Submission to the Legislative Council Standing Committee on Environment and Public Affairs Inquiry into Municipal Waste Management in Western Australia

PREPARED BY THE

MUNICIPAL WASTE ADVISORY COUNCIL

"Getting the Environment Right"

February 2009

Status of this Submission

This Submission has been prepared through the Municipal Waste Advisory Council (MWAC) for the Western Australian Local Government Association (WALGA). The Municipal Waste Advisory Council is a standing committee of the WA Local Government Association, with delegated authority to represent the Association in all matters relating to solid waste management. MWAC's membership includes the major Regional Councils (waste management). The Regional Councils members of MWAC include the Eastern Metropolitan Regional Council, Mindarie Regional Council, Southern Metropolitan Regional Council, South East Metropolitan Regional Council, Western Metropolitan Regional Council and the City of Geraldton-Greenough. This makes MWAC a unique forum through which all the major Local Government waste management organisations cooperate. This Submission therefore represents the consolidated view of Western Australia Local Government. However, individual Local Governments and Regional Councils may have views that differ from the positions taken here.

Due to meeting schedules and the short timeframe of the consultation, this Submission has not yet been endorsed by MWAC, however, it will be put before the Council at the earliest opportunity (Wednesday 18 February 2009) and the Inquiry will be informed of any changes to this Submission following consideration by the Municipal Waste Advisory Council.

The Municipal Waste Advisory Council's member organisations are:

EMRC

WESTERN METROPOLITAN REGIONAL COUNCIL

SOUTHERN METROPOLITAN REGIONAL COUNCIL
REGIONAL RESOURCE RECOVERY CENTRE

South East
METROPOLITAN REGIONAL COUNCIL

City of Geraldton-Greenough
Climate of Opportunity

MINDARIE REGIONAL COUNCIL
Reducing, Reusing, Recycling

Executive Summary

In Western Australia, under the Waste Avoidance and Resource Recovery Act 2007, Local Government is responsible for Local Government waste - this is defined as material collected from households and generated by the Local Governments own activities. Local Government provides waste services to the majority of households in the state. In the metropolitan area, a collection service for waste and recycling is provided to the vast majority of households. In the non-metropolitan area, the majority of regional centres have both kerbside waste and recycling services; in the regional areas waste and recycling services vary dependent on population.

For Local Government, waste management is a core activity as well as an essential service it provides. Consequently, a proportion of this Submission is dedicated to providing some context for Local Government waste services in WA and considerations for this service. This context is necessary in order to understand the situation for Local Government and waste management in WA. A number of examples are given to illustrate the activities of various Local Governments and Regional Councils in the waste management area, these examples highlight the diversity and innovation nature of services provided in response to community need.

However, Local Government service provision is only one part of the waste management picture for Western Australia. The inputs to the waste stream have been identified by Local Government as a key issue and one over which Local Government has exceptionally limited control. The key points made in this Submission include:

Waste management is an essential service: if discontinued there would be substantial environmental, social and economic impacts at a local, state and global level.
Local Government focus: material from Local Government defined sources makes up approximately 20-25% of the waste stream, yet undue focus by State Government is placed on Local Government. Commercial & Industrial and Construction & Demolition waste are equally important waste streams.
Focus Upstream: Local Government has only limited control on the inputs into the waste stream, the State Government is better placed to influence producers of material (through encouraging Product Stewardship arrangements or regulating Extended Producer Responsibility schemes).
Waste Authority: independence, transparency and accountability mechanisms are necessary if the Waste Authority is to be successful.
Roles and responsibilities: to date, there has been only limited definition of roles and responsibilities for waste management. Roles and responsibilities for waste management need to be clearly negotiated, assigned and implemented for the industry to move forward.
Holistic approach: the need to focus upstream has already been identified, the importance of considering how products can be reused as a resource is also vital; the aim being to move to a 'cradle to cradle' consideration of products and activities.
Leadership by State and Local Government: both spheres of government need to show leadership by their behaviour regarding purchasing, project planning and operations.
Outcomes based regulation: by identifying the outcome to be achieved, rather than prescribing a process, more effective regulation can be put in place which allows for innovation and is adaptable to individual circumstance.

Recommendations

Recommendation 1: that waste management be included in the Federal Assistance Grants.

Recommendation 2: that waste management be considered and treated as an essential service by State Government.

Recommendation 3: that the State Government establish a Centre of Excellence for Waste Management in WA.

Recommendation 4: that the State Government focus equally on effective management of all waste streams.

Recommendation 5: that the State Government clearly identify roles and responsibilities and expeditiously implement Product Stewardship / Extended Producer Responsibility Schemes for Priority Products.

Recommendation 6: that clear governance arrangements be put in place for the Waste Authority and accountability and transparency mechanisms be established.

Recommendation 7: that roles and responsibilities be clearly negotiated, assigned and implemented for waste management.

Recommendation 8: that resource efficiency and waste minimisation be a key focus in development of the State Waste Strategy and Government Policy.

Recommendation 9: that State and Local Government lead by example, through the sustainable purchasing policy and consideration of the full life cycle of material purchased and projects undertaken.

Recommendation 10: that outcomes based regulation be used where possible to promote innovation and locally relevant solutions.

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1 Introduction

1.1 Terms of Reference for the Inquiry

The Terms of Reference for the Inquiry are:
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:

1. 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.
2. Resource recovery technologies; and
3. Any other relevant matter

This Submission highlights some of the key issues for Local Government, relevant examples are provided from a variety of Local Governments and the broader issues for Local Government are outlined. There is a focus on State and Local Government activities in this Submission, however reference is also made to the Federal Government due to the substantial impact regulation and action at this level has on the waste industry. Reference will also be made to the development of the State Waste Strategy, which it is anticipated this Inquiry will inform.

1.2 Key Terms

A number of key terms will be used throughout this Submission, for clarity see below definitions.
AWT – Alternative Waste Treatment, a suite of technologies which are an alternative to traditional landfill as a means of waste treatment.
C&D – Construction and Demolition.
C&I – Commercial and Industrial.
CPRS – Carbon Pollution Reduction Scheme.
MGB – Mobile Garbage Bin
MSW – Municipal Solid Waste, waste from households or Local Government sources.
MWAC - Municipal Waste Advisory Council, delegated committee of the WA Local Government Association.
NGERS – National Greenhouse and Energy Reporting Scheme.
WALGA – Western Australian Local Government Association.
WARR Act - Waste Avoidance and Resource Recovery (WARR) Act 2007.
WARRL Act - Waste Avoidance and Resource Recovery Levy (WARRL) Act 2007.
WAste 2020 – refers to the 2001 State Government *Towards Zero Waste WAste 2020 TaskForce Report and Recommendations*; initiated by Hon. Cheryl Edwards MLA.

1.3 Waste Generation in WA

Statewide data regarding waste generation, disposal, recycling and recovery is often difficult to obtain as there is a lack of consistent reporting, a metropolitan focus and an absence of any continuous and comprehensive data collection programs. The Waste Authority recently commissioned consultants Cardno to undertake an *Assessment of Waste Disposal and Material Recovery Infrastructure for Perth (*Cardno, 2008). The Report produced includes some of the first trend analysis and projects for waste generation in WA. This Report identifies that for the Municipal Waste Stream, waste to landfill (in the metropolitan area) has decreased over time (despite an increase in number of households).

The Cardno (2008) Report states that "since accurate records began, there has been a general decline in MSW to landfill from approximately 850,000 tonnes in 1999/2000 to 715,000 tonnes in 2006/2007. This is equivalent to approximately 1% per year". This decrease is the result of recycling and resource recovery operations by Local Governments. Projections for MSW to landfill show that it will continue to decrease as more Alternative Waste Treatment Plans (such as those of the SMRC and City of Stirling) come online. The other waste steams, Construction & Demolition and Commercial & Industrial, have increased waste to landfill. Tonnes of waste to landfill, as identified by Cardno (2008), are shown in Figure 1.1.

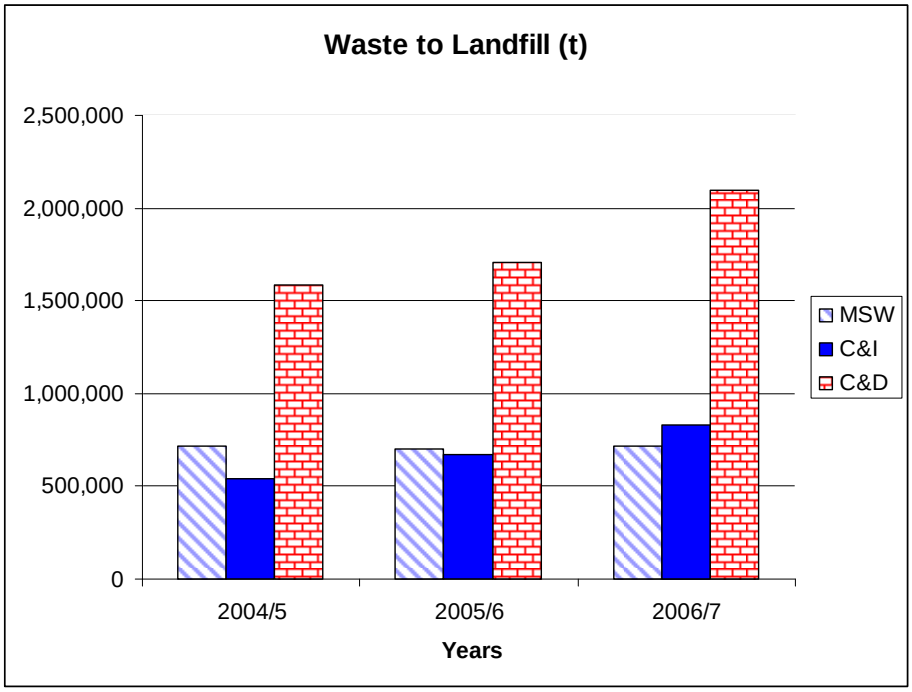

Figure 1.1: Waste to landfill (2004 – 2007) (Cardno, 2008).

If the Cardno Report is used, and the most recent year taken as an example, the proportion of waste to landfill that MSW represents is not the most significant. Figure 1.2 shows the percentages of each waste stream to landfill for the 2006/07 year.

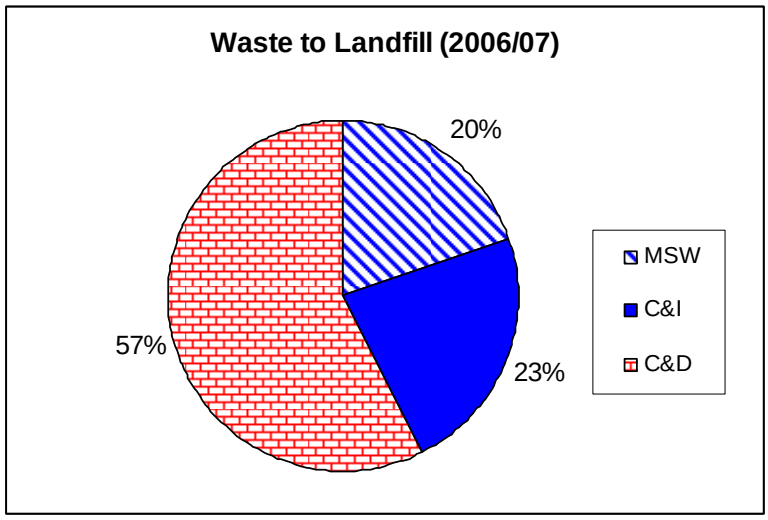

Figure 1.2: Waste to landfill (2006/07) (Cardno, 2008).

2 Current Context

To understand the issues for municipal waste management, a thorough understanding of the current context for waste management in Western Australia is necessary; to this end Section 2 provides an outline of the legislative and policy context. Including new (the WARR Act) and potential legislation (Carbon Pollution Reduction Scheme at a Federal Level), current State and Local Government commitments, the key issues for Local Government and the waste industry currently, data management and the State Waste Strategy.

2.1 Legislative context

2.1 Legislative Context – Summary
While supporting the WARR Act, the Association does have some concerns regarding the implications for waste, other than household, and the application of the 'modern practice' provision.

The principle legislation governing waste management for Local Government is the WARR Act. When the WARR Bill was being developed the Association made a Submission strongly supporting the intent of the WARR Bill; to consolidate existing provisions relating to waste management under one piece of legislation which, in the context of existing powers in other acts, has the necessary powers to drive waste management in Western Australia *Towards the Zero Waste 2020 vision*.

Key issue: Support for the WARR Act.

The WARR Act provides additional clarity to the role of Local Government in waste management. Under the previous legislation governing waste management, the *Health Act 1911*, the focus was only on waste as a health issue; with the move to the WARR Act both health and environment are included.

Previously under the Health Act 1911, Local Government was responsible for "trade waste" which could be taken as including both commercial and domestic material. The MWAC Submission on the WARR Bill noted:

> *The newly drafted s112(2) of the Health Act 1911 prohibits other collectors from collecting residential or trade waste from a Local Government District if a Local Government or Local Government contractor provides that service.*

This gave Local Government first right to collect all waste within its boundaries. The final WARR Act does not include such a provision. The WARR Act clearly identifies the roles and responsibilities for Local Government, specifically relating to Local Government waste which is defined as:

> *"local government waste" means —*
> *(a) waste from residential sources; and*
> *(b) any other waste of a kind prescribed by the regulations for the purposes of this paragraph, but does not include sewage or waste of a kind prescribed by the regulations as excluded for the purposes of this definition.*

The WARR Act 2007 Regulations further expand this to include:

> *S. 4 Extended meaning of "local government waste"*
> *Waste generated by the operations of a local government is prescribed as local government waste for the purposes of paragraph (b) of the definition of "local government waste" in section 3(1) of the Act.*

Although additional clarity is provided for Local Government responsibility, the outcome of these definitions is that waste, other than Local Government waste, does not have a directly responsible body. The result is that discretionary services, such as recycling, will only be provided if a business or commercial service requests them from a contractor.

Key issue: While clarifying Local Government responsibilities, the WARR Act does not clearly identify responsibilities for commercial and industrial waste.

The WARR Act development took considerable time and included a comprehensive consultation process. Following the passing of the WARR Bill the Association wrote to the Minister highlighting the dedication to consultation shown by Department of Environment and Conservation staff.

Key issue: Congratulate Department of Environment and Conservation staff on consultative process.

A concern the Association raised at the time of the WARR Act drafting regards the term 'modern practice' as used in s. 57 (3)(a) which gives the CEO of the DEC power to remove Local Governments first right to collect if the Local Government is not operating its waste service according to 'modern practice'. As the MWAC Submission pointed out:

> *The meaning of this term is highly ambiguous and open to interpretation. The linking to 'regard for codes of practice' or 'the advice of the Waste Authority' does little to assist the Association, and individual Local Governments, to understand in what situations the CEO may…issue a waste collection permit.*

In the MWAC Submission the example cited was the draft Organics Strategy, which favoured source separation of organics. This example is still relevant; the Waste Management Board, in February 2008, released a Position Paper on Recycled Organics which takes a similar position.

Key issue: A definition of 'modern practice' practice is needed.

Key issue: The Waste Authority should review the Waste Management Board Position Paper on Recycled Organics.

EXAMPLE: Recycled Organics

To provide a reasonable example of the Association's concerns, the draft Organics Strategy favours source separation of organics. However, a number of the Regional Councils have spent considerable money on systems that deal with organics based on a mixed bin system. As such, the introduction of a separate bin for organics is unlikely to be in the interests of their community. However, if the draft Organics Strategy (as it stands) were incorporated into a code of practice, it is quite conceivable that, if the Regional Council continued to use a mixed bin system for organics, they could lose their right to collect based on an interpretation of 'modern practice'. This clearly creates an extremely undesirable situation where Local Government will be very resistant to developing any long-term waste recovery infrastructure on the grounds that 'modern practice' will always be a shifting target. Without greater guidance on what 'modern practice' is considered to be, the Association is concerned that this provision could be very damaging for Local Government; even those pursuing actions that are consistent with the waste strategy.

