

RESOURCE RECOVERY COMMITTEE

MINUTES

4 September 2008

(REF: COMMITTEES-8490)

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, 4 September 2008**. The meeting commenced at **5.00pm**.

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1 DECLARATION OF OPENING AND ANNOUNCEMENT OF VISITORS

The Acting Chairman, Cr Charlie Zannino opened the meeting at 5.00pm and welcomed Mr John King and Mr Bill Marchbank from Cardno BSD Joint Venture.

The Acting Chairman introduced Ms Pina Martino, Administration Support Officer, and welcomed her to the meeting.

2 ATTENDANCE, APOLOGIES AND LEAVE OF ABSENCE PREVIOUSLY APPROVED

Committee Members

Cr Charlie Zannino (Acting Chairman)	EMRC Member	City of Swan
Cr Tina Klein	EMRC Member	Town of Bassendean
Cr Sylvan Albert	EMRC Member	City of Bayswater
Mr James Riley (Deputising for Mr Rimpas)	Manager Environmental Health	City of Bayswater
Mr Doug Pearson	Director Technical Services	City of Bayswater
Mr Ric Lutey	Director Technical Services Development Services	City of Belmont
Cr David Sadler	EMRC Member	Shire of Kalamunda
Mr Adrian Dyson (Deputising for Mr Purdy)	Manager Health Services	Shire of Mundaring
Mr Mick McCarthy	Acting Chief Executive Officer	EMRC

Apologies

Cr David Lavell (Chairman)	EMRC Member	Shire of Mundaring
Cr Glenys Godfrey	EMRC Member	City of Belmont
Mr Simon Stewert-Dawkins	Director Operational Services	Town of Bassendean
Mr George Rimpas	Acting Director Technical Services	City of Bayswater
Mr Mahesh Singh	Executive Manager, Engineering Services	Shire of Kalamunda
Mr Shane Purdy	Executive Manager, Infrastructure Services	Shire of Mundaring
Mr Jim Coten	Executive Manager, Operational and	City of Swan
Mr Colin Pumphrey	Manager Transport and Waste	City of Swan
Mr Gavin Watters	Chief Executive Officer	EMRC

Deputy Committee Members - Observers

Cr David Färdig	EMRC Member	City of Swan
Cr Gerry Pule	EMRC Member	Town of Bassendean

EMRC Officers

Mr Stephen Fitzpatrick	Manager, Project Development
Mr Adam Johnson	Executive Manager, Waste Management Services
Ms Gabrielle Grime	Waste Education Coordinator
Ms Mary-Ann Winnett	Personal Assistant to the Executive Manager Corporate Services (Minutes)
Ms Pina Martino	Administration Support Officer (observer)

EMRC Apologies

Mr Peter Schneider	Executive Manager, Corporate Services
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Consultants

Mr John King	Cardno BSD Joint Venture
Mr Bill Marchbank	Cardno BSD Joint Venture



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 14 AUGUST 2008

That the Minutes of the Resource Recovery Committee meeting held on 14 August 2008, which have been distributed, be confirmed.

RRC RESOLUTION(S)

MOVED CR KLEIN

SECONDED CR SADLER

THAT THE MINUTES OF THE RESOURCE RECOVERY COMMITTEE MEETING HELD ON 14 AUGUST 2008, WHICH HAVE BEEN DISTRIBUTED, BE CONFIRMED.

CARRIED UNANIMOUSLY

The Chairman advised that Item 9.3 – Investigation into Reusable Branded Shopping Bags would be dealt with at this point in the meeting.

6 PRESENTATIONS

6.1 PRESENTATION – PROGRESS REPORT ON THE RESOURCE RECOVERY PROJECT BY MR JOHN KING OF CARDNO BSD MEINHARDT JOINT VENTURE

Mr John King of Cardno BSD Meinhardt Joint Venture provided a progress report on the Resource Recovery Project. A document containing a shortlist of technology providers was tabled at the meeting and Mr King summarised the information for members.

Cr Pule entered Council Chambers at 5.25pm.

The Manager Project Development referred to the cost estimates stated on the CAPEX v MSW input graph in the tabled report and stated that the Best fit CAPEX figures for the 100,000t capacity anaerobic digestion model were a lot different to the figures in the models provided earlier by Cardno BSD. Mr King advised that Cardno BSD had used public figures that were available for the capital cost estimates and inflated them against a Western Australian construction index, which may have distorted the figures and also several of the anaerobic facilities had been built overseas which may have effected comparison because of different cost regimes. He also advised that the figures in the models related to the exchange rates in that year so this could have an impact.

Cr Klein referred to the exchange rates and asked how it was possible to make a choice on technologies when the exchange rates changed every day and varied so considerably. Mr King advised that Cardno BSD had been trying to estimate what the costs would be for establishing a facility at different locations, under Australian conditions, but the only true way would be to design a facility and engage a surveyor to cost it. Mr King stated there were many issues to be considered, including the technology type and whether to build in stages or build a larger facility up front. He asked if it would be best to engage a surveyor, wait until more detailed cost data was available or go to the market with various options.



Item 6.1 continued

Cr Färdig felt that Council should select the technology that would benefit the Region the most and would generate an income and felt that the only way to obtain a cost estimate would be to go to tender and EMRC needed a good idea of what the best technology was likely to be. Mr King advised that Cardno BSD had addressed the technology types in the task 5 report and this had been undertaken before the staging options had been considered and a range of criteria had been considered, including community feelings. At that time, anaerobic digestion had looked to be the best technology but there may have been a shift in community attitudes since then so Cardno BSD needed to revisit the questions asked then and take into account staging options, community attitudes and the likelihood of approval of each technology type.

Mr King advised that Cardno BSD had been considering a facility that provided the best opportunities for the Region but had addressed the project to date from the point of view of dealing with the waste currently processed by member Councils. The possibility of processing additional waste from other regional councils and the commercial sector was being evaluated.

The Manager Project Development noted that in addition to Cr Färdig and Mr King's comments a fundamental issue was which of the technologies would handle EMRC's waste stream. Some of the data in the reports related to other countries so it could be misleading as it may mean different things in different countries and may need to be considered during the EoL process or when the Committee visits these types of facilities as part of the Venice 2008 Symposium and facilities tour in November 2008.

The Chairman stated that the tabled report provided an indication of the different technologies and as Mr King had advised, it wasn't possible to put a cost on the facility until the tender process has commenced so the onus was on the EMRC to look at what technology would be the best one for the Region.

The Chairman thanked Mr King for the presentation and the information tabled.

6.2 PRESENTATION – UPDATE ON THE VENICE 2008 SYMPOSIUM ON ENERGY FROM BIOMASS AND WASTE AND FACILITY VISITS BY THE MANAGER PROJECT DEVELOPMENT

The Manager Project Development provided an update on the Venice 2008 Symposium on Energy from Biomass and Waste and arrangements for facility visits and advised that he was still trying to contact licensees of other facilities of interest to the Committee. He advised that Energos have a facility in Germany which took a different type of feedstock than Municipal Solid Waste (MSW) but it may be necessary to look at the facility anyway to get a better idea of how difficult the facility was to operate and this may aid the EMRC in its decision on technology type.

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 PROGRESS REPORT ON RESOURCE RECOVERY INITIATIVES

REFERENCE: COMMITTEES-8343

PURPOSE OF REPORT

The purpose of this report is to keep Council informed of continuing progress on Resource Recovery Processing Initiatives.

KEY ISSUES AND RECOMMENDATION(S)

Recommendation(s)

That the report be received.

SOURCE OF REPORT

Manager Project Development

BACKGROUND

At the Council meeting of 24 August 2000, Council adopted the following resolutions:

- "1. THAT THE EMRC UNDERTAKE A STUDY TO DETERMINE THE RANGE OF COMMERCIAL AND FINANCING OPTIONS AVAILABLE TO THE EMRC FOR ITS INVOLVEMENT IN THE SECONDARY WASTE TREATMENT FACILITY.*
- 2. THAT THE EMRC REQUEST THE OPPORTUNITY FOR EACH MEMBER COUNCIL TO RECEIVE A PRESENTATION REGARDING THE TECHNOLOGIES, COSTS, NEED FOR STAGED COMMITMENTS ETC FOR THE INTRODUCTION OF A SECONDARY WASTE TREATMENT FACILITY.*
- 3. THAT AN OVERSEAS STUDY TOUR OF OPERATING SECONDARY WASTE TREATMENT FACILITIES BY OFFICERS AND COUNCILLORS OF THE EMRC, TO BE DETERMINED AT A LATER DATE, FOLLOWING A DESKTOP STUDY OF SUITABLE LOCATIONS AND PREFERABLY IN CONJUNCTION WITH AN INTERNATIONAL WASTE MANAGEMENT CONFERENCE.*
- 4. THAT SUBJECT TO THE PROVISION OF A COPY OF THE REPORT SECONDARY TREATMENT FEASIBILITY STUDY, AS COMMISSIONED BY MINDARIE REGIONAL COUNCIL, A REPORT ON ITS CONTENT AND APPLICATION TO THE EMRC'S PROPOSED ACTIVITIES BE PROVIDED.*
- 5. THAT A CONSULTANT BE ENGAGED TO PROCEED WITH THE RED HILL DEVELOPMENT 'MASTER PLAN' INCLUDING A REVIEW AND RECOMMENDATION FOR AN APPROPRIATE SITE FOR A SECONDARY WASTE PROCESSING FACILITY AND THE PROVISION OF A PROGRAM TO INTRODUCE SECONDARY WASTE TREATMENT.*
- 6. THAT A PROGRAMME BE DEVELOPED FOR THE COMMUNITY CONSULTATION NECESSARY FOR THE INTRODUCTION OF A SECONDARY WASTE TREATMENT FACILITY FOR THE EMRC.*
- 7. THAT A DETAILED REPORT BE PREPARED ON THE CONTENT AND SIGNIFICANCE TO THE EMRC OF THE "REPORT OF THE ALTERNATIVE WASTE MANAGEMENT TECHNOLOGIES AND PRACTICES INQUIRY" FROM NEW SOUTH WALES.*



