46

PUBLIC

Rivers Regional Council
(formerly) ~~South East Metropolitan Regional Council~~
13 Third Road
Armadale WA 6112

Tel: (08) 9497 5699
Fax: (08) 9497 5922
~~Email: semrc@semrc.wa.gov.au~~

ABN: 80 479 097 483

~~SEMRC~~ RRC

12 February 2009

The Hon Sheila Mills MLC
Chair
Standing Committee on Environment and Public Affairs
Legislative Council WA
Parliament House
GPO Box A11
PERTH WA 6837

Dear Madam

SUBMISSION - INQUIRY INTO MUNICIPAL WASTE MANAGEMENT IN WESTERN AUSTRALIA

Please find attached the Rivers Regional Council (RRC) submission in regards to the above.

In general, the submission is relatively brief, mainly due to time constraint, focusing on key issues and matters. The time constraint has not allowed Elected Members of the RRC or six member Councils, the opportunity to endorse the submission, as explained in my letter to you dated 20 January 2009, which to date I have not received a response.

The submission will be presented at the Ordinary Council Meeting next Thursday evening 19 February 2009 and should there be any issues raised by Council, I will forward them to you.

I look forward to the outcome of the Committee's deliberations and should you have any further queries please do not hesitate to contact me.

Yours sincerely

Alex. Sheridan

ALEX SHERIDAN
CHIEF EXECUTIVE OFFICER

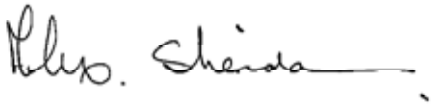
Encl.

LEGISLATIVE COUNCIL

STANDING COMMITTEE ON ENVIRONMENT AND PUBLIC AFFAIRS

INQUIRY INTO MUNICIPAL WASTE MANAGEMENT IN WESTERN AUSTRALIA

SUBMISSION BY RIVERS REGIONAL COUNCIL



Alex Sheridan
Chief Executive Officer
Rivers Regional Council

13 February 2009

TABLE OF CONTENTS

1. Executive Summary

1.1 Introduction

This submission by the Rivers Regional Council (RRC) has been drawn up to address the terms of reference for the Inquiry into Municipal Waste Management in Western Australia by the Parliamentary Standing Committee on Environment and Public Affairs.

Owing to the brief period of time allowed for the preparation of submissions prior to the closing date of 13 February 2009, there has been no opportunity for the elected members of neither the RRC nor its six member of local governments to review, approve or endorse this submission. This submission therefore can only represent the views of officers of the RRC and its Technical Advisory Committee.

The RRC is a local government organisation created under the Local Government Act 1995. The RRC's six member of local governments comprise the Cities of Armadale, Gosnells, Mandurah and South Perth; and the Shires of Murray and Serpentine-Jarrahdale. The Shire of Waroona has also resolved to join the RRC, and has therefore also contributed to this submission.

The RRC is responsible for planning waste management strategy and dealing with operational waste management issues on behalf of its members. The RRC is specifically charged with investigating and arranging for the establishment of appropriate waste management facilities to accept, treat and dispose of household waste collected by its member councils.

1.2 Waste Strategy and Policy Environment

Municipal waste management in Western Australia is conducted within an environment still lacking in clearly stated State Government waste strategy and policy.

Early advances in solid waste management in Western Australia in the 1990's led to Western Australia being a leader in waste reduction and recycling in Australia with comprehensive recycling services widely delivered by local government; widespread separate collection of greenwastes for mulching / composting; the establishment of construction and demolition waste recycling operations; and the development and maintenance of strong local markets for the bulk of materials collected for recycling.

Despite this good progress, the State Government failed to develop and adopt a State Waste Management Strategy even though a draft State Waste Management Policy and a draft Waste Reduction and Recycling Policy were circulated for comment by local government as long as twelve years ago (1997).

Having failed to achieve or even adequately report on the relative achievement of its original goal of "Halving Waste to Landfill by the Year 2000" the State Government embarked on a far more ambitious vision of "*Towards Zero Waste by 2020*" as set out in its *WAste 2020* Report (2001); *Strategic Direction for Waste Management in Western Australia* discussion paper (2003); and *Statement of Strategic Direction for Waste Management in Western Australia* (2004). None of these documents actually constituted a coherent State waste management strategy.

Legislation in the form of the Waste Avoidance and Resource Recovery Act 2007 finally provided for the development of a State Waste Strategy which is expected to be formulated in 2009.

The RRC believes that the State's failure to adopt Waste Management Strategy has contributed to some major shortcomings in WA's waste management planning and practice including:

- A lack of State Government clear direction or guidance on the planning or development of future landfill disposal sites;
- A lack of State Government leadership, direction or input into alternatives to landfill disposal, including the establishment of Alternative Waste Technology (AWT) facilities;
- A lack of State Government direction, guidance and coordination into the formation or operation of the Regional Councils that have emerged within local government over time to co-operatively plan and deliver waste management services to the community.
- Diminished transparency and accountability in respect of the allocation of up to $10 million per annum collected via the metropolitan landfill levy.
- A disappointing decline in local markets for recycled materials, especially in the case of paper, cardboard and glass; and an over-reliance on export of material to distant markets interstate and overseas to developing countries to our north.
- Lack of analysis on the costs and benefits from a triple bottom line perspective of various waste management options,
- An allocation of State Government resources to issues that are perhaps less important in terms of environmental impact including plastic shopping bags and container deposit legislation.

Another important factor affecting the waste management policy environment is the 1997 *State Planning Strategy* commitment to phasing out unlined landfill on the Swan Coastal Plain. While it is obvious that landfill for the foreseeable future will have an important role in residual waste disposal, a perception has been allowed to develop that no metropolitan landfill, unlined or otherwise, can be planned or developed on the Swan coastal plain.

The RRC believes that the State Government's idealistic and probably unrealisable "Zero Waste" vision, combined with the lack of State Waste Strategy, has contributed to the absence of any clear policy, planning or guidelines over the past ten years as to the development of landfills to meet the future residual waste disposal needs of the greater Perth metropolitan area.

While it remains obvious to all that significant progress towards Zero Waste cannot be made without diverting the majority organic component of household waste from landfill, the State Government has provided no guidance to local government as to the planning or development of the AWT facilities required as an alternative to landfill to recycle / reprocess this organic waste, despite it being nearly eight years since the Government completed its Waste 2020 Report and developed its Zero Waste vision.