The Association is also concerned that as the provision stands, there is particular risk with regard to residential services, which are considered a core service of Local Government. There is concern that the EP Authorisation system may enable 'cherry picking' to occur; leaving Local Government with the least valuable components of the residential collection. For instance, using the above example, a compost marketer could perhaps offer a specialist 'modern practice' service only for organics. Local Government could find itself in a position where it still has to run a residential service, but without the valuable organic component included to help off-set costs. If such 'cherry picking' were able to occur, Local Government would not be able to realistically provide an economic general residential service to its rate-payers. WA Local Government Association Policy Statement on Recycled Organics Applied to Land is included as Appendix 2.

Another inclusion in the WARR Act which was welcomed by Local Government was the development of a State Waste Strategy. The Waste Authority, under S. 24 of the Act, is required to "As soon as practicable after the commencement of this section… prepare, or cause to be prepared, a draft waste strategy."

The purpose of the waste strategy, as given in the WARR Act is:

> *The purpose of the waste strategy is to set out, for the whole of the State —*
> *(a) a long term strategy for continuous improvement of waste services, waste avoidance and resource recovery, benchmarked against best practice; and*
> *(b) targets for waste reduction, resource recovery and the diversion of waste from landfill disposal.*

There is further discussion in Section 2.9 regarding the Targets for the Strategy.

Key issue: Local Government welcomes the development of a comprehensive State Waste Strategy.

2.2 Carbon Pollution Reduction Scheme (CPRS)

The *National Greenhouse and Energy Reporting (NGER) Act 2007* established a mandatory reporting system for corporate greenhouse gas emissions and energy production and consumption. The Act only applies to 'constitutional corporations', which, in this case, Local Government is not considered to be.

This means that while a private landfill operator will have to report on their emissions (if their facility breaches the 25KT threshold) a Local Government operating a similar landfill will not (and indeed cannot) register to report at this time. The Federal Government has indicated that it does intend for Local Government to be covered; although whether this is to occur through specific amendments to the NGER Act or through the Carbon Pollution Reduction Scheme (CPRS) and related legislation is not clear.

2.2 Carbon Pollution Reduction Scheme (CPRS) – Summary
Waste will be a covered sector under the CPRS, the effect of this is currently uncertain. Inclusion of waste in the CPRS will be the major area of impact for Local Government. There are a number of reservations about the inclusion of waste (impact on recycling and ability of AWT's to sell offsets). Given the likely significant impact, waste should be considered a 'strongly affected industry'.

The WA Local Government Association made a substantial Submission on the Carbon Pollution Reduction Scheme Green Paper (Appendix 1). The Submission highlighted Local Government commitment and support for climate change action, but also the potential costs to Local Government and limited capacity for Local Government to source revenue.

The Submission highlights that, while

> *there is no doubt that Western Australian Local Governments have expressed concern about climate change impacts and have shown considerable leadership regarding mitigation and adaptation strategies, however it is also true that the imminent Carbon Pollution Reduction Scheme presents myriad difficulties, both in its direct and indirect effects on Local Government.*
>
> *The Federal Government, through the Department of Climate Change has expressed the view that climate change management is going to present some costs to the Australian economy. WALGA acknowledges this as a necessity of the Scheme, but asserts that the Federal Government must also realise that there will be some sectors of the business and government community that will struggle to meet obligations under the conditions outlined in the recently released Green Paper. Exposed low income households and some businesses have been addressed in the paper; however Local Governments, the most under-resourced sphere of Government, have not been specifically captured by the 'profit-share' mechanisms that the*

Federal Government has outlined in the Climate Change Action Fund (CCAF) to assist with implementation and cost implications of the forthcoming Carbon Pollution Reduction Scheme.

To put this need in comparative perspective, the Australian Bureau of Statistics 5506.0 identifies 2006/07 Federal Tax Revenue as $261,988 million, States $48,911 million and Local Government $9,388 million out of $319,776 million. Local Governments receive 2.94% of Australian Tax Revenue but only through their own taxing efforts (i.e. property rates). Through Financial Assistance Grants (FAGs), Local Governments receive from the Commonwealth funding that equates to only 0.67% of Federal Government Revenue. Adding funding for local roads, Local Governments receive from the Commonwealth funding equivalent to a total of 0.75% of Federal Government Revenue. While Local Government is not reticent in adopting strict climate change measures or making considerable changes to 'business as usual', many Western Australian Local Governments (over 50%) are not well enough resourced currently to meet their immediate responsibilities in relation to asset and infrastructure management, let alone to comply with the future costs and legislative requirements that a Carbon Pollution Reduction Scheme will present (The Journey – Sustainability into the Future, 2008). So whether or not they wish to commit to deep cuts and significant abatement and adaptation strategies, they may simply not have the resources to do so. The rising costs of energy and water, along with lesser acknowledged impacts such as rising infrastructure management and construction costs for Local Government will further exacerbate the issue of inadequate Local Government resourcing and may lead to a situation prohibitive of necessary climate change action.

Key issue: Local Government has limited capacity to raise revenue to mitigate the impact of the CPRS.

The Submission also notes that it is

"incumbent on the Federal Government to ensure that the sector is adequately resourced to undertake actions necessary to ensure compliance with the Scheme. Resourcing needs for the Local Government sector in relation to the Carbon Pollution Reduction Scheme are likely to include administrative and reporting expertise, assistance in developing and delivering emissions estimation methodologies for landfills and general training on the OSCAR system. The Inter-Governmental Agreement Establishing Principles Guiding Inter- Governmental Relations on Local Government Matters (April 2006) establishes that "any consequential financial impacts are to be considered within the context of the capacity of Local Government".

The main impacts identified for Local Government are related to waste management. The Association has only given conditional support to the inclusion of waste as a covered sector. The issues raised in the Association Submission on the CPRS Green Paper included:

- *The need for an adequate consultation period for the CPRS and consideration of cost implications to Local Government and ratepayers;*
- *Support for a 25 kilo tonne CO_{2e} reporting threshold for landfills, but not for a reduced threshold;*
- *Non-inclusion of legacy landfills;*
- *Operators of landfills exceeding the threshold size be required to acquit permits based on the quantity and type of waste received in the previous year;*
- *That landfill gas captured and burnt be eligible to generate offsets within the compliance market;*
- *That the Federal Government clarify the status of Renewable Energy Certificates into the future and in relation to the Carbon Pollution Reduction Scheme to assure REC generators that their investments are secure under this process;*
- *That offsets/permit (generation) should be allowed for industries investing in projects with significant 'additional' abatement outcomes and these offsets should be available for sale into the compliance market (for example AWT);*

- *That the Federal Government acknowledge that the current proposed estimation methodologies for landfill emissions are not stringent enough to ensure reporting accuracy;*
- *State provides adequate local resources (i.e. dedicated officers seated within each state Environment Department), to mentor those sectors or individual entities struggling with reporting requirements through the process; and*
- *That international consistency and equity be ensured and maintained in the development of the Scheme and that interaction with international trading schemes be assured and supported by the Federal Government.*

Key issue: Conditional support for inclusion of waste in CPRS.

The Association recommended that the Federal Government reconsider waste as a 'strongly affected' industry; due both to the significant investment in infrastructure and the lack of ability to pass on costs. The Submission recommended that as:

> *many waste facilities (most larger sites) have invested significantly into gas capture and methane flaring infrastructure and pass through of costs is constrained to a degree by the capacity of the community to cover rate, levy and gate fee increases, that the significant costs inherent in the Carbon Pollution Reduction Scheme be equitably assessed and that all costs to ratepayers/community members be taken into account when allocating funds, both to 'strongly affected industries' (in which waste should be included by virtue of its inability to pass on costs) and to householders.*

Key issue: Waste should be considered strongly affected industry under the CPRS

While the CPRS will cover the waste sector, the benefits in terms of recycling will not be picked up within the Scheme.

Example: Recycling to reduce greenhouse gas emissions

The University of Michigan (2007) estimates that, for the United States of America, "increasing the recycling rate to 35 percent would reduce greenhouse gas emissions by an additional 5.2 Million Metric Tons of Carbon Dioxide Equivalent".

While the above is a generic example, detailed life cycle assessment clearly shows the benefits of recycling (in most situations). The Department of Environment and Conservation has developed a simple life cycle analysis system (DEC, Benefits of Recycling Calculator Tool) which is an excel based tool to calculate and demonstrate the environmental benefits of recycling in WA. Within the CPRS, however, these benefits are not recognised. It is anticipated that recycled material will have a higher monetary value under the CPRS, because it requires less energy to process (compared to processing raw material). However, recycling will also cost more as the costs for collection and processing increase with fuel and electricity prices; whether the increased collection and processing costs are commensurate with the increase value of recycled products remains to be seen. This issue will be particularly significant for non-metropolitan Local Governments who recycle, as their material frequently has to travel further to market. As the recent price drop for recyclables has highlighted, transport distance is a key concern for Local Governments.

Key issue: Uncertainty about the effects of CPRS on recycling, non-metropolitan Local Governments likely to be disproportionately affected.

Example: Carbon offsets

The Southern Metropolitan Regional Council produce Greenhouse Friendly™ carbon offsets from their Alternative Waste Treatment process. The AWT facility that SMRC operates, composts the organic fraction of municipal solid waste (MSW) into a valuable product which is applied to agricultural land. The carbon offsets are generated from the avoidance of methane emissions caused by waste decomposing in landfill, which would otherwise occur in the absence of a program.

The tonnage of carbon offset that the SMRC is eligible for, under the Greenhouse Friendly™ Program, is calculated using the following general formula:

Total Greenhouse gas emissions avoided by project - Total Greenhouse gas emissions from the project (all operating emissions) = Carbon offset eligible

Currently these carbon offsets are sold into the market. Once the CPRS commences, with waste as a covered sector, these carbon offsets cannot be sold into the compliance market. There may be potential to sell the offsets into the voluntary market; although how this market will be structured and priced is still uncertain. There is also the issue of international equity, as waste is not a covered sector in other emission trading schemes their offsets could potentially be sold in the Australian compliance market – although Australian offsets generated in the same way would not be eligible.

Combustion of methane from landfill facilities for energy will not attract CPRS obligations (which should effectively mean that the methane emissions captured and converted to energy will have a zero CO2-e rating and will therefore reduce the total threshold liability of the landfill facility). However captured and flared methane (not converted to energy) will have a CO2-e rating, but this will be significantly less than if the methane was not flared. It is indicated in the White Paper that captured and flared methane will be treated as comprising 50% legacy emission and 50% new emissions.

The Commonwealth Government has proposed to expand the Renewable Energy Target (RET) Scheme to 20% Renewable energy by 2020 and will extend the operation of the Scheme until January 2030. Should this be implemented it will create a significant incentive for 'landfill gas to energy' projects to reduce significantly the permit liabilities for landfill operators, to produce energy for sale and to generate Renewable Energy Certificates for sale. However although this would be considered a positive outcome of the CPRS, it may disadvantage those early movers (such as the SMRC) who have invested significantly in alternative waste treatment technologies which are not offered dispensation within the scheme.

Key issue: Alternative Waste Treatment will be affected by CPRS.

2.3 State/Local Government Climate Change and Sustainability Partnership Agreement

In August 2007, the State/Local Government Climate Change and Sustainability Partnership Agreement was signed. The purpose of the Partnership Agreement is to establish an enduring partnership between State and Local Government for the purposes of ensuring communication, co-operation and joint action on common goals and priority areas in relation to climate change and sustainability. The Agreement was signed by the WA State Government, WA Local Government Association (WALGA) and Local Government Managers Australia (LGMA).

2.3 State/Local Government Climate Change and Sustainability Partnership Agreement – Summary

The Partnership Agreement outlines key principles to assist Local and State Government to work together to effectively promote and enhance sustainable development.

The objective of the Agreement is for Western Australian State and Local Government to work in partnership in order to effectively promote and enhance:

- the sustainable development of local communities; and
- the capacity of local communities, both individually and collectively, to respond to the global challenge of climate change.

For waste management, the commitments include:

- promoting best practice sustainable waste management principles to maximise opportunities for recycling and resource recovery, and to assist the transition towards zero waste;
- progressing waste management and resource recovery legislation incorporating powers for Extended Producer Responsibility (EPR) schemes,
- applying the EPR and Product Stewardship policy framework for priority wastes; and,
- identifying and minimising planning, legal, financial, contractual and other barriers to the development of best-practice municipal waste recycling systems and infrastructure.

Key issue: State Government need to affirm its commitment to the State/Local Government Climate Change and Sustainability Partnership Agreement.

2.4 WA Local Government national commitment

Local Government in WA is an involved and valued participant at a national level. Waste management operates in a national, as well as state based context. Many initiatives, such as EPR would operate better if applied at a national level; although this should not be read that state action should be delayed waiting for federal action. Local Governments in WA, though various Programmes, are engaged at a federal level and keenly appreciate this context and add expertise to development of policy and programs.

2.4 WA Local Government national Commitment – Summary

To ensure Local Government representation at a Federal level, the Association not only actively engages ALGA, but sits on a number of national committees.

Key issue: Federal engagement by Local Government is necessary to ensure inclusion of Local Government concerns.

Example: WALGA President sits on EPHC
The current WALGA President, Cr Bill Mitchell, sits as an observer on the Environment Protection and Heritage Council. He is one of the Councils longest serving members and provides a Local Government and Western Australian perspective to the discussions.

2.5 Roles and responsibilities for waste management

There is limited definition of roles and responsibilities in waste management at a strategic level (e.g. strategic planning for landfills) and lack of responsibility assigned through WARR Act to waste streams other than municipal.

Unless there is clear identification of roles and responsibilities regarding Federal, State and Local Government and private industry many of the issues for waste management will remain.

2.5 Roles and responsibilities for waste management – Summary

Lack of clearly defined roles and responsibilities, though the WARR Act and other policy mechanisms inhibits the ability of waste to be managed in the most efficient manner. This is particularly evident for the C&D and C&I waste streams.

Local Government waste (residential and that generated from the Local Governments' own activities) is well regulated. However, the commercial and industrial (C&I) and the construction and demolition (C&D) sector has only limited regulation and no responsible authority assigned to it. These waste streams make up the majority of the waste stream, yet go virtually unregulated. Local Government may not be positioned to take responsibility for these waste streams, nor should it be assumed that they will.

Key issue: Clear designation of roles & responsibility for all waste streams needed.

Without designation of roles & responsibility, such policy instruments as Extended Producer Responsibility will also have only limited effect.

Key issue: Clear designation of roles & responsibility for Extended Producer Responsibility scheme development, implementation and review.

Example: Used Motor Oil – Federal Scheme

Through the Federal Program *Product Stewardship for Oil Program*, the WA Local Government Association (through the Municipal Waste Advisory Council) administered a Program to improve collection of used oil in WA. The result was 112 units of infrastructure were distributed to 62 Local Governments throughout Western Australia. In WA, the aim of the Program was to improve the distribution of, and access to, used oil collection infrastructure. Under the Program drum storage units and used oil collection tanks have been provided to Local Government, as well as funding for essential site works. Furthermore, the Program includes an education and promotion aspect aimed at maximising the use of the used oil infrastructure.
The two year Program commenced in 2003. The total value of infrastructure and site works for these Phases exceeds $1 million. As the Federal Government initiated and promoted the Scheme – this implies some degree of responsibility for it. In Western Australia the State Government is now, in the interim, providing funding to ensure that collection of oil continues, as used oil recyclers have instituted a collection charge. If they had not done so, it is likely a large number of Local Governments would have ceased to collected used oil, as they are unable to take on this additional cost.

Picture: Used Oil Drum Storage Unit and 4,500 Litre storage tank at the Shire of Williams

2.6 Increasing complexity and volume of waste stream

Local Governments providing a recycling service are faced with an increasing diversity of materials used, particularly in packaging, leading to the need for more complex recycling infrastructure and greater expense in order to separate the material. While there are policy responses in place to assist with this issue (National Packaging Covenant) the problem still remains and Local Government may struggle to keep pace with the diversity of materials and use of composite materials in packaging.

Other materials of concern are also entering the waste stream. With increasing consumption of electronic goods, cheaper prices coupled with short life of products, more are ending up in the waste stream. Depending on the collection system in place, there is the potential to recover the product, however, substantial cost is incurred by Local Governments wishing to recycle these products.

2.6 Increasing complexity and volume of waste stream – Summary

The waste stream is increasing in complexity (packaging and products) and volume (with development and increasing production). This presents new challenges to waste managers who have only limited control on waste stream inputs.