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8. *THAT A DETAILED REPORT BE PREPARED ON THE CONTENT AND SIGNIFICANCE TO THE EMRC OF THE "REPORT OF THE ALTERNATIVE WASTE MANAGEMENT TECHNOLOGIES AND PRACTICES INQUIRY" FROM NEW SOUTH WALES.*
9. *THAT A SECONDARY WASTE PROCESSING RESERVE BE ESTABLISHED AND STAFF PROVIDE A RECOMMENDATION OF THE INITIAL AMOUNT TO BE TRANSFERRED TO THAT RESERVE TAKING INTO ACCOUNT THE ADDITIONAL TIPPING FEES IMPOSED EFFECTIVE FROM 1 JULY 1999.*
10. *THAT THE EMRC START PUBLIC EDUCATION AND CONSULTATION FOR ALL MEMBER COUNCIL RESIDENTS ON PLANS FOR SECONDARY WASTE TREATMENT AS SOON AS PRACTICABLE."*

The nine resolutions from the 24 August 2000 Council meeting have been reported on in all subsequent meetings of the SSWTC and are complete with the exception of resolution 3, which has been incorporated into the project schedule for the resource recovery technology selection.

At the Council meeting of 26 April 2001, Council resolved the following:

"THAT THE REPORT BE RECEIVED AND THE ATTACHMENT BE UPDATED FOR EACH MEETING OF THE STRATEGIC AND SECONDARY WASTE TREATMENT COMMITTEE".

At the Council meeting of 20 May 2004, Council resolved the following:

"THAT A NUMBER OF INTERESTED EMRC COUNCILLORS WITH EMRC OFFICERS ATTEND GLOBAL RENEWABLES LIMITED, EASTERN CREEK, NSW FACILITY WITHIN SIX (6) MONTHS OF THE FACILITY OPENING."

Report item 9.3 of the SSWTC agenda for 8 June 2006 reported on the EMRC visit to GRL Eastern Creek and other resource recovery facilities in the eastern states, satisfying this resolution.

Council resolved at its meeting of 31 July 2008 that:

- "1. THE CHIEF EXECUTIVE OFFICER, MANAGER PROJECT DEVELOPMENT, CR FÄRDIG AND ALL COUNCILLOR MEMBERS OF THE RESOURCE RECOVERY COMMITTEE ATTEND THE VENICE 2008, SECOND INTERNATIONAL SYMPOSIUM ON ENERGY FROM BIOMASS AND WASTE IN VENICE, ITALY FROM 17 TO 20 NOVEMBER 2008 TRAVELLING ECONOMY CLASS AND THE TIMETABLE BE ARRANGED BY THE MANAGER PROJECT DEVELOPMENT AND THAT EITHER THE COUNCILLOR MEMBERS OR ALTERNATE RRC DEPUTIES ATTEND.*
- 2. THE PARTY ATTENDING THE SECOND INTERNATIONAL SYMPOSIUM ON ENERGY FROM BIOMASS AND WASTE CONFERENCE TAKE THE OPPORTUNITY TO VISIT GASIFICATION, MASS BURN AND ANAEROBIC DIGESTION TREATMENT PLANTS IN PREPARATION FOR SHORT LISTING TECHNOLOGIES FOR TENDER FOLLOWING THE EXPRESSIONS OF INTEREST PROCESS*

REPORT

The resource recovery initiatives being undertaken elsewhere in Australia currently include:

- Southern Metropolitan Regional Council, RRRC Project, Canning Vale;
- South Eastern Metropolitan Regional Council, Resource Recovery Project;
- Atlas Waste Treatment Facility, Mirrabooka;
- Mindarie Regional Council (MRC), Resource Recovery Project;



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- Ti Tree Bioenergy Project, Queensland;
- Veolia Woodlawn Bioreactor Project, NSW;
- Global Renewables Limited (GRL), Eastern Creek, NSW;
- AnaeCo (formerly ORT), Shenton Park;
- Coffs Harbour City Council Alternative Waste Treatment (AWT) plant and
- WSN Environmental Solutions, South Sydney, AWT facility.

Progress reports on these initiatives are attached.

Other Resource Recovery Facilities operating in Australia include:

- EarthPower, Camelia facility which converts food waste to methane and fertiliser and was visited by the Manager Project Development in July 2007;
- Rethmann Integrated Waste Management Facility, Port Macquarie which converts green waste and biosolids to compost; and
- Cairns Bedminster facility now owned and operated by SITA CEC Environmental Solutions.

These facilities were reported in agenda item 10.1 of the RRC 14 June 2007 meeting.

A pyrolysis technology has been developed by Best Energies in Gosford, NSW and is operating as a pilot plant. The Manager Project Development visited the pilot plant as part of the Waste Management Association of Australia Energy from Waste Conference in Sydney in July 2007 (refer RRC report item 9.3).

With the WSN Environmental Solutions AWT facility in Sydney undergoing commissioning at present, opportunities for a future visit to this facility and other AWT facilities including the Rethmann facility at Port Macquarie, EarthPower at Camelia, Biomass Solutions at Coffs Harbour and the Best Energy pilot plant at Gosford will be explored.

Visits to AWT facilities are included in the Venice 2008 Symposium and additional visits will be organised as necessary on this trip for the delegation to see waste to energy facilities that could be invited to submit expressions of interest for the EMRC Resource Recovery Facility.

STRATEGIC/POLICY IMPLICATIONS

The Resource Recovery Facility is part of the strategic plan for sustainable waste management for the region.

MEMBER COUNCIL IMPLICATIONS

Member Council	Implication Details
Town of Bassendean	} Nil direct implication for member Councils
City of Bayswater	
City of Belmont	
Shire of Kalamunda	
Shire of Mundaring	
City of Swan	



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FINANCIAL IMPLICATIONS

All Resource Recovery Project activities are accounted for in the annual budget approved by Council.

SUSTAINABILITY IMPLICATIONS

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

ATTACHMENTS

1. Progress on Resource Recovery Initiatives in Australia as at 29 August 2008 (Ref: Committees-8343)
2. AWT article from Inside Waste, July/August 2008 (Ref: Committees-8495)

VOTING REQUIREMENT

Simple Majority

RECOMMENDATION(S)

That the report be received.

RRC RECOMMENDATION(S)

MOVED CR KLEIN

SECONDED MR RILEY

That the report be received.

CARRIED UNANIMOUSLY

COUNCIL RESOLUTION(S)

MOVED CR LAVELL

SECONDED CR GODFREY

THAT THE REPORT BE RECEIVED.

CARRIED UNANIMOUSLY



Attachment 1 to RRC/Council – 4/18 September 2008 Item 9.1

PROGRESS REPORTS ON RESOURCE RECOVERY INITIATIVES IN AUSTRALIA AS AT 29 AUGUST 2008

Southern Metropolitan Regional Council (SMRC), Regional Resource Recovery Centre (RRRC) Project, Canning Vale

The SMRC are investigating a possible research project for converting greenwaste into bio-char and energy in conjunction with other regional councils through the Forum of Regional Councils (FORC).

Rivers Regional Council (formerly South Eastern Metropolitan Regional Council), Resource Recovery Project

No further progress to report.

Atlas Waste Treatment Facility, Mirrabooka

No further progress to report.

Mindarie Regional Council (MRC), Resource Recovery Project

No further progress to report.

Ti Tree Bioenergy Project, Queensland

No further progress to report.

Veolia Woodlawn Bioreactor Project, NSW

No further progress to report.

Global Renewables Limited (GRL), Eastern Creek, NSW

No further progress to report.

AnaeCo (formerly ORT), Shenton Park

Construction of Stage 1 of the WMRC Project is now in the final stages. Work is progressing through final installation and post-installation testing of various items of plant and equipment including piping and screw conveyer systems, pumps and odour management systems. The post-installation running tests of the sorting facility trommels were completed successfully on 12 August 2008.

Dry-commissioning of the facility is scheduled to commence in early September.

A visit to the facility is part of the September Waste & Recycle Conference (10 September) and a separate visit is being organised for the RRC members in mid-October.

Coffs Harbour City Council, Alternative Waste Treatment (AWT) Plant

No further progress to report.

WSN Environmental Solutions, South Sydney, AWT Facility

The alternative waste technology (AWT) facility at WSN Macarthur Resource Recovery Park was officially opened on 4 July and commissioning of the main technology elements has commenced and will take approximately 9 months with full operation from March 2009. A visit of the facility will be organized for March or April 2009. Refer to Attachment 2 for further information.



WSN unveils ArrowBio technology

By Garth Lamb

The waste tipping floor is not somewhere you'd normally expect to encounter 24 children from Mawarra Public School, performing a score of classical music. Then again, considering how different the Macarthur Resource Recovery Park is from traditional waste facilities, it is probably fitting its opening ceremony broke all the norms. WSN Environmental Solutions says the \$50 million facility will take some 8% of Sydney's household waste and lift landfill diversion rates for contract councils from about 50 to 85%.

"With the opening of this new park, about 100,000 households in fast-growing Camden, Campbelltown, Wollondilly and Wingecarribee local government areas will become among the best recyclers in the country," says WSN CEO Ken Kanofski.

