resource Recovery Park.

### SOURCE OF REPORT

Manager Project Development

### BACKGROUND

Council resolved at the ordinary Council meeting on 18 October 2012 that (Ref: Committees-14849):

*“THAT COUNCIL APPROVE A VISIT TO THE EASTERN STATES RESOURCE RECOVERY FACILITIES TO BE UNDERTAKEN BY EMRC OFFICERS PLUS A COUNCILLOR REPRESENTATIVE FROM EACH MEMBER COUNCIL”.*

The group comprised of the Chairman of the Resource Recovery Committee - Cr Cuccaro, Cr Carter and Cr Radford and an EMRC officer group of the Chief Executive Officer, the Director Waste Services and the Manager Project Development. Not all member Councils were able to nominate a Councillor representative.

The purpose of the visit was to allow the group to view first hand resource recovery operations in other states, speak to operators about how they have set up their facilities, what has worked and what has not, how they have financed their operations, what they would do differently if they had their time again, etc.



*Item 9.5 continued*

Other reasons included:

- Providing context to the EMRC executive and Council for the development of the Hazelmere Resource Recovery Park;
- Understanding the current practices for treating commercial and industrial (C&I) waste and construction and demolition (C&D) waste in the eastern states;
- Viewing some re-use centres for community recyclables drop-off;
- Appreciating the contractual methods being employed by local governments for these types of facilities; and
- To understand the visual impact of these types of facilities, potential odours, visible emissions, proximity to housing and community acceptability.

## REPORT

The resource recovery facilities visited by the EMRC group between 28 October and 2 November 2012 are detailed below together with relevant facts and observations.

### Adelaide

1. ResourceCo – Wingfield - Crushing business. Met with Simon Brown (Managing Director) and Jim Fairweather (Sales Director). This is a mature business treating construction and demolition waste and commercial and industrial waste at a rate of 30 to 40 tonnes per hour and 100,000 tonnes per annum (tpa) through a single plant. The plant includes a primary grinder followed by vibrating screens, four stage screening to remove soil, a picking line to extract recyclables and magnets to remove metals etc (refer attached flow sheet).

The product range includes:

- a. Process engineered fuel (PEF), otherwise known as refuse derived fuel (RDF) which is a mixture of plastics, timber and textiles. The PEF is separated from the incoming waste and then transported to the Sita-ResourceCo site nearby where it is stockpiled, processed further through a Hasse grinder, magnetic separation for residual steel and stainless steel and loaded into trucks for delivery to the Adelaide Brighton Cement Works as a fuel substitute.
- b. Recyclable materials including steel, pavement materials, aggregates, sands, bulk fills and asphalt products from crushed concrete, bricks and asphalt.

Other points noted:

1. The ResourceCo sorting plant cost \$12 million; it runs 2 shifts and has 70 staff.
2. Gate fee is \$85/tonne average (ranging from \$75 to \$98/tonne) but the aim is for a gate fee of \$120/tonne.
3. Metals make up 3% of the waste stream by weight and this is a good revenue generator.
4. ResourceCo recommended selecting heavy duty US equipment.
5. They have a 15 year contract with Adelaide Brighton Cement to supply 75,000 tpa of PEF (take or pay contract). One of the issues here is that the cement works shuts down about 3 times per year for up to a month each time for maintenance so this has to be factored into their production schedule.
6. The PEF is 96% carbon neutral being biomass based.
7. Mike Haywood, our tour organiser for Adelaide and independent consultant (ex ResourceCo executive) developed the PEF process at ResourceCo. Mike believes that the C&I and C&D waste streams should be processed separately to get the best outcome for a refuse derived fuel product because of the difficulty of removing soil and some other contaminants to meet a specification, ie the “unscrambling the egg scenario”.