Key issue: Increasing complexity, diversity and quantity of some materials in the waste stream, consequent effects on technology and cost, lack of linkage between policy objectives.

Example: Increasing volumes – Compact Fluorescent (CFL's) bulbs

When the previous Federal Government made the announcement regarding the ban on incandescent light bulbs, the Municipal Waste Advisory Council wrote to the Minister indicating that while we support the ban, there are substantial waste management implications regarding an increased volume of CFL's being disposed of in the municipal waste stream. MWAC indicated that it considers that best management of CFL's would be achieved through a product stewardship arrangement incorporating industry responsibility for establishing and maintaining adequate CFL bulb collection and reprocessing infrastructure. Further, that the stewardship should include an industry commitment for an ongoing national public education campaign to raise community understanding of why and how to dispose of CFL bulbs correctly.

Example: Cost of Recycling E-Waste – City of Bunbury

Number of households: 16,564
Area (sq km): 61.2

The City of Bunbury has identified community concern and the need to provide a service for electronic waste recycling. The City is currently collecting approximately one sea container full of electronic waste every three weeks (85 tonnes per year); at a cost of $52,000 per annum. Demand for the service is very high and persistent.

2.7 Recycling Issues (metropolitan, non-metropolitan, geographical constraints and markets)

Waste management services provided by Local Government will vary. These services reflect the unique challenges which are faced by different Local Governments in WA.

2.7 Recycling issues – Summary
Recycling in WA is frequently difficult due to distance, market and pricing issues. There is a need for alternative local markets for many products.

Distance of WA from markets for recyclables and lack of local reprocessing

With the closure of the ACI glass reprocessing plant in 2004 and the AMCOR facility in 2005, WA effectively lost most of its local reprocessing of materials. In order to be recycled material is now transported internationally or interstate

Markets and pricing

As the recent market downturn in the price of recyclables has shown, consistent pricing is a huge issue for the viability of recycling industry. Without structures in place to ensure consistent pricing recycling services are at mercy of the market.

Issues for non-metropolitan areas

In the non-metropolitan area, waste management is likely to be more expensive due to low population density and volume and a greater distance to travel (most recyclable material is transported to Perth, then to market). Many non-metropolitan Local Governments have limited revenue raising capacity and currently waste management is not covered by the Federal Assistance Grants (FAG's).

Alternative Markets

Some Local Governments are actively seeking alternative markets for their products to increase the viability of services. Glass has frequently been mentioned as a difficult material to deal with.

Key issue: Local solutions, appropriate pricing mechanism and funding needed to ensure recycling is viable for all of Western Australia.

Example: Shire of Murchison / City of Mandurah
The Shire of Murchison is located 669 km from Perth with an area of 49,500 km sq and population of 110. The waste management issues experienced by the Shire of Murchison will vary dramatically to other non-metropolitan Local Governments. For example the City of Mandurah, located 72 km from Perth, with a population of 61,424 and an area of 173.5 km sq.

Example: Glass Recycling
Currently the majority of glass collected for recycling in WA is transported to Adelaide for reprocessing. This can mean glass from the Shire of Broome, being transported 2,200km to Perth, then a further 2,700km to Adelaide. This has been the case since ACI closed their glass recycling plant in WA in 2004. Various options have been investigated to find alternative markets and end uses. The Waste Authority commissioned a report on the economic feasibility of a Boutique Bottling Plant – the Report found that the cost would be prohibitive ($20 million) and the plant would only be able to recycle a small proportion of the State's total collected glass (DEC, 2008). Another solution which has gained traction is the use of recycled glass in roads. The Southern Metropolitan Regional Council received a Strategic Waste Initiative Scheme (SWIS) grant to work with Pioneer Roads to put crushed glass into asphalt. The use of glass in asphalt adds value to the end product because:

- "Glass asphalt services are more reflective than conventional asphalt (improves night time road visibility);
- The surface dries faster than traditional paving after rain because the glass particles do not absorb water (increase road safety); and
- Due to the glass content the asphalt will hold heat longer than conventional asphalt (easier to work and compact)." (Pioneer Road Services, 2008)

2.8 Strategic planning for waste management

There has been limited strategic planning for waste management activities in Western Australia. As waste management has largely been seen as the purview of Local Government (even though as already noted material from households constitutes less than a quarter of waste to landfill) there has been limited planning at a state level and virtually no consideration of waste management infrastructure in planning schemes.

Key issue: Need for statewide oversight of infrastructure to ensure adequate planning for waste management facilities.

2.8 Strategic Planning for waste management – Summary

Waste management is not included in planning schemes, consequently siting for waste facilities is increasingly difficult.

Example: Landfill Planning - City of Cockburn

Number of households: 29,628

Area (sq km): 148

The City of Canning has a strategic plan to expand the operation at the Henderson Waste Recovery Park (HWRP) to accommodate and process commercial waste steams so as to divert waste away from landfill. The project and vision is a holistic approach to waste management which seeks to address collection as well as disposal. Unfortunately the project has been stymied for almost 2 years due to a number of uncertainties surrounding the future planning of the area and an apparent lack of understanding across the various departments of Government on the waste management needs into the future. HWRP is located in the Hope Valley Wattleup Redevelopment Area (currently known as latitude 32) that is controlled by the WAPC and Landcorp.

Of significance is the lack of clear land-use planning direction over the site and the contention that waste management cannot coexist in this landform. The City would contend that a properly managed and integrated waste management facility could be the benchmark development for this industrial precinct. A waste management facility that caters for all waste streams including C&I, C&D and which incorporates a range of technologies to separate, process and minimise waste is consistent with the Government's current stated direction. Landcorp however have developed a Planning Strategy with zones that significantly restrict the expansion of the HWRP. Landcorp have also proposed to establish an intermodal facility in close proximity to HWRP. Some of the options that are currently open for public comment completely cover the HWRP, however the preferred model quarantines a significant portion of land on the east of the Site. Until this Intermodal Facility is finalised the City cannot proceed with any confidence to invest in technology.

The HWRP lined cells are ideally located in disused limestone quarries. The practical expansion of our facility is to the north toward another completed limestone quarry, however current zoning will not permit the Cockburn Cement land (General Industry) to be used as a Resource Recovery centre. It is the City's vision to develop RDF on our site that will comply with the DEC standards to power industry and wind/solar (thermal or PV) farms on the capped landfill cells to further enhance the renewable energy generated from the HWRP. We believe that our current and planned uses for this site blend well with the existing and future zoning of the area should our or additional adjacent land be rezoned to Resource Recovery.

2.9 Data management and Targets for the State Waste Strategy

2.9 Data management and Targets for the State Waste Strategy – Summary
In order for the State Waste Strategy to be effectively measured, good data management and appropriate Targets are essential.

The matter of data management and consistency is of vital importance at the moment as the State Waste Strategy is being developed. Under the WARR Act, the Waste Authority is required to develop a State Waste Strategy; this Strategy must include "targets for waste reduction, resource recovery and the diversion of waste from landfill disposal."

Data measurement
Without accurate data measurement, there can be no certainty that the Strategy is achieving its aims. Accurate data collection is necessary to determine what waste is being generated, recovered and recycled. Without comprehensive data collection and use there will be uncertainty about how the State is progressing with regard to resource recovery and waste generation.

If the Strategy is to be measured effectively, consistent measurement (both overall and appropriate for each waste stream) and a clear program to measure will be needed. For any Strategy, the methods of measuring its achievement (and implications if these performance measures are not met) needs to be clear. An agreed baseline, of what is currently measurable, needs to be established. Then determine what needs to be measured and the best point for such measurement.

Key issues:

- *Establish baseline, determine measures and best point for measurement;*
- *Determine the best point for data measurement; and*
- *Define a data collection method/process for the length of the Strategy (include ongoing data collection – funding if necessary).*

Measurement methodology between Local Governments varies, as it does between States/Territories and internationally. While consistency of data collection may be a long term goal, in the shorter term understanding the variables within the data collected assists in identifying reasons for data variation and makes data more comparable. Cardno (2008) identifies clearly the assumptions regarding waste to landfill tonnages – all putrescibles landfills have weighbridges therefore direct measurement of tonnage is possible. Inert landfills generally do not have a weighbridges consequently generic conversion factors (from cubic metres to tonnes have been used).

Key issue: Understand the meta data and clearly identify assumptions and confidence rating.

Example: Municipal Recycling Scheme (MRS) / Resource Recovery Rebate Scheme (RRRS)
The Resource Recovery Rebate Scheme (RRRS), replaced the Municipal Recycling Scheme in 2001 and allowed Local Governments and Regional Councils to claim a rebate for material they can demonstrate has been reused, recovered or recycled. The RRRS was funded through the Landfill Levy and was administered by the Municipal Waste Advisory Council on behalf of the Waste Management Board. The outcome of the Scheme was robust, verified data on the amount of material collected and recovered by Local Government.

Example: National Packaging Covenant – Data issues

Controversy and uncertainty around the data for the National Packaging Covenant has shown the difficulty in gaining a clear picture of material flow (into and out of the country and to landfill and recycling). The Covenant has now reached a point where there is some certainty around the accuracy of the data and there have been several revisions of the data. The Covenant Council commissioned a report by an independent Report to look at the data on recycling and recovery – this caused the initial baseline recycling data to be revised from 48% to 40% (NPC, 2008) This illustrated the need to fully understand the data, in relation to content and areas of uncertainty.

Targets

Experience from other States and Federal Programs would indicate that targets focus the activity, therefore need to be carefully considered and quantified. If there is a mix of qualitative and quantitative targets frequently the qualitative will be neglected because they cannot be measured easily. Targets also need to be outcome focused, not prescriptive (what we want to achieve, not necessarily how). This will allow for innovation and different approaches to be used which best suit the local area.

Key issue: Outcome rather than prescriptive targets.

Key issue: Targets should focus on actions rather than just planning.

For Targets to be effective measures of progress, they need to measure both absolute figures and sector specific information. The aim being to ensure the performance measure we put in place is accurate irrespective of economic growth/downturn. For example, for the measurement of increase/decrease of material to landfill (by Category) both the absolute tonnage and an appropriate sector specific measure are needed. This ensures that the measurement tool is buffered against economic fluctuation. Measure could be MSW tonnage to landfill per household or C&D plotted against number of planning approvals.

Key issue: Quantitative targets (with overall and sector specific measures).

The responsibility and accountability for achieving the different targets needs to be clearly identified. Section 34 of the WARR Act gives the CEO of the DEC power to:

> *Power to request report on waste strategy compliance*
> *(1) The CEO may request any entity to provide a report on —*
> *(a) its compliance with the waste strategy; or*
> *(b) the reasons for any specified non-compliance by that entity with the waste strategy.*

Key issue: Clear accountability for failure to meet targets.

Example: National Packaging Covenant – Action Plans as Targets

An example of one kind of target, which has been less than effective, is the National Packaging Covenant action plans target – the measure is that a signatory has an Action Plan. These is no measurement of whether the Plan is being implemented or how effective it is. The mid term review of the NPC noted that "there is very little evidence of continuous improvement in the management of packaging because of the generally poor level of reporting in action plans and annual reports" (NPC, 2008).

3 Function, effectiveness and efficiency of current systems

3.1 Local Government service delivery

Local Government provides a range of services in the waste management area, the services can be broadly classified into collection, processing, disposal and education. In this Submission, each area of service is outlined, with a few examples given. In considering the different elements of the waste management service provided, it is important to understand the integration between the different types of service that a Local Government offers. Local Governments' own activities also generate significant material to be recycled, recovered, reused or disposed of.

Key issue: Local Governments may have varying systems, but all provide an invaluable service to their residents. The services complement each other and cannot be considered in isolation.

2.3 Local Government service delivery – Summary

Local Government provides a range of waste and recycling service to their local communities. The services are adapted to suit the needs of the community and reflect affective service deliver for their particular context. Services offered complement each other and cannot be considered in isolation. For example kerbside, works with vergeside and drop off options.

Key issue: Waste management services and considerations will vary between Local Governments due to different demographic, geographical and economic constraints and considerations.

Collection

Local Government provides various collection services and drop off points for material (for the purposes of this Submission termed 'collection'). The collection services sometimes vary between Local Governments reflecting the different priorities and needs of that local community. In some Local Government areas the service is provided by a contractor, in others the Local Government, Regional Council or other Local Government undertakes the collection. All Local Governments in the Metropolitan area have a kerbside waste and recycling service.

Example: Waste and recycling collection from kerbside – City of Joondalup

Number of households: 55,000

Area (sq km): 99

Service: City of Joondalup provides residents with a 240L waste MGB (weekly service) and recently introduced a 240L MGB for Recycling (fortnightly service). The City of Joondalup contracts its domestic waste and recycling collection service to the City of Wanneroo. The City of Joondalup is also part of the Mindarie Regional Council and through it will have access to an Alternative Waste Treatment facility.

Example: Vergeside collections – City of Stirling

Number of households: 88,575

Area (sq km): 100

To complement the one bin recycling and resource recovery MGB service provided to residents and the Balcatta Transfer Station, the City of Stirling also provides vergeside collection of material per year. This includes 2 household junk and 2 greenwaste collections. The City of Stirling requests that householders separate plastics and scrap metal so these materials can be collected and recycled.

Example: Household Hazardous Waste collection point – Mindarie Regional Council
Member Councils: City of Wanneroo, City of Joondalup and City of Swan
Regional population: 500,000
Area (sq km): 953.10
At the Tamala Park Landfill site a HHW collection point is located. This allows residents to drop off quantities of Household Hazardous Waste such as paint, pesticides etc.

Processing

Local Government undertakes processing of some of the material it collects; processing in this context includes examples of both sorting and reprocessing.

Example: Greenwaste - City of Joondalup

The City of Joondalup undertakes greenwaste processing. Greenwaste collected from residents is collected, shredded, mulched and made available for sale to the public or used on the City's parks and gardens. The greenwaste processing facility is open to the public and residents have 4 free entry vouchers to collect mulched greenwaste (City of Joondalup, undated).

Example: Municipal Solid Waste - Western Metropolitan Regional Council
Member Councils: Town of Claremont, Cottesloe, Mosman Park, Shire of Peppermint Grove and City of Subiaco.
Regional Population: 42,697
Area (sq km): 21.8
WMRC has formalised an agreement with AnaeCo to construct and demonstrate a commercial-scale single vessel DiCOM® Plant at the Brockway Waste Transfer Station. The demonstration plant will include a waste sorting and preparation facility and a single DiCOM® biological processing vessel, including associated ancillary equipment. The plant will be located immediately adjacent to the existing Transfer Station building. WMRC and AnaeCo have entered into an additional agreement that enables, upon successful commissioning to pre-agreed performance criteria, the expansion of the Stage 1 plant.

The Stage 1 Plant is designed so it can be progressively ramped up to 55,000tpa processing capacity through the construction of two additional DiCOM® process vessels, and enhancement of the MSW sorting facility. Total land area to be occupied by the 55,000tpa plant, adjacent to the existing Transfer Station building, is around 2000m2. The project will be a powerful demonstration of the potential that the DiCOM® technology presents in the municipal waste processing sector as it will, for the first time in Australia, allow for the retrofitting of existing Transfer Stations with MSW processing technology. (WMRC, 2006).


WMRC Facility

Example: Materials Recovery Facility - Southern Metropolitan Regional Council

Member Councils: Cities of Canning, Cockburn, Town of East Fremantle, Fremantle, Kwinana, City of Melville and Rockingham

Regional Population: 389,051

Area (sq km): 666.2

The SMRC owns and operates a state-of-the-art Material Recovery Facility (MRF). This facility sorts all plastics, glass, paper, cardboard, aluminium and steel products, they are then separated and baled.

The features of this process are:

- Co-mingled Recyclables

Starting in the home, residents place all recyclables and non compostable material in the yellow-topped bin. These materials are known as 'co-mingled recyclables' and are collected by the SMRC's member councils for delivery to the MRF for processing. At the MRF, trucks unload the co-mingled recyclables onto the tipping floor. A loader then scoops up the co-mingled recyclables and places them on a large slow moving conveyor belt, which distributes the material for inspection and separation.

- Quality Control

At a number of points in process, SMRC staff examine the co-mingled recyclables to remove all non recyclable material. Maintaining the quality of the final product is vital to the success of the MRF.