The four MA CRO C councils in Sydney's south west awarded WSN the 15-year, \$150 million contract in December 2005 and the park quickly took shape, spurred along by the scheduled close of Jacks Gully landfill this July, some 33 years after the first waste was packed into it.

Touring the facility with 150 other guests at the July 4 opening ceremony, many items on display would be familiar to anyone in the waste game. There is nothing overly novel about the 30,000 tonne per year materials recycling facility (MRF), the residents' dumping bays or the Revolve shop selling reusable materials and equipment.

Even the 30,000 tonne per year Ecolibrium tunnel composting organics facility – while certainly not common place – is not the first time forced aeration has been used to fast track the decomposition of organic material (see box).

What is a first of its kind for Australia is the ArrowBio heart of the facility, an alternative waste technology (AWT) capable of diverting from landfill 70% of the 90,000 tonnes of mixed household waste it can process annually.

Only the second site in the world to use the Israeli waste processing technology, Sydney's version is twice the size of the prototype Tel Aviv facility and, according to ArrowBio CEO Yair Zadik, will make a "huge contribution" to proving the technology on the world stage. ArrowBio has a host of other potential projects on the boil, including in California, New York, Mexico and the UK, and the eyes of the waste world will now be on Sydney to see how well the technology works outside its Israeli homeland.

Upscaled for Sydney site

Even a sober observer sees double within the ArrowBio shed, with two mirror image lines in both the separation and the biological treatment phases. This duplication provides several advantages, including the ability to shut down half the plant for maintenance, but is mostly in place to avoid the technology risk of scaling the system to twice the size already in use; WSN simply put in two Tel Aviv-sized modules.

ArrowBio designed and supplied the equipment, with many components shipped from Israel. Zadik told *Inside Waste* the basic technology had "proved excellent" over the four years it has been used in Tel Aviv, although improvements have been made to some of the mechanical equipment used in Sydney – items such as water pumps and screening systems.

So how does it all work? Unsorted municipal waste is dumped on to the tipping floor and large pieces of paper and cardboard, along with hazardous items such as lead acid batteries, are manually removed before the bulk of the material is conveyed to the waste receiving tank.

From this point, the process begins to look more like the latest attraction at a waterslide amusement park than the machinery traditionally used to process waste.

Rather than trying to separate dry waste with traditional screens and processes, waste is immersed in water and differences in specific gravity are used to sort material into three streams.

The 'heavy stream' sinks to the bottom of the tank and on to a submerged conveyor (positioned perpendicular to the main process stream) that lifts material, mainly metals and glass, on to a conveyor line that passes through overhead magnets and eddy current separators. The eyes of the waste world will now be on Sydney to see how well the technology works.

The heavy line then leads to a trommel, with residuals such as sand and stone taken out and the rest of the material – including heavy organic items, such as chop bones – returned for another pass through the main process stream.

The 'light stream', meanwhile, is made up of items that float, with plastics recovery the main target. This line also goes through a large trommel (including a bag splitter for any missed during initial pre-treatment). Plastic material travels past a manual picking station for 'high quality' plastics –such as PET bottles – before going through a pneumatic sort.

Wet material is obviously harder to air sort than dry plastic film, although WSN says the experience from the Tel Aviv facility is that, using narrow orifice air jets and higher pressure in a two-stage process, pneumatic sorting can still be very effective.

Material that isn't blown off goes back through the process again, allowing the system to "have a second go" at anything missed the first time. A hydrocrusher uses high-pressure water to pulverise any organic material in this feedback loop.

Most material recovered from the light and heavy lines will be sold from this point, as opposed to run back through the MR F. But processing is far from over for the third stream out of the waste receiving tank, the organic fraction.

Acid or methane?

Once the light and heavy materials are screened off, what remains is organic pulp suspended in the water. This material, comprising things like food scraps and dirty paper, accounts for about 30-50% of incoming MS W. Organic materials at ArrowBio go through a two-stage anaerobic digestion, with the first process being an acetogenic (acid forming) stage. Very fine material then passes through filter screens and is sent to the methanogenic (methane forming) tank; material rejected by the filters goes back to the start of the biotreatment process.

A small amount of methane is collected from the acetogenic tank, although most biogas comes from the secondary tank. Two gas engines convert this to power and, after running all site operations, the process will deliver about 10MWh annually to the mains power grid. Inert residues, such as sand and grit, are screened out and disposed to landfill while organic sludges are periodically removed from both tanks just how often is not yet known, but could be every couple of days. This material is dewatered using either a screw- or belt-press and, subject to regulatory approval, should be suitable for land application.

WSN will be pushing to sell as much organic material into the compost market as possible, but with a landfill to rehabilitate right next door, it also appears to have a handy back up option if its product stockpiles build faster than the market.

It will be a while, however, before the plant reaches maximum output, with the commissioning phase of the biological components to take about nine months.

Digester seed, basically a cocktail of material bought from a range of other anaerobic digesters, is 'fed' ArrowBio waste material and those bacteria that consume the materials thrive while useless bacteria dies off. Eventually, this creates a colony of bugs tailor made for digesting the material MACROC residents throw out. There will be plenty of councils, here and abroad, keenly watching how well those bacteria do.

Key points

Landfill diversion: 85%

Excess power: Enough to run 1,700 homes

Greenhouse emissions saved: 33,000 tonnes

Fertiliser, compost and mulch produced: 28,300 tonnes

Material recycled: 18,000 tonnes



9.2 CONSULTANCY CONTRACT PROGRESS REPORT

REFERENCE: COMMITTEES-8344

PURPOSE OF REPORT

To inform Council of the consultants' (Cardno BSD/Meinhardt) progress on the Resource Recovery Project Consultancy Contract.

KEY ISSUES AND RECOMMENDATION(S)

- Meetings of the Project Advisory Group (PAG) were held on 10 July and 14 August 2008.
- A report has been received from consultant Terry Ord on the application of the HM Treasury model to the EMRC Preferred Options Financial Model.
- Cardno BSD are working on the various issues arising from the consultation on the draft Preferred Options Report including the preferred contract model and the technology type, staging of the facilities, waste to energy options, options for use of the reserve funds for the project and alternatives for the EoI/tender.
- A proposal has been received from Swaab Attorneys for a peer review role in the Resource Recovery Facility (RRF) project.
- A briefing by Best Energies on their bio-char technology was attended by Cardno BSD and EMRC officers and a proposal for a feasibility study is being developed and sponsored by the Southern Metropolitan Regional Council (SMRC).

Recommendation(s)

That the report be received.

SOURCE OF REPORT

Manager Project Development

BACKGROUND

The Request for Tender (RFT) 2004/1 was advertised on 1 May 2004 and closed on 28 May 2004 resulting in the receipt of four tenders. After detailed evaluation, interview of the complying tenderers and consideration by members of the Technical Advisory Committee (TAC) acting as a review panel, it was resolved on 23 September 2004 that:

- "1. COUNCIL ACCEPT THE TENDER FROM BSD/MEINHARDT EXCLUDING TASK 21 (CONTRACT ADMINISTRATION).*
- 2. THE CEO BE AUTHORISED TO ENTER INTO A CONTRACT WITH BSD/MEINHARDT IN THE FORM OF THE CONSULTANCY CONTRACT (EMRC-13662) TO PROVIDE THE SERVICES DESCRIBED IN TASKS 1-20, 22 AND 23 RELATING TO THE ESTABLISHMENT OF A RESOURCE RECOVERY FACILITY FOR THE EASTERN METROPOLITAN REGIONAL COUNCIL (CONTRACT NO 2004/1) INCORPORATING THE FOLLOWING SCHEDULE OF PRICE AND HOURS, WITH SUCH AMENDMENTS AS ARE REQUIRED OR NECESSARY TO ADAPT THE CONSULTANCY CONTRACT TO FULLY RECORD THE REPRESENTATIONS, WARRANTIES, COVENANTS AND AGREEMENTS PROVIDED IN THE BSD/MEINHARDT TENDER:*

	BOO	BOOT	D&C
Price (ex GST)	\$727,850	\$736,990	\$849,730
Hours	6,414	6,486	7,437



Item 9.2 continued

3. *THE SCORING RESULTS CIRCULATED WITH THIS AGENDA REPORT ITEM 9.5 REMAIN CONFIDENTIAL AND BE PLACED ON A FILE MARKED 'CONFIDENTIAL' AND BE CERTIFIED BY SIGNATURE OF THE CHAIRMAN OF THE COUNCIL AND THE CHIEF EXECUTIVE OFFICER."*

REPORT

The minutes of the PAG meeting of 10 July and the unconfirmed minutes of the meeting of 14 August are attached (Attachments 1 and 2) together with the Cardno BSD Meinhardt JV Progress Reports for April to August 2008 (Attachments 3 and 4).

Cardno BSD Meinhardt JV provided a presentation to the 10 July RRC meeting on the preliminary results of the financial modelling on thermal options for the RRF and staging alternatives. These preliminary results are being refined and efforts made to obtain better information on capital costs of recent Alternative Waste Technology (AWT) projects to feed into the financial model.