*Item 9.5 continued*

**TPI Transfer Station Wingfield**

- a. Met with Geoffrey Webster, National Post Collections Technical Manager, TPI.
- b. TPI are handling about 200,000 tpa of waste from municipal collections versus a design capacity of 400,000 tpa. The facility cost \$11 million in 2005, of which about a third was for foundation piling.
- c. Adelaide City Council (ACC) own and run the weighbridge/gatehouse and the whole site. They generate a revenue to cover costs by charging a set fee per weighing (ie for every transaction they charge a set amount). They have weighbridge computer software that tracks the various site partners loads/weights, etc that come in and distribute this information on a regular basis (each site partner only gets their relevant information). There are a number of other activities ACC undertake (they are the site landlord and TPI pay a lease for the area, run management meetings to go through site issues, etc).
- d. There was limited sorting of the waste on the floor of the transfer station but there was separation of e-waste into cages, metals and some timber. Recycling is estimated at between 5% and 10%. The remaining waste was pushed by a bulldozer, front end loader and tracked vehicle into enclosed "walking floor" B double road trains situated directly under the sorting floor for transport to the TPI Inkerman landfill, 85 kilometres to the north.
- e. Gate fee was \$166/tonne; including a landfill levy of \$45/tonne. Discounts apply to account customers based on volumes (for example Councils pay between \$95 and \$100 per tonne).
- f. The transfer station building design is interesting because of the ventilation through the base and top of the sides of the building making odour levels inside quite reasonable. There was no other odour control apart from the natural ventilation. There were some seagulls scavenging food inside the building.
- g. Cars and trailers are isolated from the rest of the customers using the facility because of OH&S considerations.

**Adelaide Hills Recycling**

- a. Small operation, privately owned by Fernando D'Apollonio (D&V Services) in a rural setting at Strathalbyn in the Adelaide Hills.
- b. There was a sorting plant involving a trommel, conveyors and a wide conveyor belt where several employees were picking off recyclables including metals, plastics etc. The trommel separated the fine organic /soil fraction. Timber was the main product out of the waste being sorted which was conveyed into a truck for on-site stockpiling prior to shredding and grinding to a woodchip product.
- c. There were lots of stockpiles of asphalt, concrete, bricks and other rubble, green waste (branches, logs), metals and so on.
- d. A landfill cell was being constructed on site by Fernando to take material that could not be recovered.
- e. A new plant was being constructed with a wide variable speed conveyor belt and picking stations to facilitate better sorting of C&D waste.

**Jeffries, Wingfield and Bucklan Park**

- a. Glen Ellery, Strategic Business Manager at Bucklan Park showed us their operations.
- b. Greenwaste and greenwaste/food waste mixtures are processed in windrows.
- c. They process 100,000 tpa of greenwaste and are currently trialling a green/food waste collection using an organics household bin and kitchen caddies with compostable liners. All the greenwaste and green/food waste is received at their Wingfield site and then transported out to Bucklan Park.
- d. Windrows have moisture and oxygen monitoring and control through a sprinkler system and forced aeration.



*Item 9.5 continued*

- e. The organics are processed through a specialised plant (Recycled Organics Screening System – ROSS) which does size reduction, screening (including star screens), blending and infrared analysis for contamination removal via air jets. This provides a high quality and closely sized product.
- f. Offsite odour surveys were being undertaken to address odour complaints.
- g. A PowerScaper trailer and truck were utilised for hose pipe spreading of mulch and other products for landscaping purposes.
- h. Jeffries makes a range of high-quality compost, soil and mulch products for the South Australian market.

**Adelaide Brighton Cement (ABC)**

- a. Michael Jones, Manager Alternative Fuels and Materials showed us the area of the site where the PEF is received on site, unloaded and stored and conveyed and metered into the cement kiln to offset natural gas usage.
- b. ABC have a large community at their doorstep in Port Adelaide so emissions and dust control is critical and appeared to be well managed through the lime scrubbing system and continuous emissions monitoring.
- c. The PEF from Sita-ResourceCo is quite abrasive on the conveying system and small pieces of scrap metal come through despite the processing at Wingfield.
- d. The cement business is going well, and all product produced can be sold.
- e. ABC replace about 20% of their gas consumption with 75,000 tpa of PEF and there is an opportunity to increase this to 105,000 tpa as the quality of the PEF improves.
- f. ABC also use 1 tonne per hour of carbon dust from an aluminium smelter in Victoria as another alternative fuel.

**Canberra**

- a. Chris Ware, Director ACT NOWaste showed us the MRF for dry household recyclables and the education aspect of the MRF for children and adults; this was quite a good set up with visuals and video of the MRF operations, lots of education materials and displays. The MRF is now operated by Remondis (previously by Theiss).
- b. An area adjacent to the MRF is proposed to be developed by SITA as a C&I waste processing area with the possibility of a small waste to energy plant.
- c. A brief inspection of the active and completed landfill cell was conducted.
- d. We visited the Reuse store run under contract by Tiny's Green Shed. This has had two previous operators and is considered to be running efficiently now.
- e. The greenwaste processing by Corkhill Brothers Recycling Services is a big, mature business. Residents have free drop off for green waste and ACT NOWaste pay Corkhills about \$2.40/m<sup>3</sup> as an incentive. Compost and mulches are marketed through Bunnings and sold in bulk in Canberra and NSW.
- f. Also on site we saw C&D processing and waste transfer stations for resident drop off.
- g. The site is a great example of an integrated waste recycling operation combined with a landfill.