- Paper Sort and Separation

Through the combined work of automated machines and SMRC staff, all paper products are removed from the co-mingled recyclables. The paper is then further sorted into newspaper, cardboard and ordinary paper. The sorted paper is stored in large bunkers prior to being sent to the baler.

- Plastics, Metal and Glass Sorting

One of the final steps is for the plastics, metal and glass to be separated, using high-tech optical sorters; the first of their kind in Western Australia. The electronic computer's controlled eyes scan a fast moving conveyor belt looking for type 2 plastics (white opaque plastic used in milk and juice bottles), type 1 plastics (clear cool drink bottles) and all other mixed plastics. Other machines are used to create electronic fields which repel aluminium and steel containers. Glass is crushed and primed for local use.

- Balers

Once sorted and separated from the co-mingled recyclables, the paper, newspaper, cardboard, steel, aluminium and a variety of plastics are transported along conveyor belts to be baled. These baled recycled materials are then used locally, interstate and overseas to make new products; consequently saving energy, resources and greenhouse gases.

(SMRC, 2009)

Example: Wood waste recycling - Eastern Metropolitan Regional Council
Member Councils: Town of Bassendean, City of Bayswater, City of Belmont, Shires of Kalamunda, Mundaring and City of Swan.
Regional Population: 300,000
Area (sq km): 2,100
Service provided: Wood waste recycling facility.
Operations on the site currently involve the recycling of untreated softwoods such as pallets, into a range of products (as sought by the market):

- Wood chip for particle board manufacture;
- Wood fines for animal bedding (particularly in the poultry industry); and
- Coloured mulch for landscaping.

The timber recycling concept developed from a pilot scale project conducted by the Laminex Group together with a pre-feasibility conducted by the City of Swan, and has been accompanied by strong support from our member Councils, the Laminex Group, and the poultry industry.

Since no member Council generates significant quantities of wood waste, the target market for Hazelmere is industry, and the purpose is to avoid the timber being disposed of to Red Hill landfill, and to reduce waste disposal costs for industry. The facility has been successful in both of these objectives, having recovered 3,300 tonnes to mid December 2008, saving waste generators up to $35.00 per tonne of timber received.

The benefit to our member Councils is that it enables them to support their local industries, and the City of Swan has been particularly active in its support of the facility by providing wood waste collections through its industrial areas. The reduced cost of waste disposal improves the financial resilience of local industries and local employment.

Hazelmere is in the process of expanding to also receive hardwoods, with the hardwoods to be used for solid fuel as well as woodfines for animal bedding. In all cases, it has not brought on new products until markets are available. This practice is relatively uncommon in the waste industry, where new waste processing capacity is often developed before markets for the processed product are secured.

A further activity being developed is a mattress recycling plant, where springs, foam and fabric are separated from mattresses for recycling (where possible). In particular, foam is a valuable commodity with markets already secured. This programme is driven largely by the potential to save on landfill; mattresses consume substantial volume within the landfill.

In the future, Hazelmere is intended to become an integrated Resource Recovery Park (RRP), with an initial concept plan developed for the RRP. The RRP will include the current timber and mattress recycling as well additional resource recovery. This is currently envisaged to include a Materials Recovery Facility, transfer station for the public, reuse shop, glass beneficiation, education centre and space for commercial developments associated with waste processing.

Disposal

Despite the best efforts of Local Government, landfill is likely to remain a part of our waste management needs for a substantial time to come. There are a number of well managed, Local Government run landfills in WA.

Example: Landfill – Shire of Yalgoo
Number of households: 129
Area (sq km): 33,257.9
The Shire of Yalgoo has raised the issue that many remote areas, such as Yalgoo, simply do not have the resource or opportunities of even agricultural Councils, to do many things. For instance, recycling activities, regional co-operation, regional tips etc, vary between difficult to impossible. The Shire of Yalgoo is 125 km from the next nearest town, with a population of 130, and with over 33,000 sq. km for the other 130-140 people in the Shire, landfill is likely to always be the quickest, cheapest, most accessible, form of refuse disposal. Any legislative requirement under the WARR Act or anything else, needs to consider that anything other than landfill is going to be expensive for small Local Governments.

Example: Landfill – Shire of Gingin
Number of households: 3,628
Area (sq km): 3,325
The Shire of Gingin currently has 4 unstaffed landfill sites. The Shire is intending to move to 3 transfers stations (for use by the general public) and one landfill (not accessible by the general public). The Shire conducted a survey of people dropping off material at the current landfill sites and found that some were from the metropolitan area – avoiding paying the landfill levy (and general tipping fees) by dumping material in the Shires landfill.

Example: Red Hill - Eastern Metropolitan Regional Council
Red Hill is situated about 30 km from the Perth CBD, and includes one of Perth's largest landfills with dedicated cells for putrescible waste and contaminated soil, a green waste processing facility and a transfer station where recyclables are aggregated and sent on to material processors. Red Hill is Western Australia's sole Class IV landfill.

Red Hill is run as a commercial operation, and competes strongly in the market for commercial waste. The EMRC has purchased land on the "open market" to ensure that the buffer areas cannot be developed and has the appropriate zoning and licences to operate for several decades, if necessary, at the current waste receival rates.

The landfill is run as a Best Practice facility, with composite lined cells, leachate collection, gas collection for power generation and progressive site rehabilitation. The EMRC continues to improve its operations, with improvement being driven internally and by community liaison meetings held bi-monthly at Red Hill. Some of the improvements that have been implemented in the last two years are:

- Relining of three leachate ponds, replacing damaged plastic liners or clay liners with new plastic liners;
- Upgrade of truck wheel wash to further reduce dirt deposition onto Toodyay Road;
- Introduction of more aggressive landfill gas collection systems to reduce odour in the surrounding areas;
- Development of an odour monitoring programme;
- Noise baffles on the landfill gas power plant to reduce night time noise disturbance;
- Ecological investigations into the management of high populations of ibis and kangaroos on site, with the resulting development of ibis and kangaroo management plans; and
- Extensive investigations into groundwater contamination

None of these improvements were driven by regulatory requirements, but were instead implemented as part of the EMRC's long term view on site operations. Indeed, Red Hill receives very few residential complaints, no non-compliance notices from the Department of Environment and Conservation (DEC), and takes considerable trouble to report any environmental aspects to the DEC as they occur (including landfill fires, groundwater contamination and non-compliant loads).

The EMRC has developed a rigorous procedure for the acceptance of Class III and Class IV waste, a procedure far in excess of that demanded by the DEC. This is again to mitigate risks to the EMRC from non-compliant loads, although it does place the EMRC at a substantial commercial disadvantage against operators that have less robust procedures and a general disinterest in the long term fate of potential contamination from their site.

Education

The WA Local Government Association has developed a Policy Statement on Waste Management Education. The Policy Statement provides clear identification of the roles and responsibilities of Local, State and Federal Governments with regard to Waste Education, and clarifies what other roles Local Government has in terms of Waste Management Education (Appendix 8).

All stakeholders have a role in education with regard to waste management, the Policy Statement defines the roles of Local, State and Federal Governments as:

Local Government – 'behavioural change' including informing the community about waste and recycling services available; the appropriate types of waste that can/cannot be recycled; leading by example with an active role in recycling and Waste Management Education programs; and facilitating active community participation and support, achieves waste diversion from landfill.

State/Federal Government - `attitudinal change' including improving the perception of the overall environmental benefits associated with waste avoidance and recycling; leading by example with active roles in Waste Management Education programs; providing assistance, through funding for Waste Management Education programs; creating Waste Management Education and recycling programs that can be utilised cooperatively between Local and State Governments; promoting community awareness of the environmental impacts of waste; and providing appropriate strategies for the community, to minimise their waste impacts.

Key issue: there needs to be clear defining roles and responsibilities of Local, State and Federal Governments with regard to Waste Education.

Example: Earth Carers - Western Metropolitan Regional Council and Mindarie Regional Council

The Western Metropolitan and Mindarie Regional Councils both have a public involvement program called Earth Carers. Earth Carers educate and support the community to adopt more environmentally sustainable behaviours by reducing waste and conserving resources. Aiming to reduce the amount of waste going to landfill by providing free information and training on a range of topics including recycling, composting, worm farming, energy efficiency and water saving. (WMRC,2006)

The Program encourages members of the community to become involved in the Program and then further educate other members of the community.

Waste Education at a state level has been severely lacking. Local Government has been providing comprehensive education on waste management. To ensure complementary messages are put forward by both State and Local Government, a cooperative approach is necessary. To that end an informal group of

waste educators from State and Local Government have discussed State Government messaging. Some of the points identified were, the need to provide examples of how material was recycled, to build public confidence that the material they recycled was recycled and to highlight that there are many ways to recycle throughout the state.

Key issue: State Government funding for Statewide waste education program needed.

Local Government activities

Local Government shows leadership through its own activities. As both a service provider and purchaser, sustainable practices are necessary.

Example: Material into Road Construction – City of Canning

Number of households: 30,110
Area (sq km): 65.4
The City of Canning undertook a demonstration project to show that recycled construction & demolition waste could be used in road construction. On parts of Welshpool Road, the City incorporated:

- 250mm commingled recycled sub-base with 150mm new roadbase;
- 400mm commingled recycled base;
- 250mm 50mm commingled recycled sub-base with 150mm recycled concrete only base;
- 400mm recycled concrete only base

They found that, there were environmental and economic benefits to the use of this material. Benefits included:

- Environmental (reduced drain on new resources, reduced habitat destruction, energy savings in processing, reduced landfill area, reduced fuel usage by back loading); and
- Economic (savings in material costs, savings in fuel costs and vehicle costs, reduced road wear)

The conclusion was that recycled materials can be successfully used in road construction, there are considerable environmental and economic benefits in using recycled materials, recycled materials can be used with confidence as a base in light traffic roads and sub-base in heavy traffic roads and recycled materials are likely to be suitable as a base in heavy trafficked roads. (Leek, 2008)

Example: WALGA Purchasing & Tender Guidelines

The Association is currently developing a set of guidelines to assist Local Government in creating and implementing appropriate sustainable procurement policies and processes. The guidelines will be embedded in the Local Government Purchasing and Tender Guide. The purpose of the guidelines is to assist Local Governments to implement sustainable procurement through all facets of Local Governments business and to encourage a consideration of the long term benefits of 'life cycle costing' for products and services. This supports the Towards Zero Waste Framework.
The adoption of sustainable procurement will result in significant benefits to Local Government, including:

- Saving money through improvements in resource efficiency (i.e. reduced energy, water and waste disposal costs);
- Helping meet Triple Bottom Line targets and objectives thus increasing community confidence;
- Reducing environmental impacts generated by the public sector, including
    - Reducing consumption of scarce or valued resources (water, energy);
    - Reducing waste to landfill;

- Reducing human and environmental pollution;

- Showing strong environmental leadership to industry and community;
- Encouraging industry adoption of cleaner technologies and improved corporate social responsibility through unified sustainability standards requirements;
- Enhancing market development for sustainable technologies through stimulated demand;
- Stimulating an environment of investment confidence in further research and development for sustainable technologies; and
- Stimulating local production.

Local Governments have a variety of service providers, with a range of different technology; the outcome is different levels of efficiency between systems. These arrangements involve long term contracts with service providers (in order to justify the significant investment) waste management technologies may have changed since the initial contract was signed.

Key issue: Efficiencies will vary between Local Governments.

3.2 Measuring efficiency

Currently there are limited measures of effectiveness and efficiency for the systems in place. Recovery rate is one measure of the efficiency of a system, however it should not be taken in isolation. For kerbside recycling systems, the DEC in conjunction with WALGA, has been developing a Kerbside Decision Making Tool which identifies environmental, social and economic measures to assist Local Government with assessing current systems. Efficiency of Local Government service needs to be measured across all services provided.

3.2 Measuring Efficiency – Summary
Measuring efficiency needs to be done across all service types, as the various services offered by Local Government complement each other rather than acting in isolation.

Key issue: Efficiency of service should be measured across all systems and include social, environmental and economic considerations.

Example: Kerbside Decision Making Tool
The Department of Environment and Conservation (DEC), in consultation with WALGA, developed a draft Kerbside Collection Decision Making Tool for discussion. The Paper included three areas, identification of Local Government decision making process, outcomes for kerbside systems (environmental, social and economic) and various kerbside collection service model options. The Tool is designed to assist decision makers in understanding what is being achieved at the best practice level in kerbside systems using environmental, social and economic outcomes.

Discussions between the DEC and the Association established a preference that the Kerbside Collection Systems Decision Making Tool be outcome-based guidance rather than a prescriptive approach. That is, the adoption of a particular kerbside collection system will not be mandated instead, desired outcomes for kerbside collection systems will be identified.

The Tool identifies appropriate kerbside collection outcomes for Local Government to work toward as well as examples of different kerbside collection systems to assist in achieving the outcomes. The purpose of having outcomes to work toward rather than mandating a particular system is to provide Local Governments

with independence and flexibility when determining which option is most suited to their circumstances.

A number of different factors are acting as drives for Local and State Governments in the identification of best practice targets for kerbside collections, these include:

- Current systems achieving inconsistent and below optimal performance outcomes;
- State and Local Government commitment to the National Packaging Covenant;
- Requirements of Waste Avoidance and Resource Recovery (WARR) Act 2007; and
- Identifying State funding priorities for Strategic Waste Management programs.

The Kerbside Collection Systems Decision Making Tool identifies outcomes for Environmental, Social and Economic categories. These include both easily measurable outcomes such as yield and cost, and less readily measurable targets such as greenhouse gas reduction.

The Tool also identifies benchmarks for Metropolitan, Regional Centres and Small Rural/Remote Local Governments. The benchmarks represent outcomes that are being achieved by Local Governments operating systems at a high level of efficiency (respective of their regional circumstances). WALGA undertook a survey of Local Governments to identify views on outcomes based and prescriptive based kerbside collection systems, as well as obtain information regarding recycling services currently provided by Local Government.

The survey provided some positive results that benchmarks were achievable and that many advanced targets across the three areas of environmental, social and economic factors were achievable in 3 to 5 years.

51 Local Governments responded to the survey, 22 Metropolitan, 8 Regional Centres and 21 Rural/Remote Local Governments. Of these, 77.1% indicated they would support an outcomes based approach to assessing kerbside recycling systems. For those who selected outcomes based approach, they were asked to nominate what additional tools would be useful (if any), to achieve outcomes, respondents were able to select more than one option.
Responses included:

- 78.4% indicated that examples of high performance kerbside systems with documented case studies would be useful;
- 75.7% indicated that suggestions for kerbside system templates would be useful;
- 67.6% indicated WALGA/DEC assistance would be useful; and
- 43.2% indicated additional internal capacity (including additional staffing) would be useful.

100% of respondents agreed with the triple bottom line approach of environment, social and economic measures. Many Local Governments indicated that cheaper recycling services would be dependant upon contractor prices, many have existing long-term contracts for recyclable collections which cannot be altered. The majority of Local Governments indicated they supported and could achieve the benchmarks set within the tool, however, there appears to be no consistent methodology used for assessing the 'cost of a waste service'. Some of the main factors inhibiting performance included:

- Environment
  - the need to introduce recycling and infrastructure to remote areas;
  - lack of education to promote/increase recycling;
  - lack of markets; and
  - better access to recycling facilities needed
- Social
  - MGB's only provided to town sites and special rural properties;
  - Needs a targeted education/marketing program; and
  - Lack of education regarding what can/cannot be recycled

- Economic
  - Increasing costs for fuel, labour and infrastructure keeping collection fees high;
  - Lack of constant methodology for assessing cost of waste services;
  - Long-term fixed recycling contracts with set prices per bin collection; and
  - Market price fluctuations control commodities prices.

Local Governments identified some difficulty in measurement of the various outcomes. There was very strong support for a life cycle analysis tool to measure the Carbon Footprint of a service, as the majority of Local Governments indicated they would not be able to measure this currently. The development and use of a simple life cycle analysis tool would enable Local Government to measure the carbon footprint of different collections systems.

4 Role of Regional Council

4.1 Regional Councils in WA

Most of the Regional Councils (Regional Local Governments) in WA were formed around providing a regional waste management service. However, the benefits of regional service delivery mean that frequently Regional Councils have expanded their activities to other areas.