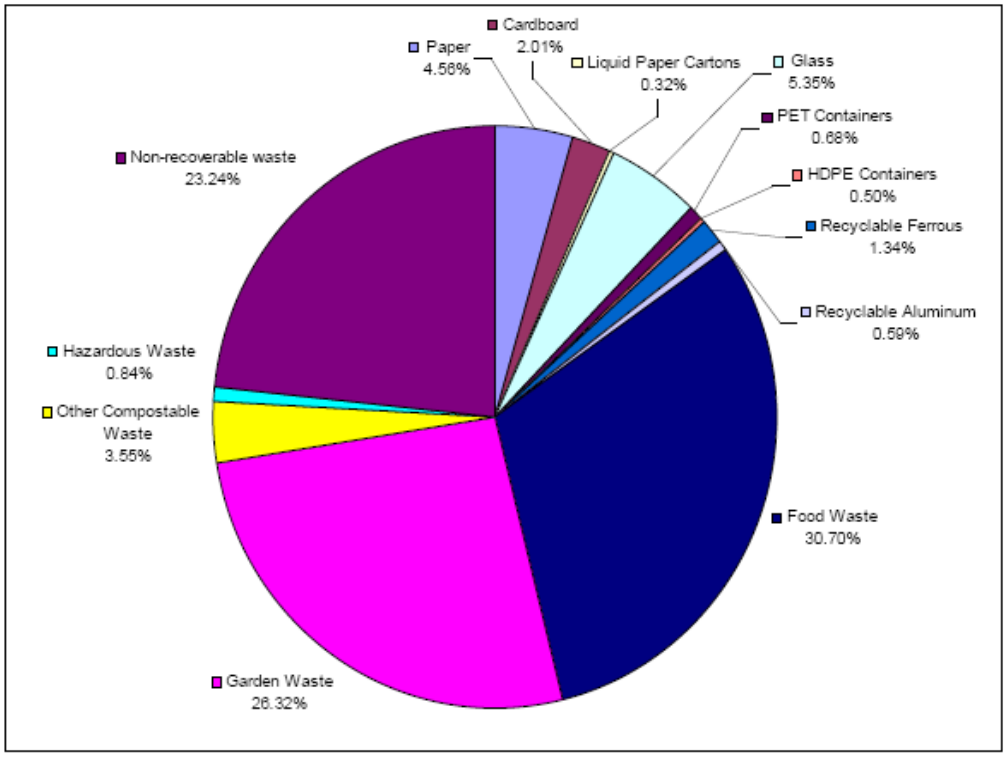
1.3 Rivers Regional Council Waste Management Services

The RRC is conscious that waste management services are very much an essential service for the Western Australian community; and that the protection of human health remains the most important municipal waste management objective.

The RRC and its members provide a comprehensive set of waste management services to the community including:

- Kerbside Refuse and Recycling Collections;
- Vergeside bulk collections;
- Drop-off Services;
- Public place collections;
- Hazardous / specialist waste collection;
- Waste Educational Services; and
- External programme participation.

A waste audit of member councils conducted in 2003 determined that the average weight of refuse put out weekly for collection amounted to 12.41 kg per household per week. The composition of this refuse is illustrated in Figure 1 below.



Source: Hofstede & Associates 2003

Municipal Solid Waste consisting of the kerbside collections of refuse and recyclables, for Rivers Regional Council's members for the 2006/07 financial year amount to nearly 123,000 tonnes a year. On average some 21.2% or 26,000 tonnes of this waste is diverted from landfill by recycling. The City of South Perth has the highest recycling rate among the group thanks to the 40% of its refuse sent for recycling at the SMRC's Regional Resource Recovery Centre (RRRC) at Canning Vale.

Member councils also recycle about 20,000 tonnes of greenwaste and 3,000 tonnes of ferrous metals collected from vergeside or dropped off by householders.

The recycling services provided by RRC member councils are already very effective with only 15.35% by weight (1.9 kg per week) of the household refuse bin comprising dry recyclable material.

Since more than 2/3rds of household refuse is compostable organic waste, it is obvious that WA simply will not make any serious further reductions in municipal waste dumped in landfill without first establishing facilities which will treat / process / recycle this organic material.

Any strategy aimed at progressing towards "*Zero Waste*" will be entirely deficient if it does not directly address how Western Australia should set about establishing operations to recycle / reprocess household organic waste.

Local Government has clearly recognised that organic waste processing facilities are essential if serious further reductions in the quantity of municipal waste landfilled are to be made. The efforts made by the Stirling City Council, the Southern Metropolitan Regional Council, the Mindarie Regional Council, the Eastern Metropolitan Regional Council and the Rivers Regional Council to establish household organic waste processing facilities bear this out.

It is apparent that the State Government has had serious difficulty in coming to terms with the necessity of dealing with household organic waste as demonstrated by its failure to either articulate a waste strategy or a policy that recognises this necessity, nor one designed to facilitate or encourage the development of the required facilities; or to assist local government in the planning necessary to research, coordinate, site, procure or construct such facilities.

The State Government waste management objectives of establishing "Extended Producer Responsibility" agreements announced nearly four years ago are most unlikely to have any significant impact on the municipal waste stream, and are better advanced at a national level within the context of an overall State Waste Strategy.

1.4 Resource Recovery Facilities Project

The RRC, has determined that establishing Resource Recovery Facilities (RRF) to process / recycle municipal refuse is the most appropriate response to the State's objectives of reducing dependence on landfills and progressing towards *Zero Waste*, providing that such a facility meets economic, social and environmental sustainability criteria.

The RRC has recently completed an investigation of the feasibility of establishing RRF. Including the following aspects:

- assessment of Alternative Waste Technologies (AWT) appropriate to the nature of the municipal waste stream and the needs of the community;
- waste collection systems;
- financial assessment and modelling;
- assessment and short-listing of potential sites;
- environmental impact assessment;
- community consultation; and
- contract delivery mechanisms including assessment of procurement options.

The feasibility study having proved to be positive, the project has now progressed to the delivery phase with current activity directed at the preparation of tender documentation and obtaining relevant environmental approvals for the preferred site at the Water Corporation's wastewater treatment plant at McLaughlan Road Kwinana. The RRC's preferred site for its RRF also hosts the BioWise organic waste composting facility which processes a blend of greenwastes, sawdust and sewage sludge into valuable soil amendment products.

It is planned that the RRC RRF will accept a minimum of 100,000 tonnes of MSW per year sourced from RRC member councils' kerbside refuse collections and process the material into compost and other soil amendment products. About 30% of the delivered waste (i.e. the non-organic component) is expected to be residual to the process and be sent to landfill for disposal.

The form of procurement to be utilised for the establishment of the RRF will be a Build, Own, Operate (BOO) contract. The RRC proposes to secure the suitable site and sub-lease it to the successful service contractor selected following an open tender process.

It is envisaged that the successful contractor will charge the RRC a 'gate fee' to process a guaranteed minimum tonnage of municipal waste. The successful contractor will be responsible for complying with all legally binding environmental conditions and commitments arising out of the environmental approval process and will be required to obtain and comply with a Works Approval (construction) and Licence (operation) pursuant to Part V of the Environmental Protection Act.

In due course the RRF is expected to be augmented by a materials Recovery Facility to sort recyclables and a greenwaste processing operation.

The operation of the RRF would be supported by a long term public education program to help marshal the cooperation and full participation of the public; and to improve and maintain standards of source separation.

The benefits of RRC's RRF waste management concept include:

- diversion of waste from landfill increased from current levels of 21% to 70% and more;
- fully enclosed processing of household waste and recyclables with reduced risk of emissions to air, ground and water;
- household waste transformed into valuable and useful products;
- improved collection and sorting of dry recyclable materials;
- reduced emissions of greenhouse gases compared to landfill;
- potential to generate electricity from gas generated by anaerobic digestion of household organic waste; and
- responsible treatment and processing of MSW as it is generated, compared with current practice of landfill disposal which may possibly leave future generations with significant long-term legacy problems arising from land and groundwater contamination.

The RRC expects to put the project out for tender in 2009.

1.5 Efficiency and Effectiveness of RRC Waste Management

The Rivers Regional Council strongly believes that the waste management services provided by the organisation and its member councils are highly efficient and effective.

Levels of customer satisfaction for the comprehensive waste management services provided by the RRC and its members are consistently high. Waste management service delivery is consistently good with complaints about service failure or sub-standard service extremely rare. RRC waste disposal facilities are operated in accordance with licence conditions. Incidence of non-conformance is extremely rare. Incidence of environmental degradation or pollution amongst the RRC membership as a result of poor or defective municipal waste management is extremely low.

With the majority of the waste management refuse collection and recycling services now put out for competitive tender, the RRC is confident that ratepayers are benefitting from modern, efficient and effective services at value-for-money rates.