Consultant Terry Ord has provided a review of the applicability of the HM Treasury Optimism Bias model to the RRF financial model which has been forwarded to Cardno BSD for comment. Terry Ord concluded:

- "1. With the width of capital costs and vagueness associated with annual expenses I do not believe there is such benefit to be derived from continual refinement of the appraisal model. Though I agree with the consideration of several of the concepts introduced, these variations in annual revenues and/or expenses can easily be accommodated. Specifically, with a project of such duration far more benefit can be achieved from the reduction in uncertainty in any of the key areas, either capital costs, physical throughput, and dollar operating costs, or appropriate discount rate, than can be achieved from refining the model. It would appear that some of these uncertainties can only be further reduced by approaching plant suppliers at this stage.*
- 2. The HM Treasury model does no better than the Cardno model that already exists. It introduces concepts which the Council may not have previously been aware of or considered as variable factors to cashflows, BUT essentially it calculates the NPV of a series of netted cash flows. Indeed some of the variations it considers are done in such a way that they add to the complexity of the issue rather than its simplification and understanding. In part this is because it has tried to be 'idiot proof'. Because the HM Model uses the simplest approach to cash flows i.e. one single value altered by a number of percentage variations it is actually more restrictive than the existing Cardno model. Escalators and multipliers are already able to catered for much more succinctly using the physical throughput and individual annual entries."*

The EMRC have also had discussions with and received a fee proposal from Mr Dermot Duncan, Special Counsel with Swaab Attorneys in Sydney for a peer review role in the Resource Recovery Project. Dermot Duncan has extensive regulatory and transactional experience in waste, electricity, cogeneration and renewable energy projects in the UK and it is believed he can add value on critical aspects of the EMRC project related to the Project Management Plan and Schedule, Task 6 (Preferred Sites and Technologies for the RRF), Task 8 (Staging of Facility, preferred technology types for EoI/Tender), Task 9 (Business Plan and Member Council Agreements) and Task 11 (Contract Delivery Mechanism). The proposal from Swaab Attorneys will be discussed with Cardno BSD Meinhardt JV before implementation.

A briefing by Best Energies on their bio-char technology was attended by Cardno BSD and EMRC officers on 21/22 August. Best Energies were in Perth to promote their technology and to further discussions with the SMRC for a proposed feasibility study into the conversion of greenwaste and other wastes into biochar and energy. It is understood the feasibility study proposal will be referred to the Forum of Regional Councils (FORC) for joint sponsorship by the regional councils.



Item 9.2 continued

Current Priorities

The consultants are focussing on completing the following tasks:

- Review project schedule in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Complete the review of budget allocations, in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Completion of a Net Present Value (NPV) analysis on Secondary Waste Treatment Fund (SWTF) options to determine the best investment for the EMRC (Task 7 Financial Modelling);
- Further financial modelling of anaerobic and thermal waste treatment options (Task 7 Financial Modelling), along with staging options; and
- Further updates to the EMRC Preferred RRF Options Report based upon the second round of stakeholder feedback (Tasks 5, 8, 9, 10 and 11);
- Undertaking a Net Present Value (NPV) analysis on risk items related to Contract Delivery Model Options (Task 11 Contract Delivery Mechanism); and
- Review the issues regarding seeking EOI's/RFT's for various contract options, eg D&C, BOO, JV, &/or seeking EOI's/RFT's for technology options, leaving aside the ownership and contract delivery mechanism (Task 12 Expression of Interest Preparations).

STRATEGIC/POLICY IMPLICATIONS

The Consultancy Contract is consistent with the EMRC strategic objective to "minimise the environmental impact of waste disposal".

FINANCIAL IMPLICATIONS

The cost of using consultants Cardno BSD Meinhardt JV arising from the Request for Tender 2004/1 is budgeted at approximately \$365,000 in the 2008/2009 Budget under – Resource Recovery – Implement Resource Recovery Project Plan. There is also an allowance of \$2,000,000 for capital expenditure on Resource Recovery Facilities associated with Hazelmere in the 2008/2009 Budget under – Resource Recovery – Implement Resource Recovery Project Plan, carried over from the 2007/2008 Budget.

SUSTAINABILITY IMPLICATIONS

The Resource Recovery Facility and/or Resource Recovery Park will contribute toward "minimising the environmental impact of waste".

MEMBER COUNCIL IMPLICATIONS

Member Council	Implication Details
Town of Bassendean	} The EMRC will continue to advise member Councils as the project proceeds.
City of Bayswater	
City of Belmont	
Shire of Kalamunda	
Shire of Mundaring	
City of Swan	



Item 9.2 continued

ATTACHMENT(S)

1. [Minutes of PAG Meeting 10 July 2008 \(Ref: Committees-8504\)](#)
2. [Unconfirmed Minutes of PAG Meeting 14 August 2008 \(Ref: Committees-8516\)](#)
3. [Cardno BSD Meinhardt JV Progress report 10 April to 10 July 2008 \(Ref: Committees-8505\)](#)
4. [Cardno BSD Meinhardt JV Progress report July to August 2008 \(Ref: Committees-8506\)](#)

VOTING REQUIREMENT

Simple Majority

RECOMMENDATION(S)

That the report be received.

The Manager Project Development advised that the EMRC had received a proposal from Swaab Attorneys to play a peer review role in the Resource Recovery Project (RRP) for some aspects of the project, particularly the EoI/Tender and contract type, and he thinks it could add value to the RRP because of their experience in these sorts of projects. A copy of the proposal has been forwarded to Cardno BSD to review.

The Manager Project Development advised that a briefing was given by Best Energies on their bio-char technology in August. A proposal for a feasibility study is being presented to the FORC (Forum of Regional Councils) suggesting that all regional councils contribute towards the \$95,000 cost of a feasibility study that Best Energies would undertake on a range of feedstocks, particularly residual waste, green waste, wood chip fines from Hazelmere and stable waste in Ascot and members would be kept informed of the progress.

RRC RECOMMENDATION(S)

MOVED CR ALBERT

SECONDED CR KLEIN

That the report be received.

CARRIED UNANIMOUSLY

COUNCIL RESOLUTION(S)

MOVED CR LAVELL

SECONDED CR GODFREY

THAT THE REPORT BE RECEIVED.

CARRIED UNANIMOUSLY



TASK 23 - PROJECT ADVISORY GROUP MEETING

Meeting Minutes

Location: EMRC Council Chambers, Ascot Place, Belmont
 Date: Thursday 10 July 2008
 Time: 3:30pm – 5:00pm

1 Attendance and Apologies

Attendees:

Ric Lutey	John King
Jim Coton	Ronan Cullen
Mahesh Singh	Gavin Watters
Shane Purdy	Steve Fitzpatrick
James Riley	Adam Johnson
Ken Goldsworthy	John Stevenson

Apologies:

Bill Marchbank, Mick McCarthy, Simon Stewert Dawkins

Welcome:

2 Minutes from previous meeting

The minutes from the previous meeting were accepted.

3 Actions from previous meeting

Responsible	Action Required	Completed
EMRC	Email questions outlining potential issues with a three-bin system at Multi-Unit Dwellings	Not completed
JV	Update EMRC Preferred Options Feedback and Actions spreadsheet – version, date and item numbers	Completed

4 Progress report

The Progress Report for the April to July period was tabled. John King presented an overview of activities outlined in the report, including activities in hand for future completion. A summary of the issues follows:

Task 4 – Stakeholder Consultation

Feedback on the Preferred Options Report has been received and is being incorporated into the updated report.

Task 5 – Stakeholder Consultation

The preferred site and technology option is being compared against the 'do nothing' option in the Preferred RRF Options Report.

Task 7 – Financial Models

The EMRC and JV attended a forum held by WMAA WA Branch on Climate Change & The Waste Sector. The forum outlined the implications of an emissions trading scheme on Local Government. The Task 7 Financial Model will be used to determine the likely implications of an Emissions Trading Scheme on the financial viability of an RRF.

Tasks 8 – Staging & Technology and Task 9 – Business Plan and Member Agreement

Financial modelling has been conducted across a range of technology options and staging scenarios. John King presented an overview of some preliminary Staging of Facility analysis and indicated that further work is required in relation to the costs and modularity of the various technologies. A copy of this presentation is attached to these minutes.

The selection of a preferred contract delivery mechanism remains under consideration, ie whether a D&C or a BOO is the most appropriate. However, it was noted that the technology selection process may determine which contract delivery mechanism will be adopted.

Task 11 – Contract Delivery Mechanism

The risk assessment matrix, based on the matrix completed as part of the 2002 study, was further reviewed by the JV and the outcomes presented at the recent Risk Workshop.

Task 22 – Progress Reports

The Progress reports are being circulated and presented at each PAG meeting.

Task 23 – PAG Meetings

The JV has attended PAG meetings to provide updates on deliverables and receive feedback.

Projected Activities

Project activities for next month include the following:

- Review project schedule in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Review budget allocations, in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Undertake Net Present Value analysis on options for using the Secondary Waste Treatment Fund to determine the best investment for the EMRC (Task 7 Financial Modelling);
- Further financial modelling of anaerobic and thermal waste treatment options, along with staging options, particularly looking at the capital and operating costs and modularity of the facilities; and
- Review the issues regarding seeking EOI's/RFT's for various contract options, eg D&C, BOO, JV, &/or seeking EOI's/RFT's for technology options, leaving aside the ownership and contract delivery mechanism (Task 12 Expression of Interest Preparations).

6 Other Business

Terry Ord has reviewed the financial model and it is expected that he will communicate his views to the EMRC.

The range of thermal treatment technologies to be considered includes Gasification, Pyrolysis and Mass Combustion.