4.1 Regional Councils in WA – Summary

Most Regional Councils were founded to undertake waste management activities however, their scope has broadened.

Example: Metropolitan - Eastern Metropolitan Regional Council

When EMRC was constituted in November 1983, our original function was to provide waste management and disposal services.

Since then EMRC has grown significantly and now, in partnership with the member Councils, provides a varied yet interrelated range of services designed to enhance the region, maximise its numerous natural features, and provide the highest possible quality of life for the people who live in or visit it.

The Council works alongside a workforce of approximately 70 skilled and dedicated employees who work across three divisions, delivering a number of services:

- Waste Management;
- Environmental Services;
- Regional Development;
- Risk Management;
- Resource Recovery; and
- Corporate Services/Governance.

(EMRC, undated)

Example: Non-Metropolitan – Pilbara Regional Council
Member Councils: Shires of Ashburton, East Pilbara and Roebourne and Town of Port Hedland
Regional Population: more than 41,000
Area (sq km): 511,220

The Pilbara Regional Council (PRC) was formally established under the Western Australian Local Government Act 1995, in May 2000, to assist Councils in the coordination of resource sharing and common issues and to:

- assess the possibilities and methodology of facilitating, and to identify funding opportunities for, a range of services on a Pilbara regional basis;
- undertake, manage and facilitate services identified from above;
- influence and liaise with Local, State and Federal Governments in the development of policies and legislation which are of benefit to the Pilbara region; and
- provide administrative services to the Participant Councils in connection with their membership of the Western Australia Local Government Association (WALGA).

(Pilbara Regional Council, undated)

4.2 Systemic Sustainability Study

4.2 Systemic Sustainability Study – Summary

The SSS provides an approach to improve the viability of Local Governments in WA through focusing on a governance model that integrates effective service delivery with appropriate political representation.

The beginnings of these processes can be dated from 2004 when, as part of the lead-up to the 2005 State Election both major political parties made statements heralding the future reform of the Local Government Sector. This resulted in a 2004 AGM motion requesting the WA Local Government Association (WALGA) to conduct a Structural Reform forum. The consequent forum, held in November 2005, featured former Victorian Premier Jeff Kennett sharing his amalgamation experience and Professor Brian Dollery of New England University, who presented a number of versions of 'cooperative regionalism' which were positively received by the audience.

The Northern Country Zone of WALGA held its AGM/Conference in March 2005 on the theme 'Amalgamate, Cooperate or Disintegrate'. The 2005 WALGA AGM passed a resolution for WALGA to lead the development of a framework that would assist individual Councils to review, debate and consider the future sustainability of Local Government and to ensure the framework encompassed the assessment of economic and social capabilities and capacities of individual communities and regions. In late 2005 WALGA appointed a three-member panel chaired by Professor Greg Craven, then of Curtin University of Technology, to research and investigate the sustainability of Local Government in Western Australia.

This Systemic Sustainability Study Panel (the SSS Panel) commissioned a report by Access Economics, Local Government Finances in Western Australia (June 2006). Based on this analysis and from its extensive consultation with Local Government representatives from throughout WA, the Panel framed 41 Recommendations for further action. The Association formed a Taskforce of its State Council to oversee the process. This Taskforce resolved to carry forward the SSS Panel recommendations. In Your Hands the SSS Panel Report) was released in December 2006 and referred to an industry forum, held in April 2007 for further input. The WALGA Taskforce then convened five Working Parties made up of Councillors and senior Local Government managers from across the State.

These Working Parties addressed the following themes from the SSS Panel Report:

- leadership for change;
- finance;
- revenue;
- services; and
- capability.

The working parties concluded their investigations and reported to the WALGA Taskforce in December 2007 and January 2008. This Final Paper *The Journey: Sustainability into the Future (the Plan)* is constructed around the outputs of these working parties, with Sections dealing with each of the identified themes. It arises in a particular context. In all other States of Australia (and in New Zealand) there has been externally imposed reform of Local Government. In Australia, this reform has been driven by State Governments. The common characteristic in all cases has been amalgamation of Local Governments to generate greater efficiency through the creation of economies of scale.

The five working parties of the Taskforce achieved high levels of agreement around the direction for reform in Local Government. In July 2007 a workshop consisting of the WALGA Executive Team and working party members was convened to establish a level of alignment between the frameworks emerging in their respective areas. The result of the discussion was a Vision Statement to guide the continuing efforts of the working parties:

> *"Local Government will implement and maintain a governance model that integrates effective service delivery with appropriate political representation."*

The Vision was based on the outcome of consultations to that point which had been reported in the SSS Panel Report, confirmed at the April 2007 Forum, and repeatedly expressed in the course of the working parties' efforts. The firmly held view, based on this combined effort, was that the core strength of Local Government lies in its representational base for the aspirations and expectations of local communities.

While for numerous and pressing reasons reform was absolutely necessary, measures which sacrificed this strength should not be advocated. This conviction, based as it is on a combination of evidence and opinion, has led to the proposal for a major shift in the functional arrangements for delivery of services by Local Government.

Overview of Key Issues

Each of the Sections of this Plan explores the implications of failing to undertake decisive reform built around a combination of local, regional and state-wide service platforms. A key driver for this shift is the recognition of the increasing difficulties faced by Local Governments in securing the numerous skills sets, many of them required as a prerequisite for delivery of services and functions stipulated by law as the responsibility of Local Government as a sector. This dynamic and the internal and external pressures of an increasingly competitive labour market in WA were matters focused upon by the SSS Panel in its report. The Capability Section addresses these drivers for change.

Associated with the capability issues confronting the sector are the mounting pressures surrounding service expectations in the communities to which Local Governments owe primary loyalty. Arising from a variety of sources, Local Governments are under increasing pressure to improve the quality of existing services and to assume responsibility for an increasing range of services into the future. These pressures are evidenced by the extraordinary efforts of individual Local Governments to respond to their communities' needs for services as diverse as primary health care to telecommunications, none of which lie within the traditional range of services delegated to Local Government.

Of central importance to the capacity of Local Government to meet its obligations for delivery of a wide range of services of high quality is the all important matter of resourcing. At the core of this discussion is the revenue raising capacity of the sector. These include:

- enhanced capacity for Local Governments to create trading entities to generate income from service delivery;
- adoption of best practice models for rate setting and the fixing of fees and charges;
- new best practice for the setting of development charges; and
- increased use of prudentially managed debt as a means to address appropriate issues such as replacement and renewal of community infrastructure.

These recommendations are closely linked with a range of measures discussed in the Finance Section, for example:

- sector wide adoption of long term financial plans; and
- markedly improved standards of infrastructure and asset management.

The achievement of change will entail significant ongoing leadership highlighted in the Leadership Section of the Plan. The Plan documents Local Government's preferred way forward and the proposals should be taken as clear statements of intent.

Achievement of reform will only occur with genuine commitment by Local Governments to properly support and strategically engage with the changes. Many of the recommendations in this paper entail amendment to the Local Government Act 1995 and Regulations. To assist Local Governments in confronting the challenges posed in the Plan a Sustainability Checklist has been developed.

A hidden feature of external intervention by State Governments to force structural change, usually through amalgamations of Local Governments, is its distraction value. The focus is upon Local Government but rarely upon the deficiencies in planning and funding of services by the State and Commonwealth Governments and the private sector. Repeatedly in this paper the fiscal imbalance impacting upon Local Government and associated increasing cost transfers and service demands are raised as key issues requiring debate and resolution.

Local Government needs a greater share of national taxation revenue in order to fulfil its infrastructure and service delivery obligations into the future. This need arises as a result of:

- the historical cost shifting of the other spheres of government to Local Government (documented by the Hawker Inquiry and assessed at up to $1 billion) ;
- the relative decline in the value of Financial Assistance Grants as a proportion of national taxation revenue net of GST (from 1.01% in 1995/96 to 0.71% at present, as revealed in the ALGA Federal Budget submission 2008-09); and
- the magnitude of the national infrastructure renewal task, (currently estimated at over $1.4 billion annually by the ALGA).

While awareness of the dollar magnitude of these challenges is relatively recent information, Local Governments have been aware of the situation in a general sense for many years, and the State Local Government Associations and the Australian Local Government Association (ALGA) have been pressing the case for more funding from State and Commonwealth governments, virtually from the time that Financial Assistance Grants (FAGs) were first introduced. Why then have FAGs gone backwards? The answer is never as simple as the problem, but there are three main observations that can be made and they both relate to the political will of Commonwealth Governments to invest in Local Government.

Firstly, they are subject to random indexing decisions by the Commonwealth and are not based on a particular methodology. This leaves the grants system subject to the budgeting and political nuances of the government of the day.

Secondly, in the strategic game of Commonwealth-State relations, Local Government is not an official player. The Australian Constitution is the means by which the Commonwealth is created and it is the tool by which the sovereign States give powers to the Commonwealth Government to exercise in the national interest. There is no acknowledged role for Local Government in the Constitution, and the Commonwealth Government has only been able to influence Local Government through its 'grants' powers. This often creates angst with the States and reduces Local Government to a bit player on the national stage and something of 'the meat in the sandwich' in the complex interplay between State and Commonwealth governments for control over policy outcomes.

Thirdly, there is a reluctance by Commonwealth (and State) Governments to invest generally in Local Government in terms of access to a greater share of general financial appropriations, largely out of an apparent desire for more managed political outcomes and a persisting concern about the efficiency of the sector.

Certainly, Commonwealth funding is changing. New funding is coming to the sector in the form of programs like Roads to Recovery and the proposed Community Infrastructure Fund – not through expanded FAGs allocations. Whilst additional funding is always welcomed by the sector, tied funding links financial assistance to Federal policy objectives and removes the capacity for Local Governments to utilise those funds for their discretionary expenditure.

What does this mean for Local Government?
Two things:

- it underlines the importance of the push for Constitutional recognition, to give legitimacy to Local Government in the federal operating context; and
- it demands that Local Governments improve their operations to 'best practice' levels to encourage the other spheres of government to see Local Government as a desirable investment vehicle and partner in strategic decisions.

So the development of The Journey is not just a defence mechanism against State imposed reform and forced amalgamations. It is very much an optimistic and positive approach to creating a Local Government operating environment which:

- sees Local Government playing a valid and important role in the federation;
- makes Local Government an attractive investment vehicle for the State and Commonwealth Governments, so that the appropriate proportion of the national tax take flows to Local Government; and
- ultimately gives the communities served by Local Government the best outcome.

Forced amalgamation processes become useful distractions for those interested in avoiding the underlying chronic funding deficiencies which lie at the heart of the existing sustainability issues for Local Government.
The Plan is crafted to require those issues to be addressed by:

- increasing the legitimacy and recognition of the role of Local Government;
- improving the capability of Local Government to play a more effective role; and
- maintaining focus on the core issues.

Local Government must take the initiative of reform in order to bring the other spheres of government to the realisation that they are missing opportunities by not embracing the sector more fully within the federation.
The interstate experience of other Local Government jurisdictions should be enough motivation for WA Local Governments to pursue the voluntary path. There is no shortage of examples of State Governments acting to reform their Local Government sectors in the absence of timely, sector led change.

Regional Service Delivery Options

The Regional concept needs to be viewed as a process and not a structure. The intent of the Regional Model was to point the way to voluntary co-operation by a group of like-minded Councils. The participants in a regional group are self selecting, and the range of activity of the region is determined by whatever the parties can agree to.

The range of options for implementation of the Regional concept around shared services platforms, including but not limited to:

- Voluntary Regional Councils
- Formal Regional Councils
- Local Government trading entities
- Single Local Government as the regional service provider
- Private sector provider/contractor
- State-wide managed preferred supplier or service.

In some instances, cooperation will be formalised through the creation of Regional Organisations constituted under the Local Government Act 1995. In others, it will be the subject of voluntary arrangements between Local Governments with lesser levels of formality. Elsewhere in the Plan, new mechanisms for cooperation are raised and explored (e.g. commercial trading entities).

The intention of the Plan is to encourage the exploration of more regionally defined processes and platforms for the planning, delivery and funding of the functions and services offered by participating Local Governments. The accountability of those Local Governments to their constituents may remain unchanged. The specifics of the arrangements and the methods for their delivery are not pre-empted. In large part the Plan seeks to make available greater levels of flexibility and an increased range of options by which these outcomes can be achieved. The purpose is not to limit but rather to enable Local Government to address sustainability issues in their local context.

5 Role of Waste Authority in Municipal Waste Management

This section speaks both to the WALGA Policy Position regarding suitable waste management governance and to the current situation. Sections 5.1 highlights the need for a separate waste agency and provide a framework for operation and the need to separate regulatory and policy function. The further sections discuss current needs regarding governance arrangements and include some of the successful programs put in place by the current Waste Authority.

5.1 Separate Waste Agency

5.1 Separate Waste Agency - Summary

The WALGA Policy Statement on Waste Management Legislation outlines the need for a separate Waste Agency.

In the WALGA Policy Statement on Waste Management Legislation (Appendix 3) the need for an independent Waste Agency is clearly identified. The role of the independent Waste Agency is to:

> *perform a number of roles of a collaborative, facilitative and/or strategic nature. The key roles of the Agency will be to develop, administer, monitor and review the State Waste Strategy and the Priority Waste List and to develop and implement an annual Business Plan.*

The Policy Statement further identifies that:

> *Local Government research suggests that a waste agency which is properly resourced but suitably independent from the regulatory machinery of government will be a cornerstone of a new structure for governmental engagement with waste issues. It is apparent to Local Government that collaborative and regulatory functions are poorly married with the one bureaucracy and that these*

functions must be separately vested. This will be important both in order to ensure the transparent management of funds and to attract private engagement with a collaborative agency. Furthermore, if there is to be a coordinated strategic waste planning framework it would be beneficial to have this drawn up by an agency which is independent from all the stakeholders – including other components of the machinery of government.

The WAste 2020 Strategy also identified the need to separate the policy and regulatory function for waste management. It should be noted that an independent Waste Agency is very different to the current operating conditions of the Waste Authority.

Key issue: Need for an independent Waste Agency.

Local Government contemplates that a wide range of non-regulatory or strategic functions would be carried out by the Independent Agency. At a minimum, Waste Management Legislation must require the Agency to discharge the following functions:

- Develop the State Waste Strategy
- Develop the Priority Waste List
- Develop an annual Business Plan which sets out, with costings, how the Independent Agency proposes to support the State Waste Strategy in a given year

In addition, Waste Management Legislation should enable the Independent Agency to perform the following functions:

- Provide, through the Business Plan, funding or in-kind support to assist stakeholders to achieve objectives of the State Waste Strategy;
- Provide facilitation, coordination and/or funding for industry self-regulation programs;
- Enter into partnership agreements with key stakeholders;
- Collaborate with producers on projects to promote cleaner production practices;
- Conduct research to advance waste management practices in line with the legislative and strategic objectives;
- Provide advice to the Minister including recommendations for new regulation or legislation (including regulation which may require collaboration with other government departments); and
- Audit the compliance of various government departments with the State Waste Strategy.

Key issue: Need for separation of regulatory and policy function.

Local Government has determined that there is a need and role for a coordinated Strategic Waste Planning framework. This would provide a strategic planning framework to facilitate mutually reinforcing actions across disparate sectors. The concept is illustrated below in Figure 5.1.

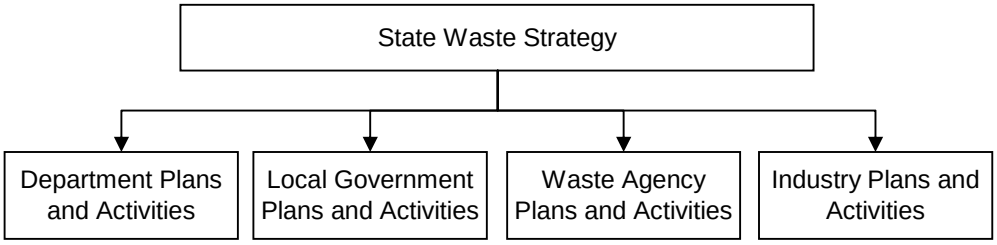

Figure 5.1: Conceptual diagram showing the relationship between the State Waste Strategy and the planning activities of key stakeholders

5.2 Expectations of current Waste Authority

5.2 Expectations of current Waste Authority - Summary

There needs to be clarity of relationship between DEC and the Waste Authority. Stakeholders have an expectation of accountability and transparency mechanisms for the Waste Authority.