**Melbourne**

- a. On the first day in Melbourne, we were hosted by Darren Quin of WasteTech (suppliers of CP waste sorting technology).
- b. Veolia C&I sorting facility at Dandenong - uses CP sorting and baling equipment. The plant was originally purchased by Wanless but had very little use. This was processing dry C&I waste (approximately 20,000 tpa) and recovering cardboard, plastic, metal and some timber. The operators advised that it was a marginal operation and subject to commodity prices and the A\$ exchange rate.



*Item 9.5 continued*

- c. City Wide Transfer Station owned by Melbourne City Council - domestic and commercial waste receipt and transfer to road vehicles. The waste is simply unloaded from rear discharge rubbish trucks into pits where rams push the waste into "walking floor" truck trailers for transport to landfill. Handles 180,000 tonnes per annum of MSW. Planning to build a new C&I sorting facility alongside. The facility was 25 to 30 years old and looked it, the housekeeping standard was poor.
- d. WasteTech equipment included:
  - 30m steel receipt pit and support structure;
  - 30m by 3m wide moving floor;
  - Civil modifications to the building;
  - S8000 Compactor and controls;
  - Traffic management system;
  - 2 x 60m eject blades transfer semi-trailers; and
  - EV031 Front lift truck.
- e. Hume City Council, Resource Recovery Centre.
  - This is a public drop off facility operated under contract by Grab-a-load;
  - The community could drop off recyclables and green waste and there was salvage of metal, cardboard, timber and plastics from trailer waste by the operators. There was also an area where the community could purchase discarded bulky waste;
  - The residual waste was pushed/tossed onto a WasteTech moving floor in a pit and there was some picking out of materials by the operators before it ended up in a compactor and bin below the floor (S4000 WasteTech compactor); and
  - Throughput estimated by WasteTech at 15,000 tpa.

**VISY Pulp and Paper, Cambellfield.**

- a. This was the Visy Industries Coolaroo site and was a huge operation involving MRF's for recyclables sorting, several paper mills, cardboard production, paper coatings plants and a new clean energy plant which we were shown.
- b. Visy operate MRF's in South Australia, Queensland and Victoria and HDPE and PET recovery in Sydney. They are also in New Zealand, Asia, the US and in forestry (Tumut).
- c. Paper mill rejects from Victoria and NSW are brought to Coolaroo as feedstock for the plant.
- d. The plant was opened in November 2011 and uses fluidised bed combustion to produce high pressure steam (64 bar pressure) which is fed to the paper mills and some is used to generate power (2.96 MW).
- e. They have another plant at Tumut in NSW.
- f. The plant provides 22% of their energy needs on the Coolaroo site.
- g. Gas clean up was achieved with a baghouse using lime and activated carbon dosing, the resulting flyash was landfilled as a prescribed waste.
- h. Technology was from Babcock and Wilcox, constructed by RCR.
- i. They have another plant in the US operating as Pratt Industries.
- j. Capital cost stated as \$50 million including a \$1.5 - \$2 million grant from the Victorian Government.
- k. Throughput stated as 240 tonnes per hour.
- l. Considering another \$60 million investment in the technology.
- m. Uses optical sorting to remove PVC from the feedstock.



*Item 9.5 continued*

**Active Research, Anaerobic digestion plant/pilot plant**

- a. Hosted by David Halliday of Active Research.
- b. Visited their workshop at Kilsyth and saw the pilot plant to soon be located in the basement at Federation Square, Melbourne.
- c. At Federation Square, it will take restaurant food waste (1 tonne per hour in a continuous process) and convert it to biogas and digestate. The biogas is fed to a dual fuel hot water system to provide hot water to the tenants. Active Research will sell the digestate as fertiliser.
- d. They also have a small AD plant mounted in a truck and trailer that was used for promotional work and research work.
- e. Cost of the pilot plant was \$385,000 with a 2.5 year amortisation.

**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**

Funds are budgeted in the 2012/2013 budget in account 72884/02 Undertake Resource Recovery Project Study Tour (\$59,500) for the purpose of visits to Resource Recovery Facilities as part of the Resource Recovery Project.