7 Summary of actions

Responsible	Action Required	Deadline
Member Councils	Email responses to potential issues with a three-bin system at Multi-Unit Dwellings	Partly complete
JV	Explore the costs and the issues (timing, complexity etc) related to seeking an Expression of Interest (EOI)/Tender for more than one contract option at the same time - D&C, BOO, Joint Venture	31 August 2008
JV	Explore the costs and the issues (timing, complexity etc) related to seeking EoI's for the technology options only, leaving the ownership and contract delivery mechanism open and then going to tender for a preferred technology type and ownership/contract delivery mechanism having assessed the technologies and the EMRC's ability to manage the technology	31 August 2008
JV	Conduct further exploration into the implications of the possible adoption of Thermal Waste Treatment, in terms of Capex, modularity, community acceptance and the approvals process, if thermal were selected as the preferred technology	31 August 2008

8 Next Meeting

The next PAG meeting has been scheduled for 7 August 2008 (To be confirmed by the EMRC).

Closure

The meeting closed at 4.30pm.



TASK 23 - PROJECT ADVISORY GROUP MEETING

Meeting Minutes

Location: EMRC Council Chambers, Ascot Place, Belmont
 Date: Thursday 14 August 2008
 Time: 4:00pm – 5:00pm

1 Attendance and Apologies

Attendees:

Ric Lutey	John King	Simon Stewart-Dawkins
Jim Coton	Bill Marchbank	
Mahesh Singh	Gavin Watters	
Mick McCarthy	Stephen Fitzpatrick	
James Riley	Adam Johnson	

Apologies: Shane Purdy, George Rimpas, John Stevenson

Welcome: The chairman welcomed attendees to the meeting.

2 Minutes from previous meeting

The minutes from the previous meeting were tabled and a revision to the Summary of Actions table was requested. The minutes have subsequently been revised and re-issued.

3 Actions from previous meeting

Responsible	Action Required	Deadline
Member Councils	Email responses on potential issues with a three-bin system at Multi-Unit Dwellings	Partly complete
JV	Explore the costs and the issues (timing, complexity etc) related to seeking an Expression of Interest (EOI)/Tender for more than one contract option at the same time - D&C, BOO, Joint Venture	Outstanding
JV	Explore the costs and the issues (timing, complexity etc) related to seeking EOI's for the technology options only, leaving the ownership and contract delivery mechanism open and then going to tender for a preferred technology type and ownership/contract delivery mechanism having assessed the technologies and the EMRC's ability to manage the technology	Outstanding
JV	Conduct further exploration into the implications of the possible adoption of Thermal Waste Treatment, in terms of Capex, modularity, community acceptance and the approvals process, if thermal were selected as the preferred technology	Outstanding

4 Progress report

The Progress Report for the July to August period was tabled. John King presented an overview of activities outlined in the report, including activities in hand for future completion. A summary of the issues follows:

Task 1 – Project Management

The JV is to developing a short-term plan addressing activities that need to be completed so as to enable council to make decisions regarding progress of the project.

Task 4 – Stakeholder Consultation

Feedback on the Preferred Options Report has been received and will be incorporated into the updated report. The report will be completed, following the resolution of a range of outstanding items, including the selection of the preferred technology and the contract delivery mechanism.

The preferred site and technology option is to be compared against the 'do nothing' option in the Preferred RRF Options Report.

In response to a query, regarding when the PAG would provide an update to council, it was suggested that this would occur before the end of the 2008 calendar year.

Task 7 – Financial Modelling

Stephen Fitzpatrick indicated that feedback had been received from council's financial consultant, Terry Ord, on recent modelling conducted by the JV. The report was to be circulated subsequent to the meeting.

Task 11 – Contract Delivery Mechanism

The selection of a preferred contract delivery mechanism remains under consideration, however, it was noted that the technology selection process may determine which contract delivery mechanism will be adopted.

Task 22 – Progress Reports

The Progress reports are being circulated and presented at each PAG meeting.

Task 23 – PAG Meetings

The JV has attended PAG meetings to provide updates on deliverables and receive feedback.

5 Other Business

Nil.

6 Summary of actions

Responsible	Action Required	Deadline
Member Councils	Email responses on potential issues with a three-bin system at Multi-Unit Dwellings	Partly completed
JV	Explore the costs and the issues (timing, complexity etc) related to seeking an Expression of Interest (Eoi)/Tender for more than one contract option at the same time - D&C, BOO, Joint Venture	31 August 2008
JV	Explore the costs and the issues (timing, complexity etc) related to seeking Eoi's for the technology options only, leaving the ownership and contract delivery mechanism open and then going to tender for a preferred technology type and ownership/contract delivery mechanism having assessed the technologies and the EMRC's ability to manage the technology	31 August 2008
JV	Conduct further exploration into the implications of the possible adoption of Thermal Waste Treatment, in terms of Capex, modularity, community acceptance and the approvals process, if thermal were selected as the preferred technology	31 August 2008

8 Next Meeting

The next PAG meeting has been scheduled for 4 September 2008 (To be confirmed by the EMRC).

Closure

The meeting closed at 4.25pm.

PROGRESS REPORT
10 April 2008 - 10 July 2008

Consultancy Contract Relating to Resource Recovery
for the EMRC

Prepared for: **EMRC**

Prepared by: **CARDNO BSD / MEINHARDT JOINT VENTURE**
Cardno BSD Centre, 2 Bagot Road
PO Box 155, Subiaco, WA, 6904
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July 2008



EXECUTIVE SUMMARY

This report summarises the Joint Venture's Resource Recovery Facility related activities from 10 April until 10 July 2008. During this period, the Joint Venture has focused on the following:

- A preliminary review of budget allocations and the project schedule (Task 1 Project Management Plan & Schedule);
- Conduct a Risk Workshop and present the outcomes, derived from the activities listed below, to the Resource Recovery Committee (RRC) to assist in determining the preferred Contract Delivery Model option (Task 4 Stakeholder Consultation);
- Attendance at the WALGA Climate Change Workshop by EMRC and the JV (Task 7);
- Financial modelling of anaerobic and thermal waste treatment staging options (Task 7 Financial Modelling);
- A review of the qualitative commercial risk categories derived from the Worley Parsons workshop, as they relate to the Build, Own and Operate (BOO), Design and Construct (D&C) and Joint Venture (JV) contract delivery mechanisms (Task 11 Contract Delivery Mechanism);
- Attend a workshop on the Monte Carlo scenario modelling process, presented by the EMRC's external financial consultant, Terry Ord (Task 11 Contract Delivery Mechanism);
- A review of risk management methodologies associated with traditional D&C and BOO contract delivery models adopted in the United Kingdom and Australia (Task 11 Contract Delivery Mechanism);
- Undertaking a Net Present Value (NPV) analysis on risk items related to Contract Delivery Model Options (Task 11 Contract Delivery Mechanism);
- The development of a Value for Money risk analysis/measurement model, based on UK and Australian research (Task 11 Contract Delivery Mechanism); and
- Conduct a Risk Workshop and present the outcomes, derived from the activities listed above, to EMRC executives to assist in determining the preferred Contract Delivery Model option (Task 11 Contract Delivery Mechanism);
- Present the outcomes, derived from the RRC Risk Workshop, to the EMRC's external financial consultant, Terry Ord, to assist with auditing Cardno's work (Task 11 Contract Delivery Mechanism);

The planned activities for the following month are:

- Review budget allocations for tasks, in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Review project schedule in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule); and
- Undertake Net Present Value (NPV) analysis on Secondary Waste Treatment Fund (SWTF) options to determine the best investment for the EMRC (Task 7);
- Finalise the analysis of biological and thermal waste treatment staging options to determine the preferred treatment technologies and staging option, addressing the implications of adopting a thermal treatment technology (Task 5 and Task 8),
- Report on options for calling expressions of interest and tenders (Task 12),
- Further updates to the EMRC Preferred RRF Options Report based upon the second round of stakeholder feedback (Tasks 5, 10, 8, 9 and 11);

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1. INTRODUCTION

This report summarises the Joint Venture's Resource Recovery Facility related activities from 10 April until 10 July 2008. During this period, the Joint Venture has focused on the following activities:

- Presenting information on risk management methodologies and mitigation options to Stakeholder Workshops, including the PAG, RRC and the EMRC executive group (Task 4);
- Attendance at the WALGA Climate Change Workshop by EMRC and the JV (Task 7); and
- Communicating the results from the risk analysis to a number of forums, including the PAG, RRC and the EMRC executive group to assist in determining the preferred Contract Delivery Model option (Task 11).

2. PROGRESS REPORT

2.1 TASK 1 – PROJECT SCHEDULE

2.1.1 *Project Schedule*

The Project Schedule has not been updated and maintained due to the revised project process. The Project Schedule will be updated after the EMRC preferred RRF options have been determined.

2.2 TASK 2 – PRELIMINARY TECHNICAL & FINANCIAL ASSESSMENT

Completed

2.3 TASK 3 – COMMUNITY CONSULTATION

No activity

2.4 TASK 4 – STAKEHOLDER CONSULTATION

Feedback on the Preferred Options Report has been received and is being incorporated into the updated Preferred RRF Options Report.

2.5 TASK 5 – ASSESSMENT OF SITES AND TECHNOLOGIES

The preferred site and technology option is being compared against the 'do nothing' option in the Preferred RRF Options Report.

2.6 TASK 6 – PREFERRED RRF SITES AND TECHNOLOGIES

No activity

2.7 TASK 7 - FINANCIAL MODELS

The EMRC and JV attended a forum held by WMAA WA Branch on Climate Change & The Waste Sector. The forum outlined the implications of an emissions trading scheme on Local Government. The Task 7 Financial Model will be used to determine the likely implications of an Emissions Trading Scheme on the financial viability of an RRF.

2.8 TASK 8 - 9

Financial modelling has been conducted across a range of technology options and staging scenarios. Initial results will be presented to the PAG meeting by the Project Director.