The relationship between the current Waste Authority and the Department of Environment and Conservation is not clear in an operational context. The Service Level Agreement between DEC and the Waste Authority needs to be finalised and made public.

Key issue: clarify relationship between Waste Authority and DEC.

Accountability is also not firmly established. The Waste Authority is responsible for the development and implementation of the State Waste Strategy, but how accountability for this responsibility will function is not clear. Stakeholders have a clear expectation of transparency and accountability regarding the Waste Authority.

Key issue: identify accountability mechanisms for Waste Authority.

5.3 Examples of currently successful Waste Authority Programs

5.3 Examples of currently successful Waste Authority Programs - Summary

The Waste Authority (and Waste Management Board) put in place some vary successful Programs to ensure effective waste management in WA. These Programs deserve acknowledgement and ongoing support.

The current Waste Authority (and Waste Management Board before it) has put in place several effective Programs to address the waste being generated in the Municipal area.

Considerable funds currently sit in the Waste Avoidance and Resource Recovery Account; these funds need to be expended on activities identified. The Financial Position, as of June 30 2009, will sit at $26.9 Million available for projects (ZeroWaste, 2008).

One Program which requires additional support, given in the Example below, is the Household Hazardous Waste Program.

Key issue: Currently, inadequate funding is available to ensure the Program honours all components outlined in the original Program Agreement between the Department of Environment and Conservation and the Western Australian Local Government Association.

Example: Household Hazardous Waste Program

The Household Hazardous Waste (HHW) Program was announced by the Minister for the Environment, the Hon David Templeman, in August 2007. The Program, funded through the Waste Avoidance and Resource Recovery Levy, will assist in the capture and safe disposal of HHW. The Program is funded for three years, with up to $1 million available annually.

The HHW Program includes four main components:

- Funding for temporary collection days for the community to dispose of HHW, with $3000 allocated to the promotion of each day;
- Funding for disposal of material from permanent HHW drop off sites;
- Funding upgrades and new infrastructure for permanent HHW drop off sites; and
- Training for staff and software for permanent drop off sites.

Whilst the logistics of the program were being finalised, three pilot temporary collection days were conducted. Participating regional councils included;

- Mindarie on the 16th August
- Rivers Regional Council on the 6 September and
- Southern Metropolitan Regional Council on the 4th October.

Quotes for managing these days were obtained and Toxfree selected, based on cost and services, as the contractors to manage all collection days.

There is a strong correlation between the success of the pilot days and the amount of funds used for advertising. The pilot days highlighted the fact that inadequate funds were allocated in the advertising and promotion of the programs. Should the program be a success in the next two and a half years, and honour

all components of the program, more funds are required. Funds to date have been allocated for the collection of materials from a select few permanent facilities throughout the metropolitan region as well as three pilot collection days. Over the first seven months of the program, this has equated to $600,000. With ten collection days scheduled for the last two quarters of the first year, it is evident that the program will fall into a deficit with no consideration given to the establishment or upgrade of facilities, software or training of operators.

Current research into Alternative Waste Treatment Technology (AWT) in Western Australia is a direct result of the need to redefine the way municipal solid waste is treated in WA. Two Regional Councils in the state have established AWT facilities, both using the biological conversion technologies to convert the organic component of MSW into compost. Furthermore, three other Regional Councils in the metropolitan region have progressed through the planning phase to establish biological AWT. It is therefore estimated that within the next five years, all metropolitan Regional Councils will be actively converting organic MSW into a product for land application. This is another driver to ensure a comprehensive and well utilised HHW Program, which not only provides the community with the means to safely dispose of HHW, but to also communicate the dangers of HHW should it not be stored and disposed of correctly as well as alternatives in the market place. The WALGA Policy Statement on Household Hazardous Waste is included as Appendix 4.

Example: Strategic Partnership Funding

The Waste Authority (and Waste Management Board) identified the need to ensure that stakeholders had not only the chance, but capacity to provide input into the moving forward of the industry. To this end, the Strategic Partnership Funding arrangement was put in place. This is where key stakeholders are provided with funds to develop positions and provide input into government policy making and regulation. Stakeholders include WALGA and the Conservation Council.

Example: Strategic Waste Management Plans (SWMP)

Following the cessation of the Resource Recovery Rebate Scheme in June 2006, the Waste Management Board sought to develop new schemes to support local governments with their efforts in moving *Towards Zero Waste.* The Zero Waste Plan Development Scheme (Scheme) was one of a number of new schemes that aims to do this.

The two-phase Scheme has been designed to equitably distribute Waste Management and Recycling Account funds to all local governments in Western Australia to assist with:

- The completion of an online survey: Phase 1.
- The development of strategic waste management plans: Phase 2.

The Plans reflect the different demographic, geographical, social constitution and the current level of waste management service provided by each Local Government involved in the formulation of the Plan.

The outcome of this Program, was that the majority of Local Governments are developing SWMP, and working together in groupings of Councils or as Regional Councils.

6 Resource Recovery Technologies

This section covers both the technology currently operating in WA and the range of technologies available. For each technology there are a range of considerations, social, environmental and economic as to whether it is appropriate for the West Australian context.

6.1 Resource Recovery Technologies in WA

> 6.1 Resource Recovery Technologies in WA - Summary
>
> Organic waste makes up approximately 70% of the municipal wastes stream and WA has several Alternative Waste Treatment (AWT) plants which are successfully diverting this material from landfill.

Resource recovery technologies and alternative waste treatment directly affects Local Government, as it provides the means to assist in moving Towards Zero Waste. To assist Local Government, MWAC are preparing a research paper on alternative waste treatment technology. The reality of climate change and global warming is creating a shift in the business, industrial and commercial sectors leading to development and implementation of more sustainable practices. The waste sector is not outside of this shift and when coupled with the increasing pressure on land availability, alternatives to landfill are sought. Some Regional Councils have installed AWT technology for the treatment of municipal solid waste (MSW) for their region, however, with more regions investigating options, it has become apparent that there is a need for a state wide collective plan to accompany this planning. Decisions made on AWT today will have long term impacts and hence there is a need for a collaborative approach from industry, Local Government and State Government to relating to decisions and plans for AWT.

The WALGA *Background Paper Policy Statement on Standards For Recycled Organics Applied to Land*, December 2007 highlights the 2004 State Government Sustainability Strategy, which set a strategic direction for the staged reduction of waste being disposed to landfill and the *Towards Zero Waste 2020* vision. The Background Paper clearly outlines one of the principle issues that must be resolved if the State's Toward Zero Waste Vision is to be achieved, is the diversion of organics from landfill. The Background Paper further identifies that AWT can assist the waste sector achieve socially, commercially and environmentally sustainable options and ultimately reduce greenhouse gas emissions.

The organic component of the waste stream accounts for approximately 70 percent of municipal solid waste (MSW) collected through kerbside services in Western Australia. This equates to approximately 490,000 tonnes of waste annually; an amount which is increasing exponentially with the State's population growth. The vast majority of this waste has traditionally been disposed of in landfill; with only a small number of Local and Regional Government's currently undertaking diversion programs to recover the organic fraction of MSW.

Another significant source of organic waste collected by Local Governments is the source separated green-waste derived from verge-side collections and drop-off points at council facilities. In the 6-months from 1 July to 31 December 2005, approximately 40,000 tonnes of green-waste was recovered and diverted from landfill by councils. This figure is estimated to be increasing at an annual rate of close to 20 percent. However, it should be noted that the real figure for green-waste managed by Local Government is actually much higher, as the above figure only accounts for materials claimed by Local Governments under the Resource Recovery Rebate Scheme (RRRS).

It is clear that no single AWT process presents a solution to all of the waste problems and challenges currently experienced. Local Governments have varying waste management systems in place and must consider various environmental, social and economic conditions, and hence will have different criteria and parameters to assess when considering AWT. Therefore what is appropriate technology for one area may not be useful in others. The objective for AWT should be to achieve socially, commercially and environmentally sustainable options for managing MSW today and into the future.

6.2 Overview of Technologies

AWT technologies addressed through the research paper include the biological and thermal conversion of MSW

> 6.2 Overview of Technologies - Summary
>
> There are a variety of AWT technologies including biological conversion (Aerobic Decomposition, Anaerobic Digestion and Vermicomposting) and thermal treatment (incineration, pyrolsis and gasification).

Biological Conversion

Types of Biological Conversion technologies include Aerobic Decomposition, Anaerobic Digestion and Vermicomposting.

Aerobic Digestion

Aerobic decomposition involves the decomposition of organic materials by microbial activity under aerobic conditions. The end product is dependant on waste systems and process configurations, achieving waste stabilisation, fuel production or stable organic compost containing plant nutrients. The quality of material is determined by the quality of feedstock and adequate control in the form of aeration, moisture and temperature.

Anaerobic Digestion

Anaerobic digestion occurs in the absence of oxygen to produce methane gas and organic compost. Methane is captured and used for energy production and the compost used for soil conditioning. This process is carried out in a controlled environment with pH and temperature monitored. This is usually a three stage process, including mechanical processing, one or two anaerobic decomposition phases and aerobic stabilising process. There are two main types of biological treatment, 'mechanical biological treatment' and 'fermentation'.

Vermicomposting

Vermicomposting is a biological process that uses worms to consume food waste, biosolids, animal wastes and organic material to produce a high quality soil conditioner. Vermicomposting aims to achieve the following outcomes:

- earthworm biomass for worm farming purposes
- produce vermicast for agricultural and environmental management
- reduce organic waste volumes through vermistabilisation.

Vermicomposting as a form of waste management is still a relatively new technology. Differing feedstock, the species of worms as well as the management practices adopted, results in varying quality and performance of Vermicomposting products on the market. The majority of vermiculture operations currently adopted are midscale on site units manufactured and adapted to the domestic market. There are mid and large scale units treating commercial and industrial waste streams, however there is little available data on the process rates of different waste streams that these are capable of.

Thermal Technologies

Thermal technologies are processes that use heat to decompose waste to produce stable residue for disposal. MSW has a calorific value of approximately 11 mega joules (MJ) per tonne (Maunsell, 2003). The three thermal technologies assessed in this paper are Incineration, Pyrolysis and Gasification.

Incineration

Incinerating MSW reduces the volume of the waste by approximately 95% of its original, whilst sterilising the hazardous components. The two types of incineration addressed in this paper are mass burn incineration and fluidised bed incineration.

The organic component of the material is oxidised into carbon dioxide and water and the remaining incombustible waste is removed as ash or slag. Magnets are used to recover any ferrous material from the

ash or slag and the remaining material is generally landfilled. Gases from the combustion process contain water, particulates and dust, oxides of nitrogen, acid gases and dioxins, furans, polyaromatic hydrocarbons and heavy metals (Maunsell, 2003).

Additional technology required to control the emissions for incineration adds a significant financial costs to the process and the potential toxicity of emissions a significant social cost. Furthermore the heterogeneous nature of MSW and high moisture content, conventional incineration equipment needs to be specialised for the use with MSW, adding to the cost of incineration for the treatment of MSW.

Pyrolysis

Pyrolysis involves the heating of carbon rich material, resulting in thermal degradation, at temperatures between 350^{o}C and 800^{o}C. The process is conducted in the absence of oxygen, resulting in a reduction of energy and greenhouse gasses produced. The process produces a hydrocarbon rich gas mixture leaving an inert residue containing carbon, ash, glass and non-oxidised metals. If the gas is allowed to cool, a hydrocarbon rich liquid will form. This liquid can be used as a synthetic fuel oil with further processing.

Pyrolysis is a relatively costly technology, which requires a back up fuel during the initial set up phase. The waste needs to be shredded before entering the unit and the resulting product requires further treatment to extract the toxins and carcinogenic compounds it contains. Pyrolysis does have many advantages however, including the retention of heavy metals in the char rather than the ash from the combustion process. Although there is a need for fuel to be added to the initial stages of the process, there is a neutral net energy requirement for the process as a whole. The process produces less toxic gasses requiring further treatment and produces less dioxins and furans than the mass burn incineration (Municipal Engineering Foundation Victoria, 2004).

Gasification

The gasification process converts organic material into combustible gases through partial oxidation under extreme heat (around 1000^{o}C). Pre-treatment of waste is necessary to remove contaminants and waste shredded prior to being loaded into a reactor. The majority of carbon is converted into a gas resulting in an inert residue and a combustible gas. The combustible gas consists of carbon monoxide, hydrogen and methane which can be used as a fuel in boilers, internal combustion engines or gas turbines as well as used to produce methanol or hydrogen (Maunsell, 2003).

Gasification, when integrated with electricity production, proves to be economically and environmentally attractive. It produces less toxic gas than all other processes with the inert slag able to be used in the construction industry. The process has the potential to generate 500 – 600 kWh per tonne of waste with a lower cost than mass burn incineration.

6.3 Evaluation of Considerations and Risks

6.3 Evaluation of Considerations and Risks - Summary

Varying environmental, social and economic considerations will affect technology choice.

For AWT, 'One size does not fit all' no single AWT presents solutions to all of the waste problems and varying environmental, social and economic considerations will affect the choice of technology. Each technology varies in terms of performance, environmental and social impacts and end markets. Western Australia can learn from the experiences of other regions and nations who have implemented AWT; however must find the technologies that best fit the Western Australian context.

The main factors that will contribute to the preferred technology employed to treat MSW include geographical location, cost, demographics and community expectations. Before a decision and investment is made, it must be asked whether the AWT is in accordance with the sustainability principles; as defined in

the WA State Sustainability Strategy "meeting the needs of current and future generations though simultaneous environmental, social and economic improvement" (WA Department of Premier and Cabinet, 2004). Furthermore, uncertainty of end markets for products is the result from a lack of strategic policy direction, coordination and vision by all spheres of government, suggesting the need for improved and uniform regulation. Leaders in the waste industry must come together to provide leadership and assistance in formulating a strategy and a vision for government and industry. In turn, State Government must implement policy to support this vision.

Under the Local Government Act 1995, Local Government is directed that "In carrying out its functions a local government is to use its best endeavours to meet the needs of current and future generations through integration of environmental protection, social advancement and economic prosperity". As such, any decisions regarding AWT are made within this framework.

In order to assist in the decision making process the following considerations are suggested. The considerations are the starting point when considering the various technologies – they outline broad issues (not specific to a site or waste stream).

Environmental considerations

- Environmental costs/benefits – what are the environmental benefits and costs? Could small increases in cost decrease environmental impact? Conversely, would it be possible to significantly decrease costs with only small detriment to the environment?

Economic considerations

- Feasibility of Technology – is the technology feasible given the financial, and human resources available?
- Financial – Is the AWT the most cost effective option

Social considerations

- Administration Feasibility – is the practice administratively feasible?
- Practical – how practical is the technology considering the social and cultural environment
- Effects on other sectors – how would other sectors be affected by the technology, and do these effects promote or conflict with overall social goals of the community.

Further considerations for choosing different AWT technologies relate to specific parameters for the area; such as the environmental constraints, waste characteristics, economic constraints and social conditions.

Environmental

- Environmental conditions
    - physical – topography, proximity to surface water bodies, depth to groundwater, soil characteristics
    - climate – temperature, propensity of thermal inversions and winds, rainfall
    - specific environmental sensitivities
- Waste characteristics – density, moisture, recyclability, combustibility, hazardous materials

Economic

- Cost of technology (variable factor for each location, Local Government and technology)
- Type of contract entered into to operate AWT.

Social

- City Characteristics – population density, infrastructure development, planned development, size of city
- Social and Political – degree of and importance assigned to community involvement, political constraints and the nature of these constraints, social and cultural practices
- Existing AWT in the State

The planning process should incorporate input from public and private entities with expertise in MSW, management, public health, environmental protection, finance, urban infrastructure and social issues. Following the sustainability principle, the economic, environmental and social considerations of AWT are evaluated in greater detail in the following Sections.

6.4 Environmental, Economic and Social Considerations

> 6.4 Environmental, Economic and Social Considerations - Summary
>
> There a range of potential considerations for each of the technologies including environmental, economic and social impact.

