Printed on 100% recycled paper. Please dispose of thoughtfully.

What about the resource recovery park?

The Hazelmere Recycling Centre started in 2008. EMRC's vision for the site is a hub of resource recovery activities diverting significant waste from landfill and processing it into reusable products. Western Australia's only timber recycling and mattress recycling services operate from this centre.

Timber recycling

The Hazelmere Recycling Centre recovers and processes industrial timber waste so it can be diverted from landfill and recycled as a reusable woodchip. The woodchip is reused in particleboard, animal bedding, mulch and compost. More than 10,500 tonnes of woodwaste was recycled in 2010/2011.

Mattress recycling

EMRC provides for the environmentally responsible disposal of old mattresses. Most mattress components can be recycled and markets for foam, steel and timber have been established. Over 18,000 mattresses were recycled in 2010/2011.

What else is EMRC doing to reduce waste to landfill?

EMRC takes an integrated approach to waste management and actively promotes the 4Rs of Reduce, Reuse, Recycle and Recover waste.

Local council and EMRC services which divert waste from landfill include kerbside recycling, greenwaste recycling, and transfer stations - where residents can separate their waste and maximise recycling.

Waste education programs

EMRC and its member councils also regard waste education programs as a vital ingredient in making waste management more sustainable and encouraging the reduction of waste. Some of these programs include:

- Production of the Waste and Recycling Guide which goes to every household in the region.
- School and household battery recycling program. Around 13 tonnes of batteries were recycled in 2010.
- Fluorescent light collection and recycling program. Over 550kg of lights were recycled in 2010.
- Primary and high school waste education projects.
- Earth Carers training program which teaches residents practical ways to reduce and recycle waste. Around 100 residents have participated in the program since its inception in late 2009.
- Tours of Red Hill Waste Management Facility and operation of the Red Hill Environmental Education Centre. Nearly 1000 visitors toured the facility in 2010.
- Talks and workshops for community groups, seniors and schools.

Communicating with you

We want to keep you informed about what's happening with the Resource Recovery Project

We will do this via updates on our website, in a regular column in your local newspaper, and by newsletters.
If you would like to receive a printed copy of the newsletter in the future, please call us on (08) 9424 2222.
If you would like to receive the newsletter and future updates electronically to save on paper (and waste!), we'll happily oblige.
Just send an email to us at mail@rgang.org.au with 'RRP update' in the subject line.

Contact: Stephen Fitzpatrick | EMRC Manager, Project Development | Ph: (08) 9424 2222 | Email: stephen.fitzpatrick@emrc.org.au

Resource Recovery Newsletter

Spring 2011

In partnership with its six member councils, the Eastern Metropolitan Regional Council (EMRC) is working to develop a more sustainable solution to managing waste in Perth's Eastern Region. This is known as the Resource Recovery Project.

Latest news

Change to technology options for proposed resource recovery facility

EMRC's Council has decided to reduce the number of technology options it is considering for the proposed facility to anaerobic digestion and gasification. This means that EMRC will no longer consider the option of combustion or pyrolysis for the resource recovery facility at Red Hill.

Why have the changes to technology options been made?

This decision was based on information received from acceptable tenderers during and after the Expressions of Interest phase, preparations for the environmental impact assessment, community engagement feedback and advice from the Environmental Protection Authority during the preparation of the Environmental Scoping Document. EMRC has undertaken extensive research on the technical, environmental and commercial information for all four options.

Anaerobic digestion and gasification are proven technologies for processing municipal waste with many examples world-wide. At this stage, they have been assessed as preferred options for the Red Hill resource recovery facility.

Reducing the technology options from four to two will facilitate a streamlined environmental impact assessment process and refine the project's ongoing community engagement process.