The RRC has some serious concerns about the limitations imposed on the effectiveness of WA recycling programs by an over-reliance on exporting our waste vast distances interstate and overseas to developing countries. The RRC strongly believes that Western Australia should be looking to maximise the environmental and economic returns flowing from recycling by having strong local markets for recycled materials.

1.6 Waste Authority Role and Responsibilities

The RRC supports the role envisaged for the Waste Authority by the Waste Avoidance and Resource Recovery Act.

The Waste Authority's responsibility for developing a State Waste Strategy is welcome; the RRC believes the adoption of a coherent and comprehensive Waste Strategy will address a major deficiency in waste policy that has restricted to some degree progress in waste management for at least ten years.

The RRC believes the Waste Authority should be independent of other State Government departments and agencies and have the powers necessary to set and manage budgets and implement the forthcoming State Waste Strategy.

In particular, the Waste Authority must be independent of the DEC to avoid the conflict of interest that has existed to some extent since the Office of Waste Management became the Waste Management Division of the Department of Environmental Protection in 1994. In essence, the proper role of the DEC as a regulator has interfered with the degree to which its employees assigned to waste management and the Waste Board could assist as a proponent or facilitator in the research, planning, establishment and operation of waste management facilities, including

The RRC believes the conflict of interest that has existed between the roles of the DEC and the Waste Board goes a long way to explain the difficulty the State Government has had in developing a State Waste Strategy or actively assisting in the planning and development of waste management facilities including future landfill disposal sites and Resource Recovery Facilities.

1.7 Recommendations regarding priority areas of work for the Waste Authority

The RRC trusts that the Waste Authority will seek to work cooperatively with local government, especially in respect of:

- Planning (including siting and community consultation) in respect of future waste treatment and disposal facilities including AWT Facilities to process municipal waste and the landfills required to dispose of residual wastes.
- Adopting realistic and achievable waste reduction / waste management goals and targets and developing appropriate plans to achieve them. Any long term goals (e.g. "Zero Waste" or "Zero Carbon Emissions") must be supported by realistic and achievable interim goals against which performance can be sensibly measured and steps taken to adjust plans and programs as appropriate.
- Concentrating efforts in reducing the major elements of the waste stream made up by construction and demolition waste, commercial and industrial waste; and the organic waste that makes up the majority of municipal waste.
- Developing and supporting local markets for recovered materials with the aim of reducing reliance on the export of our waste to developing countries; maximising the environmental benefits of our recycling efforts; and minimising the economic and financial cost to the community.
- Conducting triple bottom line assessments of all relevant waste management options such that better informed decisions can be made when choosing between various macro (e.g. landfill vs RRF) or micro options (e.g. recovering glass containers from the Kimberley region for transport to Perth and thence Adelaide for recycling vs landfill or some other disposal option).

- Supporting local and regional government's efforts in examining the feasibility of waste treatment technologies, in particular by providing guidance on:
    - appropriate assessment and siting criteria;
    - providing generic financial models to assist with business planning and tender evaluations; and
    - providing advice on the procurement techniques and contracting.
- Providing a strategic framework for the future of the landfill levy to provide greater certainty of knowledge over the future cost of landfill.

The RRC suggests that matters regarding "Extended Producer Responsibility" (EPR) and "Product Stewardship" are best advanced on a national front, being less likely to provide concrete results when pursued at the level of an individual State, as evidenced by the lack of reported progress on such issues since the Ministerial announcement was made on EPR in June 2005; and the invitation to participate in "Product Stewardship" was issued in September 2006. In any case, the RRC believes that such initiatives are better addressed in the context of an overall State Waste Strategy.

1.8 Resource Recovery Facility Technologies

The RRC's investigation of available technologies concluded that there are a number of commercially viable aerobic / anaerobic technologies which have the potential to comply with all of the RRC's RRF technology selection principles and satisfy, to varying degrees, all of the RRC's technology assessment criteria. The RRC also concluded that a competitive and contestable market exists which would be likely to result in a variety of technologies being proposed in tenders for the RRC RRF.

The RRC in tendering for the services of a RRF will not specify a particular technology (except for the exclusion of bioreactor and thermal technologies), but will assess the technologies proposed by proponents against the same selection criteria utilised in the preliminary assessments of technologies made as part of its RRF feasibility study.

2. This Submission

2.1 Submission Represent Views of Officers

Owing to the constraint imposed on the Inquiry by the requirement for submissions to be made by 13 February 2009, this submission by the Rivers Regional Council (RRC) represents only the views of its Chief Executive Officer and the Council employees who make up the membership of the RRC's Technical Advisory Committee (TAC). These employees comprise the Directors and Managers responsible for waste management services in each of the six Councils that together make up the membership of the RRC and the Shire of Waroona, which has resolved to join the Rivers Regional Council.

With the Inquiry having been announced in early December 2008, there has been no opportunity for the elected members of the RRC or its member Councils to formally endorse this submission.

2.2 Inquiry Terms of Reference

This submission has been drawn up to address the terms of reference for the inquiry stated by the Standing Committee on Environment and Public Affairs to be as follows:

1. *"Considering the ongoing community concerns about the odour emanating from the Regional Resource Recovery Centre in Canning Vale (RRRC) the Committee resolves to use the issues surrounding the RRRC as an illustrative practical case study to conduct a broader inquiry into:*

2. *Current municipal waste management practice and methods in Western Australia, and in particular:*

    a) *The function, effectiveness and efficiency of rural and Metropolitan Regional Councils with respect to the management of waste; and*

    b) *The role of the Waste Authority under the Waste Avoidance and Resource Recovery Act 2007 in municipal waste management.*

3. *Resource recovery technologies; and*

4. *Any other relevant matter."*

3 The Rivers Regional Council

3.1 Organisation and membership

The Rivers Regional Council is created under the Local Government Act 1995 and complies with all relevant requirements of a local government organisation. Its six member of local governments comprise the Cities of Armadale, Gosnells, Mandurah and South Perth; and the Shires of Murray and Serpentine-Jarrahdale. The Shire of Waroona has also resolved to join the Rivers Regional Council. Each member council elects two councillors to serve as regional councillors. The Regional Council meets every two months, and makes decisions relating to strategic and operational waste management issues.

The Rivers Regional Council was established on 6 June 2008 as the successor to the South East Metropolitan Regional Council whose membership comprised of the Cities of Armadale, Gosnells and South Perth; and which had been established in July 2001.

The Rivers Regional Council is advised on technical matters associated with waste management by its Technical Advisory Committee, (TAC) comprising the relevant Director and Manager of waste from each member council. The TAC meets monthly at the Rivers Regional Council offices located at 13 Third Road, Armadale.

The Rivers Regional Council maintains high levels of community consultation by various means including its standing Community Reference Group (CRG) which meets bi-monthly.

3.2 RRC Objectives

The Rivers Regional Council is responsible for planning long-term waste management strategy; identifying issues associated with waste management; and representing its six member councils in the general field of waste management. It is also provides assistance to its member councils in respect of waste education across the region.
The Rivers Regional Council is specifically charged with investigating and arranging for the establishment of appropriate waste processing facilities to accept, treat and dispose of household waste collected by its member councils.

3.3 RRC Member Profiles

City of Armadale

The City of Armadale lies 28km south-east of Perth, covering an area of 545 square kilometres. The City is experiencing rapid growth, with an increase in population expected from 55,000 to 85,000 over the next ten years. The area is largely urban, accompanied by retail shops, light industry, a brickworks and orchards. The region is serviced by the Armadale train line, as well as the Albany and South West Highways and the recent extension of the Tonkin Highway.