Consideration must be made when addressing environmental factors in the decision making process for AWT. An Environmental Impact Assessment (EIA) will be necessary for the development of any alternative treatment facility. There will also be statutory licensing requirements that form part of the planning approvals and licensing process. As part of an EIA, an ecological evaluation will need to be undertaken to ensure that there is no potential for the proposed development to impact on protected matter. Such protected matter could include; world heritage property, a national heritage place, internationally important wetlands (RAMSAR Wetlands), nationally listed threatened species and ecological communities and any nationally listed migratory species. Should there be potential for harm or impact, Australian Government approvals will be required under the *Environmental Protection and Biodiversity Conservation Act 1999*. Furthermore, land use and future development will have to be considered, as development surrounding a site may pose issues with both boundaries, buffer zones and odour as residential development encroaches on the AWT site. Table 6.1 identifies a range of considerations for each technology type.

TECHNOLOGY	ENVIRONMENTAL ADVANTAGES	ENVIRONMENTAL CONCERNS	SOCIAL CONSIDERATIONS	ECONOMIC CONSIDERATIONS
Biological decomposition – aerobic digestion	Good soil conditioner produced. Increased soil fertility increased Water retention High resource recovery	Can produce odours. Nutrient runoff. If not properly managed can produced methane gas. Risk of contamination. Limited types of waste can be processed. Quality of output varies with the quality if feedstock and processing.	Odours may pose a social issue. Currently industry relatively unregulated with no mandatory standards, which may affect public confidence in end product.	End product markets. Relatively inexpensive.
Biological – anaerobic digestion	Good soil conditioner produced. Methane gas can be captured and tapped for fuel. Excellent resource recovery.	Can produce odours. Nutrient runoff. Risk of contamination. Can not degrade woody waste. Product needs	Odours may pose a social issue. Currently industry relatively unregulated with no mandatory standards, which may affect public	End product markets. Relatively inexpensive.

	Faster processing time compared to other biological processes	further processing prior to use as soil conditioner.	confidence in end product.	
Biological - Vermicomposting	End product good soil conditioner. High resource recovery. Increased soil fertility. Increased Water retention High resource recovery	Treats limited types of waste.	Well accepted by society.	Inexpensive. Easily scaled up or down.
Thermal - Incineration	95% decrease of material volume to landfill. Can deal with large volume of mixed waste in small area. Energy from waste rather than from follies fuels.	Little energy capture for conversion to electricity. Low resource conservation.	Negative perception by society.	High cost for process. Added high cost for environmental pollution controls.
Thermal – Pyrolysis	High energy production heavy metals retained in char rather than the ash. Neutral net energy requirement.	Poor resource recovery. Toxicity of emissions.	Relatively unknown to the community.	High cost.
Thermal – Gasification	Highest energy production than other thermal technologies. Inert slag can be used in the construction industry.	Poor resource recovery. Toxicity of emissions.	Relatively unknown to the community.	High cost.

Table 6.1: Environmental, social and economic considerations of AWT technologies.

From an environmental perspective the emissions and ash produced in Thermal AWT is the principal environmental concern. Emissions from Thermal processes usually contain a variety of materials, of particular concerns are lead, mercury, cadmium, dioxins and furans, sulphur dioxide and hydrogen chloride, particulate matter such as dust and grit, nitrogen oxides and carbon monoxide. Exposure to emissions can come in the form of inhalation, ingestion and dermal contact with contaminated soil and dust. Research has shown that ingestion and skin contact pose more significant risks than inhalation of emissions. Risks are also associated with ingesting food that has been contaminated with these substances. Effects of exposure to emissions will depend on concentration of contaminants in the emissions and the environmental controls

employed, as well as the height of the emissions stack, the geology, the location of the facility and the prevailing winds

The residual ash from the incineration process contains concentrations of heavy metals, namely lead, cadmium, mercury, arsenic, copper and zinc. The heavy metals originate from plastics, coloured printing inks, batteries, certain rubber products and hazardous waste. The ash may also contain organic compounds such as dioxins and furans. The principle environmental concern is with the disposal of this ash to landfill. Toxic materials can leach and migrate to groundwater or nearby surface water bodies, increasing the risk of water contamination. There are also health risks associated with the ash through direct inhalation or ingestion of airborne or settled ash.

It should be highlighted that the actual magnitude of these risks, both from emission and ash exposure has been debated. There has been much research over the actual environmental risks posed by the ash and the concentrations of contaminants in emissions after modern pollution controls have been put in place. Research has shown that when good pollution controls are installed equipment can remove up to 99% of the dioxins and furans, 99% of heavy metals, 99%particulate matter and 99% of hydrogen chloride, more than 90% sulphur dioxide and up to 65% nitrogen oxides (UNEP, 2008). Furthermore, field tests performed on leachate from actual ash fills in the USA indicated that metal concentrations at most sites were below US hazardous waste classification and in many cases below US drinking Water guidelines (UNEP, 2008).

6.5 Final Technology Selection

Social concern regarding thermal technologies coupled with the poor buffering capacity of WA soils, has driven AWT in WA toward biological conversion technologies. Furthermore, the organic component of MSW in Western Australia is approximately 70 percent, and biological AWT can convert this organic waste into a mineral rich soil enhancer which assists to replenish nutrients into the nutrient, buffer poor soil in Western Australia. Applying recycled organics to land increases the water holding capacity of the soil, assisting in carbon sequestration and reduces the need for fertiliser and pesticide application. The greatest concern regarding WA's preferred AWT technology is limited availability of end product markets. With the possibility of five AWT facilities in operation within the next five years, it is vital that end product markets are established and secure. The WALGA Policy Statement on Standards for Recycled Organics Applied to Land (Background Paper) identifies:

> *A major driver behind the need for equitable, mandatory standards for recycled organics to land is to enable waste managers to evaluate the genuine potential of these markets with far greater certainty and to develop diversion programmes accordingly.*

Decisions made by Local Government and Regional Councils on the management of MSW today, will have long term impacts on the community. Decision making bodies must be well informed and act with caution to ensure that the technology selected is effective and does not leave a burden for future generations. Rather than there be a focus on absolute avoidance of risk to health or the environment, policy makers need to acknowledge the potential impacts of the various technologies and direct resources where they will yield greatest return to society.

7 Other Relevant Matters

There are a number of areas which have bearing on Local Governments' ability to provide services to the community. Local Government has only limited control over the waste stream and there are numerous challenges to managing the whole waste stream in WA.

7.1 Extended Producer Responsibility

> 7.1 **Extended Producer Responsibility** - Summary
>
> EPR offers the opportunity to clearly negotiate and assign responsibility and provides incentives for producers to minimise waste and ensure their products are recycled.

With the passing of the *Waste Avoidance and Resource Recovery (WARR) Act* and the *Waste Avoidance Resource and Recovery Levy (WARRL) Act* in December 2007, and the appointment of a new Waste Authority in May 2008, the State gained new powers to put in place Extended Producer Responsibility Schemes.

The WALGA Policy Statement defines Extended Producer Responsibility (Appendix 5) as a process that "engages producers in financing or carrying out the collecting, processing, recycling or disposal of post-consumer waste, and may also be directed at changing manufacturing practices".

Extended Producer Responsibility (EPR) Schemes require policy makers and stakeholders to negotiate the assignment of responsibility; instead of defaulting to the status quo. They engage producers in financing or carrying out the collecting, processing, recycling or disposal of post-consumer waste, and may also be directed at changing manufacturing practices. EPR can provide effective tools to advance key outcomes required in achieving sustainable, economic, social and environmental principles.

Determining which waste product has a higher priority over another requires a rigorous process. Increasing demand for new products puts extensive strain on raw materials and resources, appropriate product design and recycling can assist to alleviate this issue. There is also substantial work involved in developing an EPR Scheme, therefore, prioritising products is necessary.

The WA Local Government Association undertook a Problematic Waste Survey in June 2008. All Local Governments were asked to participate in the survey to ascertain what wastes were problematic, why these wastes were of concern and what mechanisms could be identified to address them.

The survey asked respondents to identify the most prominent problematic wastes in their Local Government area. The main responses are shown in Table 1.

Table 1: Materials Identified as Problematic Wastes

Problematic Wastes Identified	
Waste Identified	Response %
E-Waste	72%
Household chemicals (paint etc)	72%
Household goods (furniture etc)	65%
Glass containers	64%
Drink containers	63%

The two major reasons Local Government identified these wastes as problematic were because the wastes were littered or illegally dumped. Survey respondents also indicated that small items such as cans, bottles, glass and plastic were the largest source of littering. Other wastes that rated significant mention as problem items were asbestos, tyres, used motor oil, commercial plastics, inert rubble and mattresses.

The survey also asked Local Government to identify what mechanisms would assist in dealing with the wastes identified. Responses included:

- Need for implementation of EPR Schemes;
- Funding for waste management infrastructure;
- Strategic planning for infrastructure at State level; and
- Funding for transport costs of recycled materials.

Example: Byteback – Victoria

Byteback is a computer take-back program that has been successfully operating in Victoria for the past 18 months. It is a free service available to householders and small to medium enterprises (SME's). The aim of Byteback is to facilitate public and SME's disposal of unwanted computer equipment in a safe and environmentally responsible manner, and for this material to be effectively recycled for reuse.

Byteback has been established through a public-private partnership between State Government (Sustainability Victoria) and the Australian Information Industry Association (AIIA) with founding partners Apple, Canon, Dell, Epson, Fujitsu, Fuji-Xerox, HP, IBM, Lenovo and Lexmark.

Byteback representatives visited WA in November 2008, and met with representatives from MWAC, Department of Environment and Conservation and Regional Council. The aim of the visit was to discuss the potential of starting the Byteback Program in WA. Further workshops have been scheduled for 2009.

Example: DrumMUSTER and ChemClear

DrumMUSTER is an environmental industry stewardship initiative developed in partnership by the National Farmers' Federation (NFF), CropLife Australia Ltd, Animal Health Alliance (Australia) Limited, the Veterinary Manufacturers and Distributors Association (VMDA together with the Australian Local Government Association (ALGA).

DrumMUSTER is the National program for the collection and recycling of eligible non-returnable crop production and animal health product chemical containers from manufacturers participating in the Industry Waste Reduction Scheme (IWRS). The program was developed to take chemical containers out of the waste stream and reuse the plastic and steel. It provides a solution to the problem of disposing of empty chemical containers, as well as removing containers from landfill. Since the programs inception in May 1999, DrumMUSTER has collected over 12 million drums from over 700 sites Australia wide.

Croplife Australia (the peak industry body representing the plant science industry), Animal Health Alliance (Australia) Limited (representing the interests of registrants, manufacturers and formulators of animal health products), Veterinary Manufacturers and Distributors Association (VMDA), and the National Farmers' Federation (NFF) together with Agsafe have implemented the ChemClear program for the safe collection and disposal of unwanted rural chemicals.

The ChemClear program was piloted in 2003 and then officially launched in 2004. ChemClear is an ongoing national program collecting unwanted rural agriculture & vet chemicals utilising a website and free call booking system.

Example: PaintBack

In June 2005, Dulux in collaboration with Bunnings implemented a pilot recycling paint scheme, known as the Paintback Scheme. The program aimed to discover the most cost effective model for recycling unwanted paint and paint cans.

The Paintback Scheme ran for a period of two years. Unfortunately the Scheme was discontinued due to the inability of Dulux to process the materials. The Scheme is still operational in Victoria through the Sustainability Victoria "Detox your Home" Program. In 2006, a further one year trial was conducted by Bunnings. In WA Paint is currently only being recycled through the Household Hazardous Waste program.

Example: CDL in South Australia

CDL has been operating in South Australia since 1977. The aims of the Scheme were essentially threefold; to reduce solid waste; to reduce litter and to conserve resources. These aims were achieved by encouraging the use of refillable bottles and influencing consumer behaviour through providing an incentive to recycle beverage containers.

In 2005, some 28 years on, South Australia was ranked among the world leaders in beverage container recovery. South Australia recovers at least one third more aluminium cans than other States. South Australia recovers 85% of non refillable glass soft drink bottles, compared with 36% nationally.

From 1 September 2008, the deposit on beverage containers will be increased from 5 cents to 10 cents. The State Government has increased the deposit amount on beverage containers to encourage more South Australians to recycle.

The WALGA Policy Statement on EPR clearly supports this mechanism. As a form of EPR, the Association also supports Container Deposit Systems (the WALGA Policy Statement on Container Deposit System Policy Statement is included as Appendix 6).

Key issues: The introduction of EPR Schemes would:

- *Provide clear, sensible and effective designations of responsibility for the management of lifecycle impacts of products, and would be appropriate to the product or waste stream in question;*
- *Improve valuation, pricing and incentives mechanisms, and designate clear roles to each participant in the product chain; and*
- *Provide greater investment in infrastructure, research & development and afford greater transparency and accountability.*

7.2 Commercial & Industrial (C&I) and Construction and Demolition (C&D) waste streams

7.2 C&I and C&D - Summary

The C&I and C&D waste streams make up the vast majority of material to landfill, however only receive very limited focus from the State Government.

Municipal waste management has had considerable attention focused on it, the structure and function of Local Government also assists with coordinated approaches to waste management (for example through Regional Councils, economies of scale and regional service delivery can be achieved). However, the C&D and C&I waste stream do not have the same structures or focus. Therefore there is a need for the State Government to focus on these waste streams and assist in market development for the C&D sector. The WAste 2020 reports included actions for C&I and C&D material. These waste streams have largely been ignored, with limited coordination at a state level. Local Governments have developed Strategic Waste Management Plans for their areas – unfairly contrasted with other sectors, which are not required to do so and have no incentives to cooperate.

Key issue: Need for coordinated waste plans and incentives for C&D and C&I sectors.

Key issue: State Government, through the State Supply, need to ensure that recycled content material is used in its own activities.

Example: Recycled material into Roads Project

The Waste Authority provided funding through the SWIS process for the WA Local Government Association to undertake a project looking at recycled material into roads. This includes materials from Construction & Demolition activities.

The Western Australian Local Government Association (WALGA) has commissioned ARRB to undertake research into the use of recycled products in road construction. The project was to include two parts as detailed below:

PART 1: To develop a Local Government Policy Position that will:

- Minimise waste to landfill, in particular identified "problem" products; and
- Facilitate the use of recycled content, by Local Government, in construction and maintenance of footpaths, cycle paths, local roads and other appropriate infrastructure.

The Policy Position needs to be cognisant of Local Government's requirement to deliver and maintain a safe and cost effective road and path network.

PART 2. An Implementation/Action Plan with recommendations for Government policy development / change and a prioritisation of actions to be undertaken to support the Framework's implementation.

In order to develop a policy position and to facilitate the use of recycled products it was necessary to first:

- Identify the drivers for Local Government to use recycled materials in roads, paths and other appropriate infrastructure, such as the WA State Government Towards Zero Waste Vision and Local Government Strategic Waste Management Plans; and
- Identify the inhibitors to using recycled products in road and path activities by WA Local Governments at the Government (Federal and State Government and Local) and Industry level.
- Be informed by State, national and international practices
- Identify existing examples of the use of recycled products
- Identify realistic opportunities to recycle material from the current waste stream into mainstream Local Government works and services

7.3 Litter

Litter is an ongoing issue of concern for Local Government as it represents not only a cost for clean up but the potential for severe environmental harm. Illegal dumping, particularly in rural and peri-urban settings, is also a huge concern and cost. Local Government supports increased penalties for illegal dumping and littering offenses. Due the size of the state, enforcement can be difficult, therefore Container Deposit Systems and Programs like the Litter Reporters Scheme (run by Keep Australia Beautiful Council) offer assistance.

7.3 Litter - Summary

Litter is a key issue for Local Government and there is support for raising penalties for littering related offences.

7.4 Landfill Levy (Waste Avoidance and Resource Recovery Levy)

It is Local Government's expectation that any funds raised through the Waste Avoidance and Resource Recovery Levy will be hypothecated to waste management activities (as is currently the case). The WALGA Policy Statement on the Waste Levy and Strategic Funding (appendix 7) identifies several key areas that Local Government consider vital to support for the Levy.

7.4 Landfill Levy – Summary

Conditional support for the landfill levy, as long as a clear rationale for the levy is presented and the funds are hypothecated.

Clear Rationale for Levy

Firstly, a clear rationale for the Levy is essential for assessing the appropriateness of all policy decisions which relate to the Levy, such as how it is charged, the rate applied and where the money is spent.