**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**

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

**ATTACHMENT(S)**

Sita-ResourceCo Alternative Fuels Brochure (Ref: Committees-14946)

**VOTING REQUIREMENT**

Simple Majority



*Item 9.5 continued*

**RECOMMENDATION(S)**

That the information from the visit be noted and used in the design and development of the Hazelmere Resource Recovery Park.

Discussion ensued

The Manager Project Development gave a presentation on the recent visit to eastern states Resource Recovery facilities.

Cr Lindsey entered the meeting at 5:15pm.

Crs Carter, Cuccaro and Radford thanked the EMRC for organising the visits and for the preparation of the report.

**RRC RECOMMENDATION(S)**

MOVED CR RADFORD

SECONDED CR LINDSEY

That the information from the visit be noted and used in the design and development of the Hazelmere Resource Recovery Park.

**CARRIED UNANIMOUSLY**

## SITA-RESOURCECO ALTERNATIVE FUELS

The source for manufacture of Alternative Fuels is from Commercial & Industrial (C&I) material. This material is comprised of mixed light loads which usually contain a mix of timber, metals, plastics, cardboard and paper. This material stream may also include small amounts of concrete, bricks and rubble.

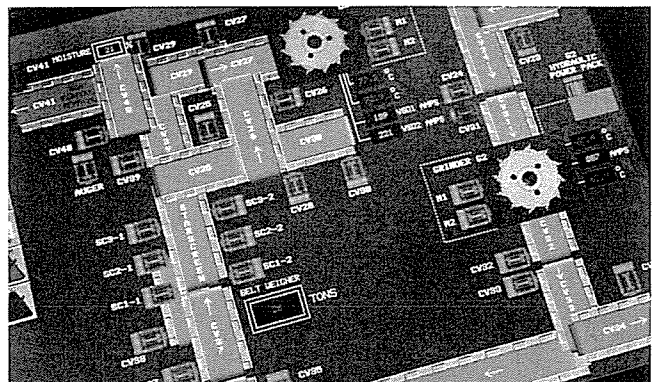
This material is sorted and the ferrous and non-ferrous metals, inert fractions (bricks, concrete etc.) and non-recyclables are removed from the combustible portion of this material stream. The combustible material is then processed for manufacturing of Process Engineered Fuel (PEF).

All salvaged metals are recycled and ResourceCo further processes the inert fractions for resupply to the civil construction market.

The manufacture of PEF is carried out at the fully automated SITA-ResourceCo facility at Wingfield. This facility has the capability to convert up to 350,000 tonnes of raw material per annum into 100,000 to 150,000 tonnes of PEF. All raw materials are separated during processing and over 90% of the material is recycled.

PEF has significant calorific value and can be used as a fuel substitute for coal and gas in high combustion facilities. The use of PEF can benefit end-users in two ways:

- the energy replacement value from the utilising PEF instead of traditional fossil fuels
- the carbon and renewable energy benefits:
  - through reduced fossil fuel use
  - the reduction in landfill emissions
  - Renewable Energy Certificates obtained





## PEF Manufacturing Process

2 Product from the primary sizing bay is fed onto vibrating screens for separation into different sizes.

3 The trommel removes the small aggregates and sand which are stockpiled to blend with recycled road base materials.

3b The larger stones are then passed to the air knife which is used to remove small combustible material from the stones.

6 The stones from step 3 are stockpiled and sent to the waterbath, as required, where larger combustible material is reclaimed via a proprietary flotation system.