2.9 TASK 10 - WASTE COLLECTION SYSTEMS

The EMRC has submitted an application for a DEC Strategic Waste Initiative Scheme (SWIS) grant that could fund a three-bin collection system trial and/or audit.

2.10 TASKS 11 - CONTRACT DELIVERY MECHANISMS

A meeting was conducted with the EMRC, JV and Mark Warren of Worley Parsons (Risk facilitator for the 2002 EMRC RRF Risk Workshop) participating. The risk assessment matrix, based on the matrix completed as part of the 2002 study, was reviewed during this meeting. It was determined that the risk matrix be reviewed to a greater extent by the JV and the outcomes presented at a Risk Workshop/s. It was agreed that this process would assist in determining the preferred Contract Delivery Model.

2.11 TASKS 12 – 21

No Activity

2.12 TASK 22 – PROGRESS REPORTS

The Progress Reports are being presented at each PAG meeting.

2.13 TASK 23 – PAG MEETINGS

PAG meetings have been scheduled to occur each month and have been held when warranted by the progress of project activities.

3. PROGRAMME

Refer to MS Project Schedule (Gantt Chart)

3.1 SUMMARY OF PROJECT SCHEDULE

Description	Schedule situation	Critical
Task 1 – Project Management Plan & Schedule	OK	No
Task 2 - Preliminary Technical & Financial assessment	Completed	-
Task 3 - Community Consultation Programme	OK	No
Task 4 - Stakeholder Consultation Programme	OK	Critical path
Task 5 - Preliminary assessment of sites & technologies	Completed	-
Task 6 - Preferred sites and technologies for RRP/RRF	Not started	No
Task 7 – Financial modelling	Completed	-
Task 8 - Staging of Facility, preferred technology types for EOI/Tender	OK	No
Task 9 – Business Plan & Member Council Agreements	OK	Critical path
Task 10 - Waste Collection Systems	Completed	-
Task 11 - Contract Delivery Mechanism	OK	No
Task 12 - Expression of Interest Preparations	Not started	Critical path
Task 13 - Preparation of EOI documents & Call for EOI'S	Not started	Critical path
Task 14 - Evaluate and shortlist EOI's	Not started	Critical path
Task 15 - Environmental Approvals	OK	Critical path
Task 16 - Planning Approvals	Not started	No
Task 17 - Tender Preparations	Not started	Critical path
Task 18 - Preparation of tender documents & Call for Tenders	Not started	Critical path
Task 19 - Tender Evaluation	Not started	Critical path
Task 20 - Contract Finalisation	Not started	Critical path
Task 21 - Administer Contracts	Not started	Critical path
Task 22 - Progress Reports	OK	No
Task 23 - PAG Meetings	OK	No

4. UNFORESEEN CIRCUMSTANCES

None

5. PROJECT EXPENDITURE

Note: This information has not been updated for the July PAG meeting, however this issue will be addressed for future meetings.

Description	Agreed Fee (ex. GST)	Percentage complete
Task 1 - Project Management Plan & Schedule	\$21,745	130%
Task 2 - Preliminary Technical & Financial assessment	\$11,190	100%
Task 3 - Community Consultation Programme	\$118,059	87%
Task 4 – Stakeholder Consultation Programme	\$47,127	47%
Task 5 – Preliminary assessment of sites & technologies	\$78,129	105%
Task 6 - Preferred sites and technologies for RRP/RRF (inc CPI)	\$29,620	0%
Task 7 – Financial modelling	\$112,042	100%
Task 8 - Staging of Facility, preferred technology types for EOI/Tender (inc CPI)	\$18,479	65%
Task 9 – Business Plan & Member Council Agreements (inc CPI)	\$17,701	82%
Task 10 - Waste Collection Systems (inc CPI)	\$21,707	177%
Task 11 - Contract Delivery Mechanism (inc CPI)	\$24,798	30%
Task 12 - Expression of Interest Preparations (inc CPI)	\$25,896	0%
Task 13 - Preparation of EOI documents & Call for EOI'S (inc CPI)	\$17,442	0%
Task 14 - Evaluate and shortlist EOI's (inc CPI)	\$42,714	0%
Task 15 - Environmental Approvals (inc CPI)	\$147,839	0%
Task 16 - Planning Approvals (inc CPI)	\$15,634	0%
Task 17 - Tender Preparations (inc CPI)	\$26,488	0%
Task 18 - Preparation of tender documents & Call for Tenders (inc CPI)	\$38,890	0%
Task 19 - Tender Evaluation (inc CPI)	\$121,789	0%
Task 20 - Contract Finalisation (inc CPI)	\$12,135	0%
Task 21 - Administer Contracts		
Task 22 - Progress Reports	\$39,148.20	39%
Task 23 - PAG Meetings	\$34,787.76	48%
PROJECT TOTAL (ex. GST)	\$1,023,362	45%

Note: Total may not add up due to rounding of task totals

5.1 LIST OF PROJECT VARIATIONS

Details of variations, date, resource, task and value (the values have been incorporated into the project budget table above)

Date	Task No	Resource	Description	Fee (exc GST)
10/2/05	Task 1	Gae Synnott	Attendance of Risk Workshop	\$520.00
10/2/05	Task 23	Gae Synnott	Attendance to first PAG meeting	\$650.00
4/04/05	Task 3	Gae Synnott	Attendance of WMCRG meetings & additional input into revised community consultation programme	\$8,450.00
3/05/05	Task 3	GS, JCK, GMP	Budget for co-ordinating the baseline market research survey	\$6,375.00
9/05/05	Task 7	Giles Perryman	To model two additional sites - original budget was to model one site only.	\$4,095.00
18/11/05	Task 5	JV Project Team	Amended task programme (linked to task 6) and additional community nominated sites.	\$38,386.00
18/11/05	Task 6	JV Project Team	Amended task programme (linked to task 5)	-\$12,719.60
21/12/05	Task 4	JV Project Team	Additional Member Council briefings regarding Project & Business Plans	\$13,317.20
16/06/06	Task 3	JV Project Team	Additional Report required for RWS 1, time for PAG RWS2 run through and modelling of weightings.	\$33,717.20
16/06/06	Task 3	Graham Harvey	Stand in facilitator, additional hours required to brief Graham about the workshop	\$540.80
16/06/06	Task 5	JV Project Team	Production of Tech and Sites summary report	\$5,788.00
16/06/06	Task 11	JV Project Team	Assessment of contract delivery mechanisms against each technology option	\$5,967.00
27/04/07	Task 7	JV Project Team	Financial Modelling for amending landfill and technology gate fees to actual costs	\$2,487.06
30/05/07	Task 7	JV Project Team	Financial model structure amendments to remove the lag between the base year and the start of capital expenditure	\$4,380.70
30/05/07	Task 7	JV Project Team	Time spent reviewing and correcting member Council waste tonnage and cost data between August and November 2006	\$21,831.00
04/02/08	Task 1, 5, 7, 10	JV Project Team	Variation request applicable to addition work requested under Task 1, 5, 7 and 10	\$124,755.16
			TOTAL	\$258,540.52

6. PROJECTED ACTIVITIES

The Joint Venture will focus on the following activities during the next month:

- Review project schedule in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Review budget allocations, in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Undertake Net Present Value (NPV) analysis on Secondary Waste Treatment Fund (SWTF) options to determine the best investment for the EMRC (Task 7 Financial Modelling);
- Further financial modelling of anaerobic and thermal waste treatment options, along with staging options (Task 8 Staging of Facility, preferred technology types for EOI/RFT); and
- Further updates to the EMRC Preferred RRF Options Report based upon the second round of stakeholder feedback (Tasks 5, 8, 9, 10 and 11);
- Review the issues regarding seeking EOI's/RFT's for various contract options, eg D&C, BOO, JV, &/or seeking EOI's/RFT's for technology options, leaving aside the ownership and contract delivery mechanism (Task 12 Expression of Interest Preparations).

6.1 TASK 1 – PROJECT SCHEDULE

The JV Project Team and EMRC will meet to update the revised schedule and budget after the preferred RRF options have been decided. The choice of preferred options will influence the timing of a number of tasks, particularly Environmental Approvals (Task 15).

6.2 TASK 4 – STAKEHOLDER CONSULTATION

The feedback from the second round of stakeholder consultation (CEOAC, PAG and RRC) is being incorporated into the Stakeholder Feedback Spreadsheet and reflected in the Preferred Options Report.

6.3 TASK 5 – SELECTION OF SITES AND TECHNOLOGIES

The Task 5 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation; and
- Financial Modelling undertaken by the JV.

6.4 TASK 7 – FINANCIAL MODELLING

The Project Team will meet to discuss the assumptions for Carbon Trading modelling and the effect on the financial viability of the RRF.

In addition, the JV will undertake Net Present Value (NPV) analysis to determine the best investment options for the Secondary Waste Treatment Fund (SWTF). Investment options will include the investment of an organics bin for each household and subsidising the RRF gate fee for Member Councils.

6.5 TASK 8 – STAGING OF FACILITY

The Task 8 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation; and
- Financial Modelling undertaken by the JV.

Further financial modelling of anaerobic and thermal waste treatment options, along with staging options for these technologies, will be undertaken. The implications of adopting a thermal technology solution in terms of community and approval agency acceptance, will also be addressed and reported.