- Primarily for raising strategic funds: The primary rationale for the Levy is that it provides a means of generating secure funding for strategic activities in waste management. For the purposes of the Levy, appropriate strategic activities must be identified by a current State Waste Strategy.
- Alternative rationale/s: Where State Government identifies an alternative rationale for the Levy, Local Government will only support the alternative rationale to the extent it agrees that the alternative rationale is valid.
- State Government rationale/s to be clarified and supported: State Government must clearly state, explain and publicly communicate the rationale/s for applying the Levy.

Local Government Claim on Funds

It is also an expectation that Local Government has a claim on a proportion of the funds raised through the Levy. The Policy Statement recommends that a fixed proportion of monies collected from Local Government should be made available to Local Government on a first call basis in the form of project money to support the objectives of the State Waste Strategy.

Basis for Setting Levy Rates

Consistent with its views regarding the appropriate rationale for the Waste Levy, Local Government considers that the rate of the Waste Levy should be set by reference to a well defined set of criteria. The criteria which Local Government would support are:

- Capacity to fund the State Waste Strategy: It is necessary that the Levy rate(s) is/are set such that the annual objectives identified under the State Waste Strategy can be funded. Local Government recognises that total annual expenditures may sometimes exceed and at other times fall below the total revenues raised by the Levy. It is also appropriate that funds from Consolidated Revenue be used to achieve State Government objectives.
- Capacity to achieve stated objectives: The State Government may indicate that it will use the Levy to achieve objectives other than the generation of funds for strategic activities. If so, then the State Government must give valid reasons to show how a change in the Levy will support those

objectives before Local Government would support the use of Levy funds. For instance, State Government may consider that at a higher rate, the Levy will discourage landfilling of some waste types, but this belief should be supported with something more than anecdotal evidence and also demonstrate that there would not be other financial imposts on Local Government such as an increase in illegal dumping that would need to be cleaned up.

- Capacity to pay the Levy: The State Government must take into account the capacity of Local Governments and their communities to pay the Levy. This capacity is affected by both economic and political constraints.

Application of Levy to Non-Metropolitan Areas

The Waste Authority, at its May 2008 meeting, made the decision to consult on the potential for incorporation (and under what conditions) of major Regional Centres into the Levy determinations. The Waste Authority indicated that the Regional Centres of Albany, Bunbury, Geraldton/Greenough, Kalgoorlie and Port Hedland, would be canvassed to ascertain views of stakeholders on the application of the Levy to their areas.

Within the metropolitan area, Local Governments accept and recycle all manner of materials in a different fashion to those in the non-metropolitan area. Local Governments in non-metropolitan areas are currently unequipped to apply and administer the Levy. To apply the levy Regional Councils would need:

- Infrastructure upgrades (i.e.: weighbridges);
- Increased administrative capacity; and
- Appropriate data retrieval software.

The WA Local Government Association (through the Systemic Sustainability Strategy) and State and Local Government through the Zero Waste Plan Development Scheme have been focusing on regional service delivery. Introduction of the Levy to the non-metropolitan area could become a disincentive for Local Governments to form working partnerships.

Regional Centres, such as Geraldton, operate a landfill site which is used by the surrounding Local Governments. This has facilitated the move away from numerous small unmanned landfill sites. In many areas, Local Governments are exploring the use of transfer stations to move waste back into larger centres. Cost increases could potentially lead to the reversal of this process, where it is cheaper for Local Governments to have small local landfill sites for refuse disposal.

The Authority resolved at its August 2008 meeting to postpone holding discussions and discussion forums on the issue of extending the landfill levy beyond the metropolitan area due to current incapacity to deliver. It is anticipated that Non-Metropolitan forums on this issue will occur at a future time.

Key issues:

- *without clear rationale, Local Government does not support the extension of the Levy to non-metropolitan areas;*
- *The application of a Levy to non-metropolitan areas could prove a disincentive to regionalisation; and*
- *The high cost of implementation of the Levy would provide limited return.*

Category 63 Differential Levy:

The Waste Authority also decided to review the management and levy rates for Category 63 landfills. The levy at Category 63 sites was expected to rise to $5 per cubic metre in 2008/9, $7 in 2009/10 and $9 in 2010/11 (based on the Landfill Levy Regulations). The Waste Authority has instead frozen the levy at $3 per cubic metre pending the outcome of discussions with stakeholders.

Construction and Demolition (C&D) recycling is a growing industry with many recyclers equipping themselves further to ensure more of this material is diverted from landfill. C&D recycling is potentially easier than putrescible or hazardous waste recycling, due to the inert nature of the material and consequent limited on site and/or direct health or environmental concerns.

Local Government as innovators and market leaders have been using inert material diverted from landfill in their activities (such as road construction) and are potentially a major market for this material. In order to continue and guarantee the use of this material, viable and stable markets are needed. In order for these industries to continue to develop and expand, market participants need some regulatory stability, such as a consistent approach regarding the Levy. It is likely that regulatory instability or inconsistency will affect not just the C&D recycling industry, but the recycling industry generally.

The potential introduction of a differential levy for Category 63 Landfill Materials is likely to decrease the viability of the current C&D Recycling industry, which will directly impact on Local Governments who either purchase/reprocess C&D or make use of the services of the industry. Regulatory instability and uncertainty affect investment in recycling generally. Without clear and consistent direction from the Waste Authority / State Government, industry is likely to be reluctant to invest in recycling infrastructure.

The Waste Authority determined that amendments to the existing *WARR Levy Regulations* 2008 would occur by the end of 2008.

Key issues:

- *There was a lack of justification provided for the proposed Category 63 Differentiation Levy;*
- *The introduction of a Differential Levy would potentially undermine the C&D recycling market and industry by creating a lack of viable and stable markets; and*
- *An increase in the Levy would potentially encourage resource recovery and re-use by industry.*

7.5 Landfill Licensing

Many Local Governments have raised concerns regarding landfill licensing and groundwater sampling. WALGA has initiated a working group (with members from DEC, Waste Management Association of Australia and Local Government) to look at reviewing current landfill licences to move from overly prescriptive and ineffective licences to a risk based approach.

7.5 Landfill Licensing – Summary

A more risk based approach is needed to landfill licensing and Local Government is committed to working with State Government to achieve more effective regulation for landfills.

Key issue: Landfill Licences be risk based rather than overly prescriptive.

7.6 Emergency and risk management

Emergency and risk management is an area where only limited state-wide coordination exists currently. Under the West Plans for example, after initial State Government involvement Local Government is responsible for any clean up and disposal.

> 7.6 Emergency and risk management – Summary
>
> Further state wide coordination is needed to ensure risk and emergency management planning considers disposal.

Shifting weather patterns as a result of climate change may mean storm events outside usual areas (or more severe storm events in them). Land-use planning which takes into account general climate change impacts and the increased incidences of severe storm, flooding and heat impacts will need to be applied rigorously by both Local Governments and State Planning agencies to ensure that Local Government landfill sites are both prepared for, and protected from any undue climate related stressors. Although impacts on landfills are as yet uncertain, it is advisable that Local Governments and State Planning agencies apply appropriate risk management strategies to landfills, as they would to other planning decisions, to ensure legal liability for any impacts are considered.

8 Conclusion

8.1 Recognition of waste management as an essential service

Waste Management is an essential service. An essential service can be defined as one where a "failure to adequately provide this service would have serious implications for the physical and economic well being of all residents with similar impact on the local environment" (Geelong, 2006). For waste management, given the climate change implications, this can be widened to include the global environment.

Internationally there is a greater recognition of waste as an essential service. For example at the World Cities Summit in 2008, former president of the International Solid Waste Association (ISWA) and Solid Waste Association of North America (SWANA), N.V. Vasuki identified that Solid Waste Management was an essential service as "water supply, sewerage, power supply and telephone". Other sources, such as the National Solid Wastes Management Association (undated) identify waste management as an essential service in their report *Residential Trash Collection: An Essential Service at a Bargain Price*.

At a national level, the inclusion of waste management in the CPRS is another signal of the significance of the industry. WALGA has been advocating that waste management should be included in the Federal Assistance Grants (FAG's) for Local Government – as there is a clear expectation of service provision and an imbalance in the financial ability to provide these services. In some non-metropolitan areas, to provide an equivalent service to the metropolitan areas, the charge would be too high on a per capita basis due to large distances, low population density and distance to market.

The provision of municipal waste services has the following outcomes:

- Protects community health by the prevention of disease through the collection, treatment and disposal of putrescible and hazardous waste;
- Protects the natural environment through the reduction of greenhouse gas emissions as a result of controlled disposal and treatment of waste and recycling;
- Provides landfill, Resource Recovery and alternative waste treatment capacity required for waste resulting from pandemics, natural or other disasters; and
- Supports sustainability principles through collecting materials for recycling.

Given the significance of waste management, the Association calls for the establishment of a Centre of Excellence for Waste Management in WA. Through the Federal Government, funding is available for establishment of Cooperative Research Centres (CRC) (providing funding is matched by cash and/or in kind contributions from CRC participants). This is an additional source of funds which could provide for a Centre of Excellence in Waste Management in WA. Such a centre would provide a central academic database of waste management knowledge. Areas of research include the potential to move to a 'cradle to cradle' society and approach to waste management (including legal and engineering considerations). Such a centre would offer both policy and practical solutions for waste management and an avenue for cooperation between all stakeholders.

Recommendation 1: that waste management be included in the Federal Assistance Grants.

Recommendation 2: that waste management be considered and treated as an essential service by State Government.

Recommendation 3: that the State Government establish a Centre of Excellence for Waste Management in WA.

8.2 Local Government focus

Frequently State Government efforts regarding waste management focus predominantly on Local Government (for example the Terms of Reference of this Inquiry and the WARR Act). As noted, Local Government waste makes up around 20-25% of the waste disposed of to landfill; and it is the only waste stream where waste to landfill has actually decreased. The Local Government structure may make it easier for State Government to engage and regulate this waste stream, however this should not mean that the other waste streams are ignored. Therefore it is suggested that in the State Waste Strategy and future waste inquiries, similar weight be given to all waste streams.

Recommendation 4: that the State Government focus equally on effective management of all waste streams.

8.3 Focus upstream – Waste Avoidance and Extended Producer Responsibility

For Local Government, within only limited capacity to influence or control the waste stream, Extended Producer Responsibility is one policy option which provides a mechanism for reassigning responsibility. WALGA has identified that EPR would:

- Provide clear, sensible and effective designations of responsibility for the management of lifecycle impacts of products, and would be appropriate to the product or waste stream in question;
- Improve valuation, pricing and incentives mechanisms, and designate clear roles to each participant in the product chain; and
- Provide greater investment in infrastructure, research & development and afford greater transparency and accountability.

EPR assists with waste avoidance as it is focused at the production rather than recycling/disposal stage. As stated in the WARR Act, when considering resource management waste avoidance should be the first priority.

Recommendation 5: that the State Government clearly identify roles and responsibilities and expeditiously implement Product Stewardship / Extended Producer Responsibility Schemes for Priority Products.

8.4 Waste Authority

This Submission has identified the need for an independent waste agency to separate policy and regulatory functions. However, speaking to the existing mechanism of the Waste Authority there is a clear need to ensure independence, transparency and accountability.

Recommendation 6: that clear governance arrangements be put in place for the Waste Authority and accountability and transparency mechanisms be established.

8.5 Roles & Responsibilities

Much of the concern expressed by Local Government regarding waste management relates to the lack of clear roles and responsibilities for the sector. Under the WARR Act, Local Governments' role is specified. However, the roles of State Government and other stakeholders (e.g. waste generators, community and industry) are still unclear. To more forward in a consolidated and constructive manner, all stakeholder responsibilities within the system must be established. Some suggested areas of responsibility are outlined below. This is a starting point for discussion only, as it should be noted that these roles and responsibilities should be negotiated and assigned according to capacity to influence. Clear assignment of roles and responsibilities is also necessary for the State Waste Strategy to be effective. If it is not clear who is accountable, or a clear process in place for establishing accountability, much time and effort may be wasted in the implementation of projects and whenever a new issue arises. There are a variety of key stakeholders in the area, including Federal, State and Local Government, the waste industry, waste generators (such as manufacturing and producers), industry associations and special interest groups and the community.

State Government

- Strategic oversight of waste generation as a whole (e.g. prediction increase in generation/ major projects etc), strategic planning, risk management, contingency planning).
- Education, on waste minimisation and key state level communications (for example why you should recycle);
- Market development where priority identified;
- National representation (for example on EPR);
- Prioritisation of materials for EPR at a State level;
- Coordination for Product Stewardship / Regulation for EPR;
- Communication/consultation with Stakeholders;
- Funding mechanisms;
- Programme delivery;
- Leadership (leading by example);
- Cooperation; and
- Responsibility for its own waste / State Supply Commission.

Local Government

- Service delivery appropriate to its community;
- Responsive to community need;
- Education regarding the 'how' of recycling and waste management;
- Local level investigation of markets;
- Communication;
- Programme delivery;
- Leadership (leading by example);
- Innovation;
- Expertise; and
- Responsibility for its own waste / purchasing policy.

Waste generators – Households / Businesses

- To be informed;
- Consume responsibly; and
- Consider disposal at point of purchase.

Waste generators - Producers / Manufacturers

- Responsibility to design products for minimum environmental impact/ease of recycling;
- Responsibility to communicate with State Government; and
- Planning for disposal / reuse of own waste.

Waste industry

- Innovation;
- Cooperation;
- Service provision; and
- Expertise.

Industry associations and interest groups (e.g. WALGA, WMAA, Conservation Council)

- Programme/Policy delivery for stakeholders;
- Representation/consolidation of views; and
- Coordination.

Shared contributions across all categories

- Research & Development – cooperative research centre / centre of excellence;
- Communication; and
- Partnerships.

Recommendation 7: that roles and responsibilities be clearly negotiated, assigned and implemented for waste management.

8.6 Holistic approach

The WARR Act, in the objects of the Act, enshrines the need to contribute to sustainability, and the protection of human health and the environment in Western Australia and the move towards a waste-free society by -
(a) promoting the most efficient use of resources, including resource recovery and waste avoidance; and
(b) reducing environmental harm, including pollution through waste; and
(c) the consideration of resource management options against the following hierarchy —
(i) avoidance of unnecessary resource consumption;
(ii) resource recovery (including reuse, reprocessing, recycling and energy recovery);
(iii) disposal.

The use of resource efficiency as a one of the measure means that an holistic approach to waste management is needed. Other considerations to include is the potential for the move to a 'cradle to cradle' view of waste management – where all products are considered not in terms of a waste (at the end of their first life) but as a potential resource.

Recommendation 8: that resource efficiency and waste minimisation be a key focus in development of the State Waste Strategy and Government Policy.

8.7 Leadership by State and Local Government

WALGA are working on green procurement guidelines as part of a new Purchasing and Tender Guide for all Local Governments. WALGA will be considering further sustainable procurement requirements in all its preferred supplier arrangements from July this year. A similar commitment from State Government is necessary, through State Supply.

Recommendation 9: that State and Local Government lead by example, through the sustainable purchasing policy and consideration of the full life cycle of material purchased and projects undertaken.

8.8 Outcomes based regulation

Local Government has identified that much prescriptive waste management regulation does not necessarily achieve its desired outcome of protecting the environment and human health. Regulation which prescribes how something is to occur circumvents any opportunity for innovation and may not be appropriate for the circumstance, it is also resource intensive to administer and regulate.

Recommendation 10: that outcomes based regulation be used where possible to promote innovation and locally relevant solutions.

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Appendix

Appendix 1: WALGA Submission to the Department of Climate Change Local Government Waste Management and the Carbon Pollution Reduction Scheme Green Paper July 2008.

Appendix 2: WALGA Policy Statement and Background Paper on Standards for Recycled Organics Applied to Land

Appendix 3: WALGA Policy Statement on Waste Management Legislation

Appendix 4: WALGA Policy Statement on Household Hazardous Waste

Appendix 5: WALGA Policy Statement on Extended Producer Responsibility

Appendix 6: WALGA Policy Statement on Container Deposit Systems

Appendix 7: WALGA Policy Statement on the Waste Levy and Strategic Waste Funding

Appendix 8: WALGA Policy Statement on Waste Management Education