City of Gosnells

Located 17km south-east of Perth, the City of Gosnells has an area of 127 square kilometres. Of this 45% remains undeveloped, giving opportunity for further development and anticipation of population growth. The City is largely residential with a population of over 95,000. The City of Gosnells is one of the largest local governments in Western Australia.

City of Mandurah

Situated 74km south of Perth, the City of Mandurah is accessible via the Kwinana Freeway and the recently opened Mandurah rail line. Mandurah is a major population centre, with residential and retail areas. The City covers 174 square kilometres between the Indian Ocean and the Peel Inlet.

Shire of Murray

The Shire of Murray (in process of joining the RRC) lies 86km south of Perth in the centre of the Peel region between the Darling Scarp and the Peel Estuary/Serpentine River. The Shire covers 1,821 square kilometres and has a population of approximately 12,000 in 2008. The principal town of the Shire is Pinjarra with other centres being Coolup, Dwellingup, North Dandalup, Stakehill, Barragup, Furnissdale, Yunderup and Ravenswood. Major industries include the Alcoa alumina refinery and mine, farming (beef, diary, sheep and pigs), timber production, horticulture, viticulture and horse breeding.

Shire of Serpentine-Jarrahdale

Serpentine Jarrahdale is located 45kms south east of Perth, and is a thriving agricultural and rural lifestyle district. The Shire covers an area of 921 square kilometres and includes the towns of Byford, Mundijong, Serpentine and Jarrahdale. The major towns are serviced by the South West Highway. Forming the northern boundary of the spectacular Peel Region, the area enjoys a rich history and an enviable abundance of stunning scenery. Industries in the area include horse breeding, horticulture, agriculture, timber production, brickworks, viticulture and tourism.

City of South Perth

The City of South Perth is 4km from the centre of Perth and has an area of approximately 20 square kilometres. The area is predominantly residential, however also includes commercial land and parkland areas. The Kwinana Freeway and the Mandurah railway line both pass through the city; and it is also serviced by a ferry from the Barrack Street jetty. The City of South Perth has a population of approximately 42,000.

Shire of Waroona (in process of joining the RRC)

The Shire of Waroona is located 108 km south of Perth on the South West Highway, lying between the Darling Range and the Indian Ocean. The Shire incorporates the localities of Waroona, Hamel, Preston Beach and Lake Clifton. Its population numbers approximately 4,000. Major industries in the area are farming (beef, sheep, dairy, forestry), market gardens, earthmoving, engineering, mining and tourism.

4 Waste Strategy and Policy Environment

4.1 State Waste Management Strategy

Municipal waste management in Western Australia is conducted within an environment still lacking in clearly stated State Government waste strategy and policy.

Early advances in solid waste management in Western Australia were made in the 1990's when the State Government:

- set a target of "Halving Waste to Landfill by the Year 2000" (1991);
- developed and implemented in partnership with local government the *State Recycling Blueprint* (1993) – which document and its implementation received a favourable review in 2001;
- focussed on reducing / recycling / reprocessing the major components of the solid waste stream made up by organic waste and construction and demolition waste;
- set a high priority on fostering strong local markets for recycled / reprocessed materials (particularly for paper, cardboard, glass and organic waste);
- established a sound set of regulations and environmental standards for waste disposal sites in both metropolitan and regional areas; and
- established the State's first environmental levy, on waste dumped in metropolitan landfills, for the purpose of funding programs aimed at reducing, recycling and reprocessing waste (1998).

These measures led to Western Australia being an early leader in waste reduction and recycling in Australia with strong take-up of effective and efficient co-mingled (240 litre yellow lidded bin) recycling services by local government; widespread separate collection of greenwastes for mulching / composting; the establishment of construction and demolition waste recycling operations; and the development and maintenance of strong local markets for the bulk of materials collected for recycling.

Despite this good progress, the State Government failed to develop and adopt a State Waste Management Strategy, even though the Department of Environmental Protection first developed and issued for public comment a draft State Waste Management Policy and a draft Waste Reduction and Recycling Policy as long as twelve years ago (1997).

Having failed to achieve or even adequately report on the relative achievement of its original goal of "*Halving Waste to Landfill by the Year 2000*" the State Government embarked on a far more ambitious vision of "*Towards Zero Waste by 2020*" as set out in the:

- WAste 2020 Report (2001);
- strategic Direction for Waste Management in Western Australia discussion paper (Aug 2003 - which paper again sought public comment on a proposed State waste management strategy); and
- Statement of Strategic Direction for Waste Management in Western Australia (Sep 2004).

None of these documents constituted a coherent State waste management strategy, a point clearly made by the WA Local Government Association in its Policy Statement on Waste

Management Legislation (2004) when it stated that the State Government's proposed waste legislation must provide for the creation and maintenance of a State Waste Strategy.
Legislation in the form of the *Waste Avoidance and Resource Recovery Act 2007* finally provided for the development of a State Waste Strategy which the newly created Waste Authority embarked upon towards the end of 2008 when it appointed consultants to help develop a strategy.

4.2 Consequences of a lack of State Waste Management Strategy

It is arguable that the failure to adopt a coherent State Waste Management Strategy has contributed to some major shortcomings in Western Australia's waste management planning and practice including:

- a lack of clear direction or guidance on the planning or development of future landfill disposal sites to service the needs of residual waste disposal for the one and a half million people living in the metropolitan area;
- a lack of State Government leadership, direction or input into alternatives to landfill disposal, including the establishment of Alternative Waste Technology (AWT) facilities which have the potential to divert up to 70% of the municipal solid waste stream from landfill;
- a lack of State Government direction, guidance and coordination into the formation or operation of the Regional Councils that have emerged within local government over time to cooperatively plan and deliver waste management services to the community;
- diminished transparency and accountability in respect of the allocation of up to $10 million per annum collected via the metropolitan landfill levy;
- a disappointing decline in local markets for recycled materials, especially in the case of cellulose fibre (paper and cardboard) and glass, especially in respect of the closure of;
    - ACI's glass manufacturing operations at Canning Vale and the factory's associated recycled glass beneficiation plant.
    - APM's corrugated fibre manufacturing plant at Spearwood.
- the end result of the loss of local reprocessing / recycling capacity is that the bulk of material collected for recycling in Perth and WA country centres now has to be shipped vast distances interstate (e.g. glass, aluminium cans) or overseas, principally to Asia (e.g. newsprint, cardboard, mixed paper, steel, plastics) with consequent diminution of environmental benefits;
- lack of analysis on the costs and benefits from a triple bottom line perspective of various waste management options, which in turn has probably contributed to practices questionable from an economic and an environmental standpoint – for example collecting and sorting glass from all over this vast State for eventual shipment to Adelaide (evidence suggests that there are environmental disbenefits in recycling the inert material glass once it has to be transported distances of greater than 200km); and
- an allocation of State Government resources to issues that are perhaps less important in terms of environmental impact including plastic shopping bags and container deposit legislation, neither of which rated a mention in the Program Priorities 2004 – 2007 published in the Statement of Strategic Direction for Waste Management in Western Australia.

4.3 State Planning Strategy (1997)

It is the State Planning Strategy (1997) that provides that unlined landfill disposal sites on the Swan coastal plain are to be phased out.

While the State Planning Strategy also provided that the Western Australian Planning Commission, the Department of Environmental Protection and the various Development Commissions were to "*ensure that regional plans identify and protect strategic waste disposal and waste transfer sites*", the evidence is that the State Government abrogated this

responsibility to local government, except in the case of the Intractable Waste Disposal Facility (IWDF) established by the Health Department of WA and Department of Environmental Protection at Mount Walton in 1996 and managed by the Department of Housing and Works since 2005.