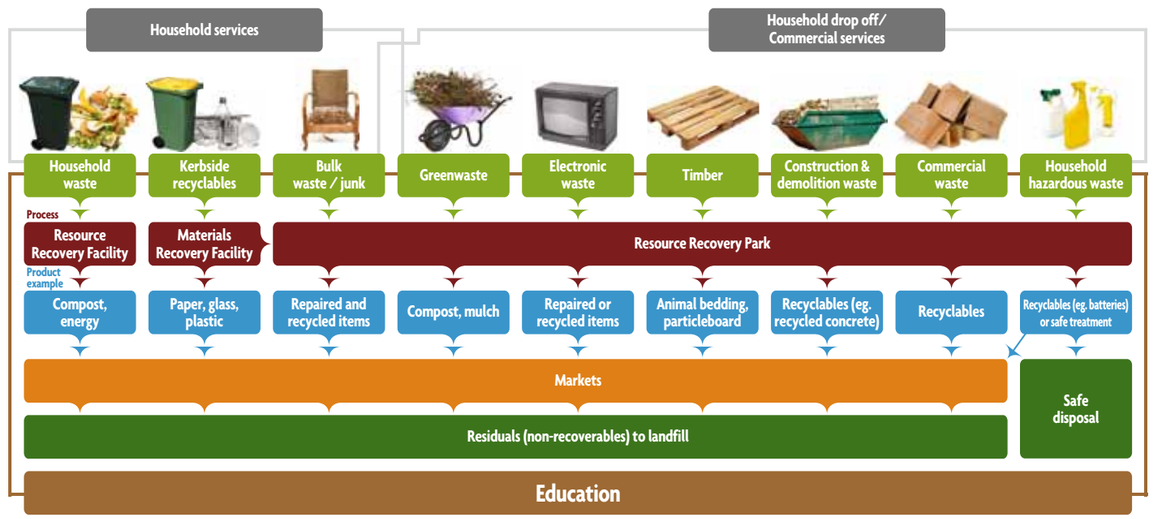
Only one of the two technology options will be constructed at Red Hill, and a final decision on the chosen technology will be made at the conclusion of the tender process in 2013.

What is the Resource Recovery Project?

Resource recovery is about using waste as a resource. Local councils have introduced recycling bins, greenwaste recycling and a range of waste education programs to encourage residents to reduce waste to landfill. Resource recovery seeks to complement these existing waste management solutions by dealing with the waste left over in rubbish bins and verge side collections after residents have reduced, re-used and recycled their waste.

There are two facets to EMRC's Resource Recovery Project: the **resource recovery facility** and the **resource recovery park**. The resource recovery facility will treat household waste and turn it into compost and/or energy. A resource recovery park will be designed to receive, store, process, dismantle and recycle waste materials from households and businesses and sell them to industry or the public.

The diagram below shows the vision for an integrated waste management solution.



EMRC

About the technology options

For more information on these technology options, please visit the resource recovery section of www.emrc.org.au

What is anaerobic digestion?

Anaerobic digestion is where organic materials (food and garden waste) are converted into methane or 'biogas' and compost. These processes take place in an enclosed building and involve the breakdown of organic material in the absence of air in a sealed vessel called a digester. This allows the biogas to be generated.

Any odours from the digester, waste receival, pre-treatment or final composting are removed using a filter. Liquid left over at the end of the digestion process is recycled back into the digester.

There are hundreds of anaerobic digestion facilities worldwide including four facilities processing municipal solid waste in Australia.

What is gasification?

Gasification turns waste into an energy-rich fuel gas by heating the waste under controlled conditions.

Gasification involves the conversion of waste in a high temperature, low oxygen environment to produce a synthesis gas (a mixture of methane, hydrogen, carbon monoxide and carbon dioxide) and a bottom ash residue, from which metals can be recovered.

The synthesis gas can be fed directly into engines to produce electricity, or converted to electricity via the steam cycle.

The gasification process occurs in a gasifier - an enclosed vessel under controlled conditions within a building. Emissions to air are cleaned in a filtration system which makes a fly-ash residue.

In 2010 it was estimated that there were 118 gasification plants operating worldwide.

Anaerobic digestion

TECHNIQUE: Bacterial decomposition

PRODUCT: Compost
Biogas → electricity

Gasification

TECHNIQUE: Converting waste to synthesis gas by using heat and limited air supply in a gasifier

PRODUCT: Synthesis gas → electricity and heat
Bottom ash → roadbase
Recovered metals

Community input into proposed facility

The Community Task Force (CTF) was formed in July 2010 to develop a Community Partnership Agreement and comment on tender evaluation criteria in relation to the development and performance of the proposed resource recovery facility. The CTF, which works on behalf of and in consultation with the broader community within Perth's Eastern Region, is made up of eight community representatives, and two EMRC members.

Community Partnership Agreement (CPA) completed

A major role for the CTF was to develop a CPA to ensure that the construction and ongoing operation of the facility at the Red Hill Waste Management Facility is undertaken in alignment with community expectations.

The CTF developed a draft CPA in early 2011 and sought regional community comment on the draft for seven weeks during April and May 2011. The resulting community feedback has now been considered and the CPA has been adjusted where the CTF thought this was necessary. The CPA has been endorsed by EMRC's Council.