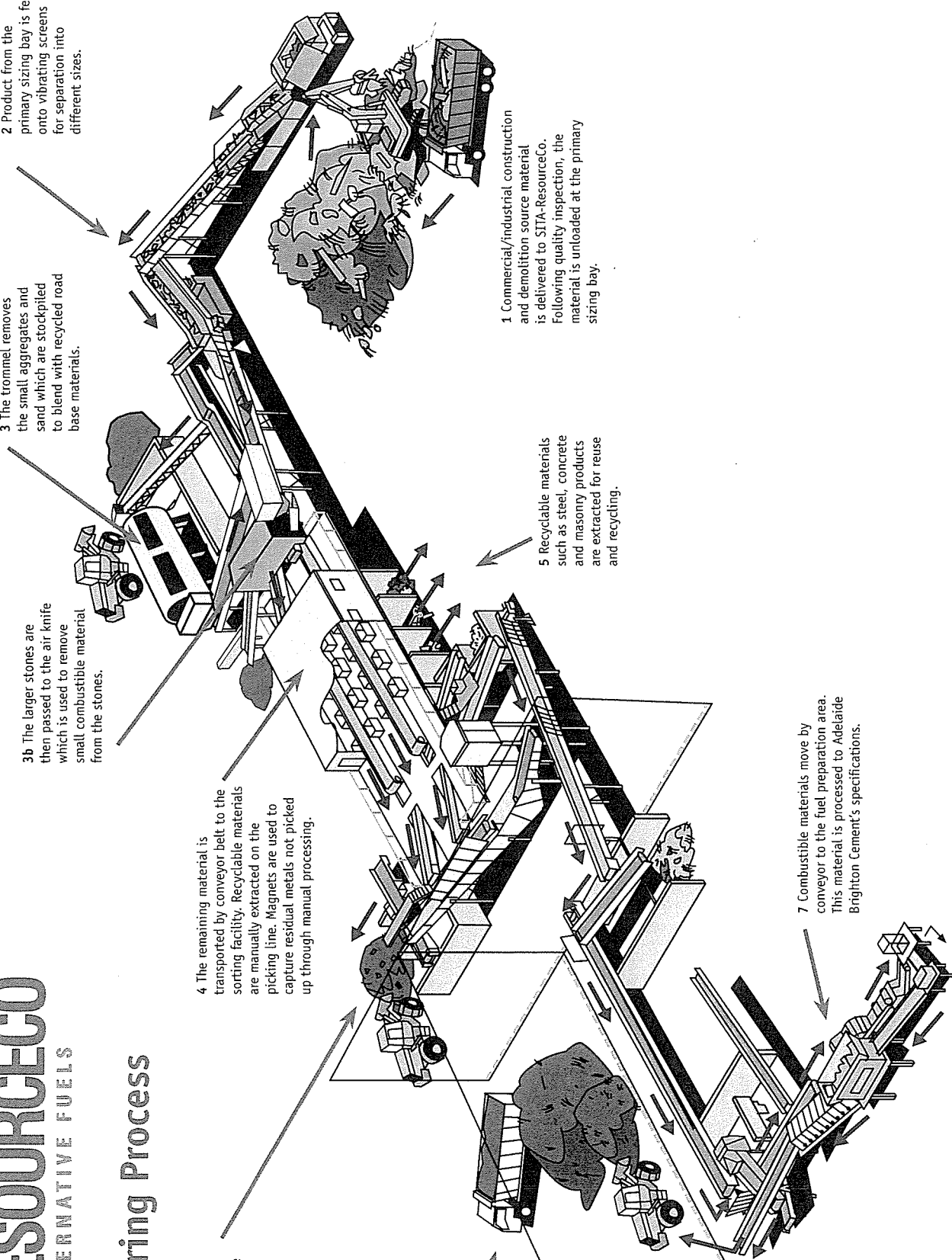
4 The remaining material is transported by conveyor belt to the sorting facility. Recyclable materials are manually extracted on the picking line. Magnets are used to capture residual metals not picked up through manual processing.

8 The finished alternative fuel is stockpiled for transport to the Adelaide Brighton Cement Birkenhead plant for use as a fossil fuel substitute in the cement making process.

5 Recyclable materials such as steel, concrete and masonry products are extracted for reuse and recycling.

7 Combustible materials move by conveyor to the fuel preparation area. This material is processed to Adelaide Brighton Cement's specifications.

1 Commercial/industrial construction and demolition source material is delivered to SITA-ResourceCo. Following quality inspection, the material is unloaded at the primary sizing bay.





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

Nil

**11 GENERAL BUSINESS**

Nil

**12 FUTURE MEETINGS OF THE RESOURCE RECOVERY COMMITTEE**

The next meeting of the Resource Recovery Committee will be held on **Thursday, 7 February 2013** at the EMRC Administration Office, 1<sup>st</sup> Floor, Ascot Place, 226 Great Eastern Highway, Belmont WA 6104 commencing at 5:00pm.

**Future Meetings 2013**

Thursday	7	February	at	EMRC Administration Office
Thursday	7	March (if required)	at	EMRC Administration Office
Thursday	4	April (if required)	at	EMRC Administration Office
Thursday	9	May (if required)	at	EMRC Administration Office
Thursday	6	June (if required)	at	EMRC Administration Office
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 5:50pm.