In the absence of any clearly stated strategy by the State Government, over time a faulty perception seems to have built up that no metropolitan landfill, unlined or otherwise, can be planned or developed on the Swan coastal plain.

It is probably fair to state that the State Government's idealistic and possibly unrealisable "*Zero Waste*" vision, combined with the lack of State Waste Strategy, has contributed to the absence of any clear policy, planning or guidelines over the past ten years as to the development of landfills to meet future residual waste disposal needs of the greater Perth metropolitan area.

4.4 State Sustainability Strategy (2003)

The *State Sustainability Strategy* published in September 2003, had very little to say about the sustainability or otherwise of current waste management practice, save for the State Government stating its intention to legislate to support the achievement of its waste management objectives by introducing and enacting a Resource Recovery and Waste Avoidance Bill.

4.5 Strategic Direction for Waste Management in WA (2004)

The Strategic Direction for Waste Management in Western Australia (Sep 04) represented merely a high level statement of Vision ("*towards Zero Waste*"); Goal ("*that all Western Australians live in a waste free society*"); and well established principles ("*waste prevention, recovery and responsible disposal*"). The implementation of the Strategic Direction was limited to broad statements that the State's focus would somehow change over time from managing waste to preventing waste, together with a listing of "*Program Priorities*" for 2004-07. There were no program priorities issued for 2008 or 2009.

The *Zero Waste* web site still lists the *Program Priorities* for 2004 – 05.

The Statement provided no guidance to local government as to the planning or development of AWT facilities required as an alternative to landfill to recycle / reprocess the organic waste that represents the a substantial majority (two-thirds) of material put out in the household refuse bin for weekly collection; nor did the Statement provide any guidance as to the planning and development of future landfill sites that will in all likelihood be required for residual waste (even the best AWT plants currently leave 30% of the feedstock waste as residual waste; short of thermal treatment, for which the public has shown little appetite, this residual waste will need to be landfilled).

Four and a half years later, this brief, high level document still represents the State Government's position on waste management strategy.

5 Rivers Regional Council Waste Management Services

5.1 Waste Management Services by RRC and members

The RRC is conscious that waste management services are very much an essential service for the Western Australian community; and that the protection of human health remains the most important municipal waste management objective.

A variety of municipal waste services are provided to the local communities across the RRC. These vary considerably across the various members of the RRC. The key services can be categorised as follows:

- Kerbside Refuse and Recycling Collections;
- Vergeside Bulk Collections;
- Drop Off Services;
- Public Place Collections;
- Hazardous / Specialist Waste Collection;
- Waste Educational Services; and
- External Programme Participation.

The following sections summarises these waste related services across the RRC.

5.2 Kerbside Refuse and Recycling Collections

Kerbside refuse and recycling collection services are the primary municipal waste collection activity within the RRC. Details of the kerbside collection service provided to the public are summarised in Table 4 including frequency of collection, type and size of receptacle, participation rate and also the percentage of households serviced.

ASPECTS		Armadale	Gosnells	Mandurah	Murray	Serpentine-Jarrahdale	South Perth	Waroona
REFUSE	Type and Size of Receptacle	240 L MGB	240 L MGB	240 L MGB	120 / 140 L MGB	120 / 140 L MGB	240 L MGB	240 L MGB
	Frequency	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
	Percentage of Households Serviced	100%	100%	100 %	85 %	100 %	100 %	85 %
	Participation Rate	95 + % *	95 + % *	78.9 %	95 + % *	95 + % *	95 + % *	95 + % *
RECYCLABLES	Type and Size of Receptacle	240 L MGB	240 L MGB	240 L MGB	240 L MGB	240 L MGB	240 L MGB	240 L MGB
	Frequency	Fortnightly	Fortnightly	Fortnightly	Fortnightly	Fortnightly	Fortnightly	Fortnightly
	Percentage of Households Serviced	100%	100%	100 %	85 %	100 %	100 %	85 %
	Participation Rate	90 + %	90 + %	70.9 %	81 90 %	81 90 %	90 + %	81 90 %

Note: The relatively low participation rates at Mandurah reflect the number of holiday homes and apartments within the municipality.

Apart from the refuse collections by Council at Armadale and Gosnells, all refuse and recycling services are carried out by contractors (either Cleanaway or SITA).

The recyclables collected from kerbside are sorted, baled and marketed by the contractors. Nearly all of the recovered recyclable material is despatched to markets in the Eastern States or overseas, owing to an absence of local markets or in some cases the loss of local markets (e.g. for glass, cardboard, newsprint and mixed paper).

Refuse collected is landfilled apart from approximately 40% of that of South Perth which is processed into compost material at the SMRC's Regional Resource Recovery Centre at Canning Vale. The residual waste from this operation (approximately 30% by weight of that delivered) is landfilled.

5.3 Vergeside Bulk Collections

Verge collections comprise greenwaste and bulk waste collections. Greenwaste targeted as part of greenwaste verge collection consists of vegetation from household gardens. Bulk waste services mainly collect old household furniture, scrap metal, white goods and household appliances, and timbers. No refuse, greenwaste, hazardous waste or builder's rubble are collected as part of bulk vergeside collections.

Most RRC members provide two greenwaste and one bulk waste collections annually.

5.4 Drop-Off Services

Drop Off services are offered at the various RRC member waste facilities, including waste transfer stations and landfills These Drop Off Services are provided to residents either to supplement or as an alternative to kerbside and vergeside collections.

In addition, some of these facilities provide services for specialist materials such as household hazardous waste. Some facilities also accept materials for small – medium sized commercial operators such as landscaping and gardening companies.

5.5 Public Place Waste Management Services

Public place waste management services are also provided by RRC members, including refuse services along roadsides, pathways, within pedestrian areas, parks and at community events.

These waste management services can include recyclables collections. All LGA's offer refuse services in public places, e.g. streets and parks, with the City of Mandurah offering a public place recycling service.

5.6 Other Waste Management Services

A wide range of specialist waste management services are also provided by RRC members, including the following:

Programmes	Description	Locations
Household hazardous Waste (HHHW) Days	Specialist collection days organised at waste management facilities for the collection of HHHW.	Landfills and transfer stations
DrumMuster	Provides for the safe collection and recycling of empty, cleaned, non-returnable crop production and on-farm animal health chemical containers	Landfills and transfer stations
ChemClear	Chemical waste disposal programme	Landfills and transfer stations
MobileMuster	National recycling programme for mobile phones	Landfills and transfer stations, LGA buildings, schools and retail outlets
Dry Cell Batteries	Collection programmes for dry cell batteries	Landfills and transfer stations, LGA buildings, schools and retail outlets
Fluorescent Globes/Tubes	Collection programmes for fluorescent globes/tubes	Landfills and transfer stations
Waste Wise Schools	Statewide programme to increase waste awareness in schools	Schools
Tidy Towns	National programme run by Keep Australia Beautiful to encourage communities to protect and conserve the natural environment	N/A
Recycle @ Work	Amcor Recycling WA programme sponsored by the State Government's Strategic Waste Initiative scheme.	LGA buildings
Cartridges for Planet Ark	National multi-vendor used ink cartridge recycling campaign focused at corporate or government organisations.	LGA buildings