The results of preliminary financial modelling regarding technologies and staging of facilities will be presented to the meeting by the Project Director. A summary of the preliminary outputs is presented as follows:

Stage 1 Organic (60,000tpa) plus Stage 2 Thermal (70,000tpa) at year 5

			Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
Tonnes processed at year 5		130,000						
Includes cap repayment schedule	NPV	-\$185,744,835						
Cost to operate the facility per tonne			\$146.66	\$147.61	\$148.60	\$149.63	\$190.36	\$196.44

Thermal (100,000 tpa) from outset

			Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
Tonnes processed		100,000						
Includes cap repayment schedule	NPV	-\$118,923,979						
Cost to operate the facility per tonne			\$130.02	\$130.60	\$131.21	\$131.83	\$132.48	\$136.11

6.6 TASK 9 – BUSINESS PLAN AND MEMBER COUNCIL AGREEMENTS

The Task 9 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation; and
- Financial Modelling undertaken by the JV.

6.7 TASK 10 – WASTE COLLECTION SYSTEM

The Task 10 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation; and
- Financial Modelling undertaken by the JV.

6.8 TASK 11 – CONTRACT DELIVERY MECHANISMS

The Task 11 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation;
- Financial Modelling undertaken by the JV; and
- Outcomes of the Risk Workshop.

7. ADDITIONAL INFORMATION

No additional information.

**PROGRESS REPORT
July - August 2008**

**Consultancy Contract Relating to Resource Recovery
for the EMRC**

Prepared for: **EMRC**

Prepared by: **CARDNO BSD / MEINHARDT JOINT VENTURE**
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August 2008



EXECUTIVE SUMMARY

This report summarises the Joint Venture's Resource Recovery Facility related activities for the July to August 2008 period. During this time, the Joint Venture has focused on the following:

- The JV attended a meeting with EMRC executives to discuss our approach to project tasks in 2008/9 and beyond. From the JV's perspective, the Project Director will be more heavily involved in driving the project forward due to an internal restructuring of Cardno;
- A preliminary review of budget allocations and the project schedule (Task 1 Project Management Plan & Schedule);

The planned activities for the following month are:

- Completion of a review of budget allocations for tasks, in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Review project schedule in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule); and
- Completion of a Net Present Value analysis on Secondary Waste Treatment Fund (SWTF) options to determine the best investment for the EMRC (Task 7);
- Finalise the analysis of biological and thermal waste treatment staging options to determine the preferred treatment technologies and staging option, addressing the implications of adopting a thermal treatment technology (Task 5 and Task 8),
- Undertaking a Net Present Value (NPV) analysis on risk items related to Contract Delivery Model Options (Task 11 Contract Delivery Mechanism);
- Report on options for calling expressions of interest and tenders (Task 12),
- Further updates to the EMRC Preferred RRF Options Report based upon the second round of stakeholder feedback (Tasks 5, 10, 8, 9 and 11);

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1. INTRODUCTION

This report summarises the Joint Venture's Resource Recovery Facility related activities during July – August 2008. During this period, the Joint Venture has focused on the following activities:

- The JV's Project Director has made a strategic decision to focus more time to project activities from August 2008 forward. As such, the Project Director will be more heavily involved in driving the project forward from the JV's perspective. This approach was discussed and agreed at a meeting with EMRC executives in July. (Task 1 Project Management Plan & Schedule);
- During the meeting, referred to above, council's participation in an international Waste to Energy conference, was also discussed. The conference is scheduled for November 2008 and it was agreed that participation in this conference would facilitate EMRC councillors gaining a better knowledge of the range of possible solutions available. It was acknowledged that it would be beneficial if the Cardno BSD Meinhardt JV Project Director also attended the conference. The August PAG meeting will include a presentation highlighting the types of technology that might be explored during the conference trip. (Task 5 Preliminary Assessment of Sites and Technologies);
- A preliminary review of budget allocations and the project schedule (Task 1 Project Management Plan & Schedule);

2. PROGRESS REPORT

2.1 TASK 1 – PROJECT SCHEDULE

2.1.1 *Project Schedule*

The Project Schedule will be updated after the EMRC preferred RRF options have been determined.

2.2 TASK 2 – PRELIMINARY TECHNICAL & FINANCIAL ASSESSMENT

Completed

2.3 TASK 3 – COMMUNITY CONSULTATION

No activity

2.4 TASK 4 – STAKEHOLDER CONSULTATION

Feedback on the Preferred Options Report has been received and is being incorporated into the updated Preferred RRF Options Report.

2.5 TASK 5 – ASSESSMENT OF SITES AND TECHNOLOGIES

The preferred site and technology option is being compared against the ‘do nothing’ option in the Preferred RRF Options Report.

A briefing presentation has been prepared to provide an update to the PAG and RRC meetings and will be presented at the August meetings.

2.6 TASK 6 – PREFERRED RRF SITES AND TECHNOLOGIES

No activity.

2.7 TASK 7 - FINANCIAL MODELS

No activity.

2.8 TASK 8 - 9

Financial modelling has been conducted across a range of technology options and staging scenarios. Initial results were presented to the July PAG meeting by the Project Director.

2.9 TASK 10 - WASTE COLLECTION SYSTEMS

No activity.

2.10 TASKS 11 - CONTRACT DELIVERY MECHANISMS

No activity.

2.11 TASKS 12 – 21

No Activity.

2.12 TASK 22 – PROGRESS REPORTS

The Progress Reports are being presented at each PAG meeting.

2.13 TASK 23 – PAG MEETINGS

The JV attended the July PAG meeting and reported on the progress of project activities.

3. PROGRAMME

Refer to MS Project Schedule (Gantt Chart)

3.1 SUMMARY OF PROJECT SCHEDULE

Description	Schedule situation	Critical
Task 1 – Project Management Plan & Schedule	OK	No
Task 2 - Preliminary Technical & Financial assessment	Completed	-
Task 3 - Community Consultation Programme	OK	No
Task 4 - Stakeholder Consultation Programme	OK	Critical path
Task 5 - Preliminary assessment of sites & technologies	Completed	-
Task 6 - Preferred sites and technologies for RRP/RRF	Not started	No
Task 7 – Financial modelling	Completed	-
Task 8 - Staging of Facility, preferred technology types for EOI/Tender	OK	No
Task 9 – Business Plan & Member Council Agreements	OK	Critical path
Task 10 - Waste Collection Systems	Completed	-
Task 11 - Contract Delivery Mechanism	OK	No
Task 12 - Expression of Interest Preparations	Not started	Critical path
Task 13 - Preparation of EOI documents & Call for EOIS	Not started	Critical path
Task 14 - Evaluate and shortlist EOIS	Not started	Critical path
Task 15 - Environmental Approvals	OK	Critical path
Task 16 - Planning Approvals	Not started	No
Task 17 - Tender Preparations	Not started	Critical path
Task 18 - Preparation of tender documents & Call for Tenders	Not started	Critical path
Task 19 - Tender Evaluation	Not started	Critical path
Task 20 - Contract Finalisation	Not started	Critical path
Task 21 - Administer Contracts	Not started	Critical path
Task 22 - Progress Reports	OK	No
Task 23 - PAG Meetings	OK	No

4. UNFORESEEN CIRCUMSTANCES

None

5. PROJECT EXPENDITURE

Description	Agreed Fee (ex. GST)	Percentage complete
Task 1 - Project Management Plan & Schedule	\$21,745	335%
Task 2 - Preliminary Technical & Financial assessment	\$11,190	100%
Task 3 - Community Consultation Programme	\$118,059	88%
Task 4 – Stakeholder Consultation Programme	\$47,127	73%
Task 5 – Preliminary assessment of sites & technologies	\$78,129	120%
Task 6 - Preferred sites and technologies for RRP/RRF (inc CPI)	\$29,620	0%
Task 7 – Financial modelling	\$112,042	142%
Task 8 - Staging of Facility, preferred technology types for EOI/Tender (inc CPI)	\$18,479	108%
Task 9 – Business Plan & Member Council Agreements (inc CPI)	\$17,701	87%
Task 10 - Waste Collection Systems (inc CPI)	\$21,707	239%
Task 11 - Contract Delivery Mechanism (inc CPI)	\$24,798	170%
Task 12 - Expression of Interest Preparations (inc CPI)	\$25,896	0%
Task 13 - Preparation of EOI documents & Call for EOI'S (inc CPI)	\$17,442	0%
Task 14 - Evaluate and shortlist EOI's (inc CPI)	\$42,714	0%
Task 15 - Environmental Approvals (inc CPI)	\$147,839	1%
Task 16 - Planning Approvals (inc CPI)	\$15,634	0%
Task 17 - Tender Preparations (inc CPI)	\$26,488	0%
Task 18 - Preparation of tender documents & Call for Tenders (inc CPI)	\$38,890	0%
Task 19 - Tender Evaluation (inc CPI)	\$121,789	0%
Task 20 - Contract Finalisation (inc CPI)	\$12,135	0%
Task 21 - Administer Contracts		
Task 22 - Progress Reports	\$39,148.20	43%
Task 23 - PAG Meetings	\$34,787.76	66%
PROJECT TOTAL (ex. GST)	\$1,023,362	63%

Note: Total may not add up due to rounding of task totals

5.1 LIST OF PROJECT VARIATIONS

Details of variations, date, resource, task and value (the values have been incorporated into the project budget table above)