What is included in the CPA?

The final version of the CPA is based around goals and objectives for the construction and operation of the facility together with possible indicators for each of the objectives.

The goals are:

Goal 1: Ensure strong community involvement and communication;

Goal 2: Enhance community education and waste recycling;

Goal 3: Ensure prudent financial performance and long-term viability;

Goal 4: Achieve high quality operations and monitoring;

Goal 5: Minimise the impact on human health and the environment; and

Goal 6: Provide attractive landscaping and site aesthetics.

How will the CPA be used?

The CPA will form part of the tender documents which tenderers will have to address. Long-term, the document is meant to provide indicators through which EMRC and facility operators can benchmark the facility's performance on agreed social, environmental and economic outcomes, and report these back to the community.

A copy of the final CPA is available for download at www.emrc.org.au, or call (08) 9424 2222 to receive a hard copy.

Common questions about the resource recovery facility

Why do we need a facility at all?

Perth is running out of landfill space. Perth's growing population has seen waste volumes increase and every metropolitan regional council in Perth is either involved or is planning a resource recovery facility for municipal waste because the alternative of transporting rubbish long distances to new landfills will be costly and a more sustainable solution is required.

Resource recovery facilities have considerable environmental advantages over landfilling. They minimise:

- Greenhouse gas emissions
- Odour, dust, noise, litter
- Surface and groundwater contamination
- Impacts on flora and fauna.

Resource recovery facilities are able to convert waste into resources, such as compost and/or energy.

Resource recovery facilities have screening processes so that potential recyclables and hazardous materials which would otherwise go to landfill can be separated before processing.

Resource recovery is also a priority for the state government and its draft waste strategy sets targets for all local councils to reduce household waste to landfill and increase resource recovery.

What about health and environmental risks?

The health and well-being of the community and the environment are of utmost priority for EMRC and its member councils and they are taking these decisions very seriously. The facility will operate to strict environmental and health standards. EMRC is currently preparing a Public Environmental Review to assess the potential environmental and health impacts of the facility. It will be submitted to the Environmental Protection Authority for review, and once approved it will be issued for public comment in 2012.

What types of rubbish will be processed in the facility?

The resource recovery facility will be used to treat municipal solid waste (household rubbish and greenwaste) from residents in the six member council areas. Hazardous waste, tyres and medical waste will not be processed.

Will kerbside recycling still take place?

Yes! It's important to realise that the resource recovery facility will only process the rubbish from the green-top household rubbish bins. You will keep your recycling bin (or equivalent recycling service), and local councils actively encourage residents to continue recycling and reducing waste as much as possible.

Also, both technology options being considered have the potential to improve recycling rates compared to landfilling. Both will have a screening process for all rubbish so that some recyclables which have been incorrectly placed in ordinary rubbish bins can be separated prior to the waste being processed.

What are the financial implications? How much will the facility cost? What are the costs to ratepayers?

The resource recovery facility is expected to cost between $50 and $150 million depending on the technology and scale of operation. The expected cost to ratepayers is estimated at between $34 and $54 per household per year (again depending on the technology option). This takes into account the capital and operating costs over the life of the facility (20 years).

What financial impact will the proposed federal carbon tax have on the resource recovery facility?

Because of the net reduction in greenhouse gas emissions compared to landfill and taking into account the offsetting of fossil fuel fired power generation, we calculate that the carbon tax will be neutral in its effect on the resource recovery facility (at a price of $23 per tonne carbon dioxide equivalent).

What else is being done to reduce waste to landfill?

See over the page for information on the resource recovery park and waste education programs taking place in Perth's Eastern Region.

What are the next steps in the project?

2011	Submit Public Environmental Review of facility proposal to EPA.
2012	Public comment period on Public Environmental Review. Obtain environmental and planning approvals. After consultation with the member councils and the community, EMRC will decide whether to proceed with the tender process.
2013	Commence tender process (if approved). Evaluate tenders and select preferred tenderer. Contract negotiation with preferred tenderer for construction of the facility.
2014	Development and works approval. Commence construction of the resource recovery facility.
2015	Complete construction of resource recovery facility.
2016	Operation of resource recovery facility.

(Subject to change)

'A Public Environmental Review on the proposed facility will be issued for public comment in 2012 once authorised by the EPA.'

In partnership with its six member councils, EMRC is working to develop a more sustainable solution to managing waste in Perth's Eastern Region.