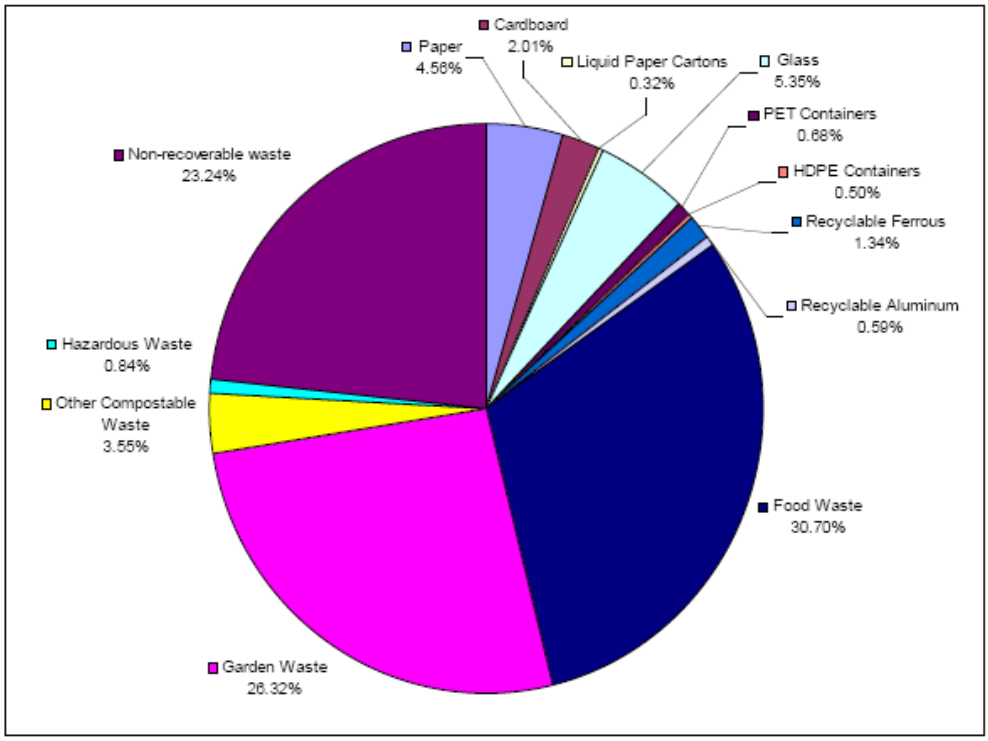
These specialised waste services are delivered by the following RRC members:

Programmes	Armadale	Gosnells	Mandurah	Murray	Serpentine-Jarrahdale	South Perth	Waroona
Household hazardous waste Days	√	√	√	√	√	√	X
DrumMuster	√	N/A	N/A*	√	√	N/A*	√
ChemClear	N/A*	N/A	N/A*	N/A*	√	N/A*	X
MobileMuster	√	√	√	X	√	√	√
Dry Cell Batteries	√	√	√	X	√	√	√
Fluorescent Globes/Tubes	√	√	√	X	√	√	X
Waste Wise Schools	√	√	√	√	X	√	X
Tidy Towns	X	X	√	X	√	√	√
Recycle @ Work	√	√	√	X	√	√	√
Cartridges for Planet Ark	√	√	√	√	√	√	√

Note: * ,Other household hazardous waste drop off services cater for such materials

6 Rivers Regional Council Waste Composition

A waste audit conducted in 2003 determined that the average weight of the material put out weekly for collection amounted to 12.41 kg per household per week. The composition of this refuse is illustrated in Figure 1 below.



Source: Hofstede & Associates 2003

The results of this audit remain quite consistent with results of similar household refuse audits wherever comprehensive kerbside recycling services such as those provided by Rivers Regional Council members are offered.

The results make it very plain that:

- the recycling services provided by member councils are already very effective with only 15.35% by weight (1.9 kg per week) of the household refuse bin comprising dry recyclable material;
- since more than 2/3rds (67.14%) of household refuse is compostable organic waste, Western Australia simply will never make any serious further reductions in municipal waste dumped in landfill without first establishing facilities which will treat / process / recycle this organic material;
- any strategy aimed at progressing towards "*Zero Waste*" (or some other more realistic goal) is, or will be, entirely deficient if it does not directly address how Western Australia should set about establishing operations to recycle / reprocess household organic waste;
- the State Government's stated waste management objectives of establishing "Extended Producer Responsibility" agreements that much has been made of since their announcement by the Minister and the DEC nearly four years ago (June 2005) are most unlikely to have any significant impact on the municipal waste stream.

Local Government has clearly recognised that organic waste processing facilities are essential if serious further reductions in the quantity of municipal waste landfilled are to be made. The efforts made by the Stirling City Council, the Southern Metropolitan Regional Council, the Mindarie Regional Council, the Eastern Metropolitan Regional Council and the Rivers Regional Council to establish household organic waste processing facilities bear this out.

Yet it is apparent that the State Government has had serious difficulty in coming to terms with the necessity of dealing with household organic waste as demonstrated by its failure to neither articulate a waste strategy or a policy that recognises this necessity, nor one designed to facilitate or encourage the development of the required facilities; or to assist local government in the planning necessary to research, coordinate, site, procure or construct such facilities.

7. Rivers Regional Council Waste Tonnages

7.1 Kerbside Collections

The Municipal Solid Waste kerbside tonnages, consisting of the kerbside collections of refuse and recyclables, for each of the Rivers Regional Council's members for the 2006/07 financial year are summarised in Table 1.

Table 1 Kerbside Municipal Solid Waste Tonnages (2006/07)

	Armadale	Gosnells	Mandurah	Murray	Serpentine Jarrahdale	South Perth	Waroona	Total
Kerbside refuse to landfill	16,872	31,926	22,393	3,537	2,945	12,458	958	91,089
Kerbside refuse to AWT						4,893		4,893
Total kerbside refuse landfilled	16,872	31,926	22,393	3,537	2,945	9,033	958	87,664
Kerbside recyclables collected	5,405	9,943	8,482	1,485	1,553	4,406	334	31,608
Residues from recycling to landfill	1,640	3,015	2,545	214	243	1,336	84	9,077
Total kerbside recycling	3,765	6,928	5,937	1,271	1,310	3,070	250	22,531
Total kerbside collections	22,277	41,869	30,875	5,022	4,498	16,864	1,292	122,697
Total kerbside waste landfilled	18,512	34,941	24,938	3,751	3,188	10,369	1,042	96,741
Kerbside recycling recovery rate	16.9%	16.5%	19.2%	25.3%	29.1%	38.5%	19.3%	21.2%

The figures, in conjunction with the household refuse analysis in Section 4.3, make it clear that recycling by itself is not sufficient to make the type of serious reductions required to achieve the "*Zero Waste*" vision adopted by the State Government in 2004.

Notable is South Perth's overall recycling rate of 38.5% achieved through some 40% of its kerbside refuse being processed by the South Metropolitan Regional Council's RRRC at Canning Vale, in addition to the City's kerbside recycling service.

7.2 Vergeside Bulk Collections

Rivers Regional Council members provide regular bulk waste collection services for householders. Greenwaste and hardwaste collections are provided separately to maximise the potential for recycling.

While vergeside collection tonnages for greenwaste and hardwastes for the Shire of Murray and Waroona are not yet available, Table 2 demonstrates that bulk collections of greenwaste and hardwastes make an important contribution to the diversion of municipal waste from landfill. Greenwaste recycling enabled by separate bulk collection is particularly successful, with 96% of collections recycled into mulch / compost.