Date	Task No	Resource	Description	Fee (exc GST)
10/2/05	Task 1	Gae Synnott	Attendance of Risk Workshop	\$520.00
10/2/05	Task 23	Gae Synnott	Attendance to first PAG meeting	\$650.00
4/04/05	Task 3	Gae Synnott	Attendance of WMCRG meetings & additional input into revised community consultation programme	\$8,450.00
3/05/05	Task 3	GS, JCK, GMP	Budget for co-ordinating the baseline market research survey	\$6,375.00
9/05/05	Task 7	Giles Perryman	To model two additional sites - original budget was to model one site only.	\$4,095.00
18/11/05	Task 5	JV Project Team	Amended task programme (linked to task 6) and additional community nominated sites.	\$38,386.00
18/11/05	Task 6	JV Project Team	Amended task programme (linked to task 5)	-\$12,719.60
21/12/05	Task 4	JV Project Team	Additional Member Council briefings regarding Project & Business Plans	\$13,317.20
16/06/06	Task 3	JV Project Team	Additional Report required for RWS 1, time for PAG RWS2 run through and modelling of weightings.	\$33,717.20
16/06/06	Task 3	Graham Harvey	Stand in facilitator, additional hours required to brief Graham about the workshop	\$540.80
16/06/06	Task 5	JV Project Team	Production of Tech and Sites summary report	\$5,788.00
16/06/06	Task 11	JV Project Team	Assessment of contract delivery mechanisms against each technology option	\$5,967.00
27/04/07	Task 7	JV Project Team	Financial Modelling for amending landfill and technology gate fees to actual costs	\$2,487.06
30/05/07	Task 7	JV Project Team	Financial model structure amendments to remove the lag between the base year and the start of capital expenditure	\$4,380.70
30/05/07	Task 7	JV Project Team	Time spent reviewing and correcting member Council waste tonnage and cost data between August and November 2006	\$21,831.00
04/02/08	Task 1, 5, 7, 10	JV Project Team	Variation request applicable to addition work requested under Task 1, 5, 7 and 10	\$124,755.16
			TOTAL	\$258,540.52

6. PROJECTED ACTIVITIES

The Joint Venture will focus on the following activities during the ensuing month/s:

- Review project schedule in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Complete the review of budget allocations, in light of recent activities and proposed work (Task 1 Project Management Plan & Schedule);
- Completion of a Net Present Value (NPV) analysis on Secondary Waste Treatment Fund (SWTF) options to determine the best investment for the EMRC (Task 7 Financial Modelling);
- Further financial modelling of anaerobic and thermal waste treatment options (Task 7 Financial Modelling), along with staging options; and
- Further updates to the EMRC Preferred RRF Options Report based upon the second round of stakeholder feedback (Tasks 5, 8, 9, 10 and 11);
- Undertaking a Net Present Value (NPV) analysis on risk items related to Contract Delivery Model Options (Task 11 Contract Delivery Mechanism);
- Review the issues regarding seeking EOI's/RFT's for various contract options, eg D&C, BOO, JV, &/or seeking EOI's/RFT's for technology options, leaving aside the ownership and contract delivery mechanism (Task 12 Expression of Interest Preparations).

6.1 TASK 1 – PROJECT SCHEDULE

The JV Project Team and EMRC will meet to update the revised schedule and budget after the preferred RRF options have been decided. The choice of preferred options will influence the timing of a number of tasks, particularly Environmental Approvals (Task 15).

6.2 TASK 4 – STAKEHOLDER CONSULTATION

The feedback from the second round of stakeholder consultation (CEOAC, PAG and RRC) will be incorporated into the Stakeholder Feedback Spreadsheet and reflected in the Preferred Options Report.

6.3 TASK 5 – SELECTION OF SITES AND TECHNOLOGIES

The Task 5 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation; and
- Financial Modelling undertaken by the JV.

6.4 TASK 7 – FINANCIAL MODELLING

The Project Team will meet to discuss the assumptions for Carbon Trading modelling and the effect on the financial viability of the RRF.

In addition, the JV will undertake Net Present Value (NPV) analysis to determine the best investment options for the Secondary Waste Treatment Fund (SWTF). Investment options will include the investment of an organics bin for each household and subsidising the RRF gate fee for Member Councils.

6.5 TASK 8 – STAGING OF FACILITY

The Task 8 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation; and
- Financial Modelling undertaken by the JV.

Further financial modelling of anaerobic and thermal waste treatment options, along with staging options for these technologies, will be undertaken. The implications of adopting a thermal technology solution in terms of community and approval agency acceptance, will also be addressed and reported.

The results of preliminary financial modelling regarding technologies and staging of facilities were presented to the July PAG meeting by the Project Director. A copy of the presentation is attached.

6.6 TASK 9 – BUSINESS PLAN AND MEMBER COUNCIL AGREEMENTS

The Task 9 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation; and
- Financial Modelling undertaken by the JV.

6.7 TASK 10 – WASTE COLLECTION SYSTEM

The Task 10 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation; and
- Financial Modelling undertaken by the JV.

6.8 TASK 11 – CONTRACT DELIVERY MECHANISMS

The Task 11 component of the EMRC Preferred Options Report will be updated depending on:

- Feedback received from stakeholder consultation;
- Financial Modelling undertaken by the JV; and
- Outcomes of the Risk Workshop.

7. ADDITIONAL INFORMATION

A copy of the presentation made by the JV to the July PAG meeting is attached.



Item 9.3 Investigation into Reusable Branded Shopping Bags was considered by the Committee earlier in the meeting following Item 5.1 Minutes of the Resource Recovery Committee Meeting held on 14 August 2008

9.3 INVESTIGATION INTO REUSABLE BRANDED SHOPPING BAGS

REFERENCE: COMMITTEES-8502

PURPOSE OF REPORT

To advise Council of the feasibility of providing Perth's Eastern Region with reusable shopping bags with Resource Recovery branding.

KEY ISSUES AND RECOMMENDATION(S)

- Research has been conducted into the feasibility of providing the Region's households with a reusable branded shopping bag to promote the Resource recovery project and the R-Gang brand.
- Indicative costs range from around \$40,000 to \$100,000 including distribution to households.
- A preferred approach may be to trial a smaller quantity of reusable branded bags for use in conjunction with existing education and promotional programs at a cost of about \$5,000.
- The upcoming trial household organics bin collection will include the use of compostable bags for kitchen food waste and will provide feedback on the merits of these bags.

Recommendation(s)

That the report be received.

SOURCE OF REPORT

Waste Education Coordinator

BACKGROUND

At the 10 July 2008 meeting of the RRC, Cr Godfrey advised that she had been sent a copy of correspondence regarding eco films and received samples of biodegradable shopping bags that the City of West Torrens in Adelaide had given out during Citizenship ceremonies. They provide a biodegradable bag for the kitchen and another one for shopping. Cr Godfrey suggested that the EMRC could produce one for the region with the R-Gang brand. Cr Albert asked if the EMRC could provide quotes on all of the different types of re-usable bags being distributed.

Cloth and non-woven polyurethane bags (such as the common Bunnings bag) are becoming more common as the community recognises the detrimental effects on the environment caused by the use of plastic bags. They are also becoming utilised in environmental promotions focused on good waste behaviours in shopping and in reducing packaging.

Another type of bag which is gaining use is the 'compostable' plastic bag. This is perceived as being better than the common plastic bag provided at supermarkets, because it is purported to break down more rapidly and be capable of being placed into household compost bins. A range of these types of bags are available on the market.



Item 9.3 continued

This report will focus on the implications of using two bags as a form of awareness raising for the Resource Recovery Project (RRP): the non-woven polyurethane reusable shopping bag (as used in shops such as Bunnings and chain supermarkets instead of the traditional plastic shopping bag) and the compostable bag – heavy and lightweight - and indicative costings for these bag types.

REPORT

Non-woven polyurethane bag

The non-woven polyurethane bag is strong and durable and is being used widely in shopping. It is capable of being printed on both sides, so that it could certainly display relevant messages and logos related to Resource Recovery. This style of bag is one which residents may be likely to retain and re-use.

Preliminary enquiries suggest that purchasing large quantities of the bags have considerable cost implications (refer Attachment 1). The bags are priced around 46.2¢ each (for 140,000) for a one-colour print. The bags are generally shipped from China, and take approximately two months to arrive.

Reusable compostable shopping bags

The company Eco Films have sent samples of their reusable compostable shopping bags from the American/Canadian firm Al-Pack (a subset of Cortec Corporation). The bags are produced in Canada and Minnesota factories and are certified as being compostable according to the US Composting Council. The bags would be shipped from Canada to Fremantle. The bags can be printed on, allowing for relevant resource recovery logos and messages to be highlighted.

For shipping and storage applications, Eco *Film*TM is a great alternative to conventional polyethylene films. Eco *Film*TM has a shelf life of up to two years, when sealed in original packaging. Once removed and put to use, Eco *Film*TM will remain effective with regard to mechanical strength until the film is placed in contact with material containing microorganisms, such as certain types of waste, soil, and compost. Under these conditions, 100% disintegration will occur within a few weeks with no residual contamination of the soil.

Again, however, there are serious cost implications to be considered in purchasing these bags. The bags are estimated to cost 64¢ each for shipping to Sydney plus freight costs to Perth. It may also be worth considering whether a plastic bag – even a heavier style of bag like the one provided by the City of West Torrens – would have the same ‘reuse’ value or perception as that of a cloth bag. They would not have the life or durability of a non-woven polyurethane bag.

‘Singlet style’ compostable shopping bags

These bags are very light-weight, in the style of a thin plastic checkout bag. They can also include printing. The bags are considerably cheaper to manufacture, and Eco Films have estimated them to be at 17.5¢ US (equivalent to 20.4 ¢ Australian). The thin material of this bag, however, would give it limited reuse opportunities.

Based on these quoted prices, the cost of providing an R-Gang branded shopping bag to each household in the region is estimated as follows:

Non-woven polyurethane bags

One printed bag per household (140,000): \$64,680
Distribution costs*: \$11,000
Total: \$75,680

Reusable compostable shopping bags

One bag per household (140,000): \$89,600 (plus shipping costs)
Distribution costs: \$11,000
Total: \$100,600