Table 2 Vergeside Bulk Collections Tonnages (2006/07)

	Armadale	Gosnells	Mandurah	Serpentine Jarrahdale	South Perth	Total
Greenwaste collected	2,493	1,824	1,501	270	682	**6,770**
Greenwaste recovered	2,493	1,824	1,501	0	682	**6,500**
Greenwaste to landfill	0	0	0	270	0	**270**
Greenwaste recovery rate	100%	100%	100%	0%	100%	**96.0%**
Hardwaste collected	1,423	2,945	1,531	543	1,036	**7478**
Metals recovered	276	47	125	38	219	**705**
Hardwaste to landfill	1,147	2,898	1,406	505	817	**6,773**
Hardwaste / metals recovery rate	19.4%	1.6%	8.2%	7.0%	21.1%	**9.4%**

7.3 Waste "Drop-Off" Facilities

Waste drop off services are provided by the Cities of Armadale, Mandurah and South Perth, and the Shires of Murray and Waroona at their respective landfills and waste transfer stations. The facilities are provided for the general public and small to medium sized commercial operators.

Table 3 Waste Drop Off Facility Tonnages (2006/07)

	Armadale	Mandurah	Murray	South Perth	Waroona	Total
Waste dropped off	11,924	7,976	4,657	26	3,590	28,173
Landfilled	8,256	6,373	1,197	0	2,150	17,976
Recycled	3,668	1,603	3,460	26	1,440	10,197
Greenwaste dropped off	6,257	3,950	2,017	0	700	12,924
Recycled	6,257	3,950	2,017	0	0	12,224
Landfilled / Burnt				0	7000	700
Ferrous Metals	1,308	428	211	212	184	2,343

Again, greenwaste is prominent amongst the material successfully diverted from landfill by members of the Rivers Regional Council.

8 Proposed RRC Waste Management Service – Resource Recovery Facilities

8.1 Resource Recovery Facilities Feasibility Project

The RRC, in seeking to maximise the recovery and recycling of resources and minimise the disposal of waste to landfill in accordance with Western Australian State and Local Government objectives, has identified that establishing Resource Recovery Facilities (RRF), including an AWT Facility, is the most appropriate policy response, providing that such a facility meets economic, social and environmental sustainability criteria.

There are now environmentally and economically sustainable technologies that treat household waste as a resource and are able to transform it into valuable and useful materials such as soil amendment products.

In order to advance its concept of reducing waste and minimising landfill disposal the RRC investigated the feasibility establishing a resource recovery facilities (RRF) for the region. The three-year feasibility study was completed by the RRC last year.

The feasibility study investigated all aspects relevant to the establishment of resource recovery facilities including:

- Assessment of Alternative Waste Technologies (AWT) appropriate to the nature of the municipal waste stream and the needs of the community.
- Waste collection systems.
- Financial assessment and modelling.
- Assessment and short-listing of potential sites.
- Environmental impact assessment.
- Community consultation.
- Contract delivery mechanisms including assessment of procurement options.

The feasibility study having proved to be positive, the project has now progressed to the delivery phase with current activity directed at the preparation of tender documentation and obtaining relevant environmental approvals for the preferred site at the Water Corporation's wastewater treatment plant at McLaughlan Road Kwinana.

The RRC's preferred site for its RRF also hosts the BioWise organic waste composting facility which processes a blend of greenwastes, sawdust and sewage sludge into valuable soil amendment products.

8.2 RRC Resource Recovery Facility Project Plan

A RRC proposal in the form of a project plan has been developed in relation to the construction and operation of Resource Recovery Facilities (RRF) to accept and process municipal solid waste (MSW) sourced from the RRC's member councils. It is planned that the RRC planned AWT Facility will process a minimum of 100,000 tonnes of MSW per year sourced from RRC member councils kerbside refuse collections.

Following a thorough site selection process, a location for the RRF was identified on appropriately zoned land at the Water Corporation wastewater treatment plant at McLaughlan Road Kwinana. Nearby land at the Millar Road landfill disposal site was identified as an alternative site, should for any reason the McLaughlan Road site prove to be unsuitable.

The form of procurement to be utilised for the establishment of the AWT Facility will be a Build, Own, Operate (BOO) contract. The RRC proposes to secure the suitable site and sub-lease it to the successful service contractor selected following an open tender process.

It is envisaged that the successful contractor will charge the RRC a 'gate fee' to process a guaranteed minimum tonnage of municipal waste. The successful contractor will be responsible for complying with all legally binding environmental conditions and commitments arising out of the environmental approval process and will be required to obtain and comply with a Works Approval (construction) and Licence (operation) pursuant to Part V of the Environmental Protection Act.

The RRC's concept of the RRF involves the establishment of waste management services and facilities across the region including:

- Efficient and effective separate collection of municipal wastes across the region including:
    - dry recyclables;
    - bulk greenwaste materials; and
    - residual household waste.
- A Resource Recovery Facility to accept and process the majority organic component of the Municipal Solid Waste stream into compost and other soil conditioning products.
- In due course a materials recovery facility (MRF) to accept, sort, process and market dry recyclables including:
    - paper and newsprint;
    - cardboard;
    - liquid paperboard;
    - glass containers;
    - aluminium and steel containers;
    - plastic containers; and
    - other materials as end uses/markets develop for them over time.
- In due course, a greenwaste processing facility to shred, chip and process greenwaste into compost and mulch.
- A public education centre, combined with the RRF administration centre.

Residual waste from the RRF complex would be disposed of in landfill.

The RRF would be designed to process recyclables and other municipal wastes over a period of not less than 20 years, in a manner that complies with all relevant statutes and standards.

The operation of the RRF would be supported by a long term public education program to help marshal the cooperation and full participation of the public; and to improve and maintain standards of source separation, thus reducing the potential for problems associated with contamination of the three separate waste streams (dry recyclables, greenwaste and MSW).

The benefits of RRC's Resource Recovery Facility waste management concept include:

- diversion of waste from landfill increased from current levels of 21% to 70% and more;
- fully enclosed processing of household waste and recyclables with reduced risk of emissions to air, ground and water;
- household waste transformed into valuable and useful products;
- improved collection and sorting of dry recyclable materials;
- reduced emissions of greenhouse gases compared to landfill;
- potential to generate electricity from gas generated by anaerobic digestion of household organic waste; and
- responsible treatment and processing of MSW as it is generated, compared with current practice of landfill disposal which may possibly leave future generations with significant long-term legacy problems arising from land and groundwater contamination.

The RRC expects to put the project out for tender in 2009.

9 Efficiency and Effectiveness of RRC Waste Management

The Rivers Regional Council strongly believes that the waste management services provided by the organisation and its member councils are highly efficient and effective.

The RRC believes the formation of Regional Councils to share resources and co-operate in the planning and delivery of waste management services has been most successful in improving the efficiency and effectiveness of municipal waste management in Western Australia.

As evidence, the RRC points to consistently high levels of customer satisfaction for the comprehensive waste management services provided by the RRC and its members. These waste management services consistently rate amongst the highest levels of satisfaction recorded for the wide variety of local government services provided by member councils (only library services achieve comparable high levels of customer satisfaction).

Service delivery is consistently good with complaints about service failure (e.g. refuse or recyclables not collected) or sub-standard service extremely rare.

The RRC can also point to the effectiveness of its membership in operating waste disposal facilities in accordance with licence conditions. Incidence of non-conformance are extremely rare. Incidence of environmental degradation or pollution amongst the RRC membership as a result of poor or defective municipal waste management is extremely low.

With the majority of the waste management refuse collection and recycling services now put out for competitive tender, the RRC is confident that ratepayers are benefitting from modern, efficient and effective services at value-for-money rates.

The RRC believes that there may be some potential for further economies of scale that could be realised by the RRC procuring waste management services in the form of combined contracts for service of its membership. The RRC will explore this potential in due course once contract terms are harmonised to facilitate combined tenders.

The RRC is well aware that further significant reductions in municipal waste disposed to landfill can not be achieved without establishing a facility to process the organic waste which makes up two-thirds of the content of the average household refuse bin. The RRC has made a major commitment to establishing such a facility and is well advanced towards its goal, having completed a major feasibility study, identified a suitable site; commenced preparation of tender documents; and initiated the environmental approval process.

The RRC has some serious concerns about the limitations imposed on the effectiveness of WA recycling programs by an over-reliance on exporting our waste vast distances interstate and overseas to developing countries. The RRC strongly believes that Western Australia should be looking to maximise the environmental and economic returns flowing from recycling by having strong local markets for recycled materials.

10 Role of the Waste Authority Under the Waste Avoidance and Resource Recovery Act 2007 in Municipal Waste Management

10.1 Waste Authority Role and Responsibilities

The RRC supports the role envisaged for the Waste Authority by the Waste Avoidance and Resource Recovery Act.

The Waste Authority's responsibility for developing a State Waste Strategy is welcome; the RRC believes the adoption of a coherent and comprehensive Waste Strategy will address a major deficiency in waste policy that has restricted to some degree progress in waste management for at least ten years since the introduction of the landfill levy in 1998.

The RRC believes the Waste Authority should be independent of other State Government departments and agencies and have the powers necessary to set and manage budgets and implement the forthcoming State Waste Strategy.

In particular, the Waste Authority must be independent of the DEC to avoid the conflict of interest that has existed to some extent since the Office of Waste Management became the Waste Management Division of the Department of Environmental Protection in 1994. In essence, the proper role of the DEC as a regulator has interfered with the degree to which its employees assigned to waste management and the Waste Board could assist as a proponent or facilitator in the research, planning, establishment and operation of waste management facilities.

This conflict of interest that has existed between the roles of the DEC and the Waste Board goes a long way to explain the difficulty the State Government has had in developing a State Waste Strategy or actively assisting in the planning and development of waste management facilities including future landfill disposal sites and Resource Recovery Facilities.

10.2 Recommendations regarding priority areas of work for the Waste Authority

The RRC trusts that the Waste Authority will seek to work cooperatively with local government, especially in respect of:

- Planning (including siting and community consultation) in respect of future waste treatment and disposal facilities including AWT Facilities to process municipal waste and the landfills required to dispose of residual wastes.
- Adopting realistic and achievable waste reduction / waste management goals and targets and developing appropriate plans to achieve them. Any long term goals (e.g. "Zero Waste" or "Zero Carbon Emissions") must be supported by realistic and achievable interim goals against which performance can be sensibly measured and steps taken to adjust plans and programs as appropriate.
- Concentrating efforts in reducing the major elements of the waste stream made up by construction and demolition waste, commercial and industrial waste; and the organic waste that makes up the majority of municipal waste.
- Developing and supporting local markets for recovered materials with the aim of reducing reliance on the export of our waste to developing countries; maximising the environmental benefits of our recycling efforts; and minimising the economic and financial cost to the community.

- Conducting triple bottom line assessments of all relevant waste management options such that better informed decisions can be made when choosing between various macro (e.g. landfill vs RRF) or micro options (e.g. recovering glass containers from the Kimberley region for transport to Perth and thence Adelaide for recycling vs landfill or some other disposal option).
- Supporting local and regional government's efforts in examining the feasibility of waste treatment technologies, in particular by providing guidance on:
    - appropriate assessment and siting criteria;
    - providing generic financial models to assist with business planning and tender evaluations; and
    - providing advice on the procurement techniques and contracting.
- Providing a strategic framework for the future of the landfill levy to provide greater certainty of knowledge over the future cost of landfill.

The RRC suggests that matters regarding "Extended Producer Responsibility" (EPR) and "Product Stewardship" are best advanced on a national front, being less likely to provide concrete results when pursued at the level of an individual State, as evidenced by the lack of reported progress on such issues since the Ministerial announcement was made on EPR in June 2005; and the invitation to participate in "Product Stewardship" was issued in September 2006. In any case, the RRC believes that such initiatives are better addressed in the context of an overall State Waste Strategy.

11 Resource Recovery Facility Technologies

In conducting its RRF feasibility study, the RRC made its own assessment of commercially available Resource Recovery Facility technologies.

11.1 Technology Assessment Principles

The RRC decided upon the following principles as a proper framework for its Resource Recovery Facility technologies assessment:

Principle 1 Technologies Excluded as a Primary Process

Landfill, bioreactor landfill and thermal processes will not be considered as options for the RRC primary waste treatment system. The RRC nevertheless recognises that there will be some reliance on landfill for management of residuals from any treatment process or as a fall back in the event of plant failure.

Principle 2 – Technologies to be subjected to Triple Bottom Line Assessment

All technologies will be assessed on the basis of the "Triple Bottom Line" over the whole-of - life of the facility.

Principle 3 – Compliance with Laws, Standards and Policies

Technologies will only be considered where the proponent can demonstrate that environmental emissions and end products comply with relevant assessment criteria, laws and standards and meet community health standards and expectations.

Principle 4 – Technology Maturity

Preference will be given to technologies that have a proven track record at a commercial scale. Technologies which are unproven at a commercial scale will not necessarily be eliminated but will be the subject of a more rigorous evaluation to fully evaluate any environmental, social or economic risks.

Principle 5 - Enclosed Waste Handling

All waste receival operations and waste treatment operations will be conducted inside a ventilated enclosure. Ventilation to be directed through an efficient odour scrubbing device.

All waste receival and treatment operations will be conducted on a floor with a sufficiently low permeability to prevent leachate or contaminated water escaping to the environment.

11.2 Technology Assessment Criteria

The RRC decided upon the following assessment criteria in evaluating Resource Recovery Facility technologies:

Social

- Social Acceptability – how does the community perceive this type of technology?
- Overall impact on amenity – visual appearance, risk of failures resulting in odour or noise impacts, size of footprint, scale of smallest module

- Risk to Public Health and Safety – will the technology result in actual risk to Public Health and Safety?

Environmental

- Degree of Enclosure – to what extent are processes enclosed?
- Level of process control – how readily is the process controlled?
- Maturity of technology – what is the commercial track record of the technology and its proponent?
- Inherent risk of impacts – are there any characteristics of the process which make it more or less likely to cause site impacts?
- Ability regulate Product Quality – what degree of quality control can be exercised over contamination levels in the major product?
- Ability to remain incompliance with all laws – based on design and technology characteristics, what is the risk of non-compliance?

Economic

- Capital Cost.
- Operating Cost.
- Engineering Reliability and Durability
- Maturity of Technology Provider.

11.3 RRC Conclusions Regarding Appropriate AWT Technologies

The RRC's investigation of available technologies concluded that there are a number of commercially viable aerobic / anaerobic technologies which have the potential to comply with all of the RRC's RRF technology selection principles and satisfy, to varying degrees, all of the RRC's technology assessment criteria. The RRC also concluded that a competitive and contestable market exists which would be likely to result in a variety of technologies being proposed in tenders for the RRC RRF.

The RRC in tendering for the services of a RRF will not specify a particular technology (except for the exclusion of bioreactor and thermal technologies), but will assess the technologies proposed by proponents against the same selection criteria utilised in the preliminary assessments of technologies made as part of its RRF feasibility study.

12 Other Relevant Matters

Local government tender regulations need to be reviewed to provide more time for the lengthy tender and contracting processes involved in procuring the services of Resource Recovery Facilities.

Additional to the requirement for the disposal of residual waste, and due to the potential for RRF plant breakdown and consequent risk to public health, landfill disposal in or close to the metropolitan area must be planned and maintained as a fall-back alternative means of waste disposal.