# Western Australia Department of Environment

# Submission to Productivity Commission Enquiry into Waste Generation and Resource Efficiency

February 2006

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# Western Australian Context

## *Waste generation, recycling and disposal in Western Australia*

Approximately 2.8 million tonnes per year of solid waste is disposed to landfill in the Perth Metropolitan Region. Over 50% of this material is classed as Building & Demolition waste, approximately 20% is Commercial & Industrial waste, while the remainder is Municipal waste.

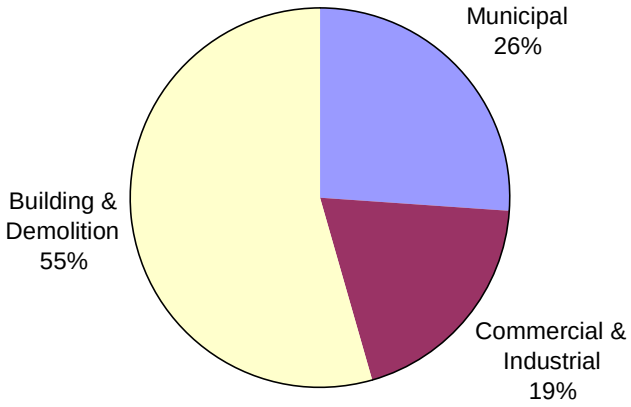


**Figure 1: Waste disposed to landfill in Perth by source**

According to a recent study undertaken by the Waste Management Board [3], approximately 0.97 million tonnes per year of solid waste is recovered for re-use or recycling. A breakdown of material recycled in Western Australia is presented as Figure 2.

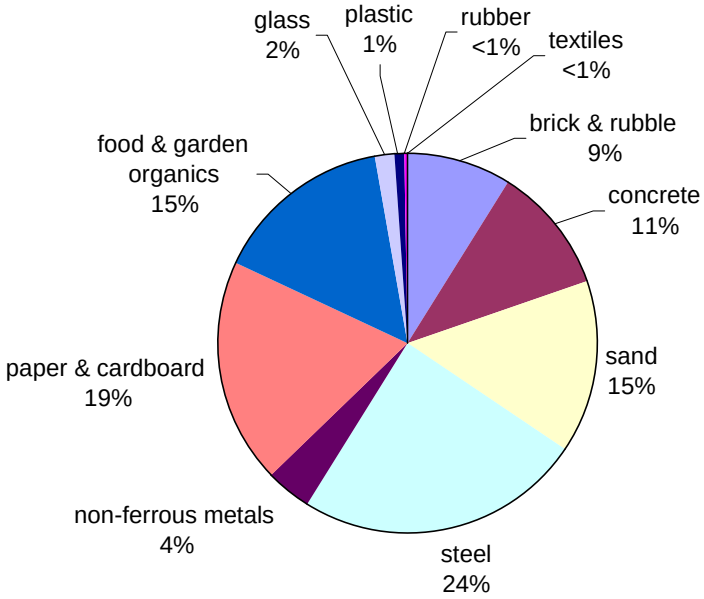


**Figure 2: Breakdown of materials recycled in WA**

As shown in Figure 1 and Figure 2, despite Building & Demolition waste being the largest component of the waste disposed to landfill, it also represents a substantial proportion of waste recycled in WA. Over the past few years, Perth has experienced a housing boom. There have also been a number of large infrastructure construction projects underway. This accounts for the large amounts of Building & Demolition waste being generated.

Building and Demolition material is the largest proportion recycled by weight in WA. Steel is the next most common recycled material. The vast majority of the steel recycled is not packaging (99.6%), but steel from industrial sources, car bodies, etc Paper / cardboard is the next most commonly recycled material type, with glass and steel also significant. . Recovery of material from the domestic waste stream is around 20%, over half of which is food and garden organics.

Of the material recovered for recycling in WA, approximately 59% is reprocessed locally, while most of the remainder (37%) is exported internationally, mainly to Asia. Only a small percentage (4%) is sent interstate for reprocessing.

## *The role of the Department of Environment and Waste Management Board*

The Western Australian Department of Environment is the lead agency on solid waste management and resource recovery issues in Western Australia. A number of other State government agencies also have either a statutory or functional role on some waste-related issues. The Department of Health is responsible for providing advice on public health issues and enforcing pertinent sections of the Health Act, 1911. The Department of Agriculture has a functional interest in the management of agricultural wastes, including manures.

The Department of Environment is responsible for the regulation of waste management facilities, and the transport and disposal of Controlled Waste. The enforcement of the Environment Protection Act and licence conditions is conducted by Regional Operations officers of the Department located across WA.

In 2002, the WA State government established the Waste Management Board. The role of the Waste Management Board is to provide advice to the Minister for the Environment on waste management and resource recovery issues. The Board is also responsible for developing policy and conducting programs relating to the management and reduction of waste and the encouragement of recycling. The Department of Environment provides secretariat and executive support to the Waste Management Board, and implements the Waste Management Board's Business Plan (programs) on its behalf.

Figure 3 (next page) represents the organisational structure of waste management in the Department of Environment.

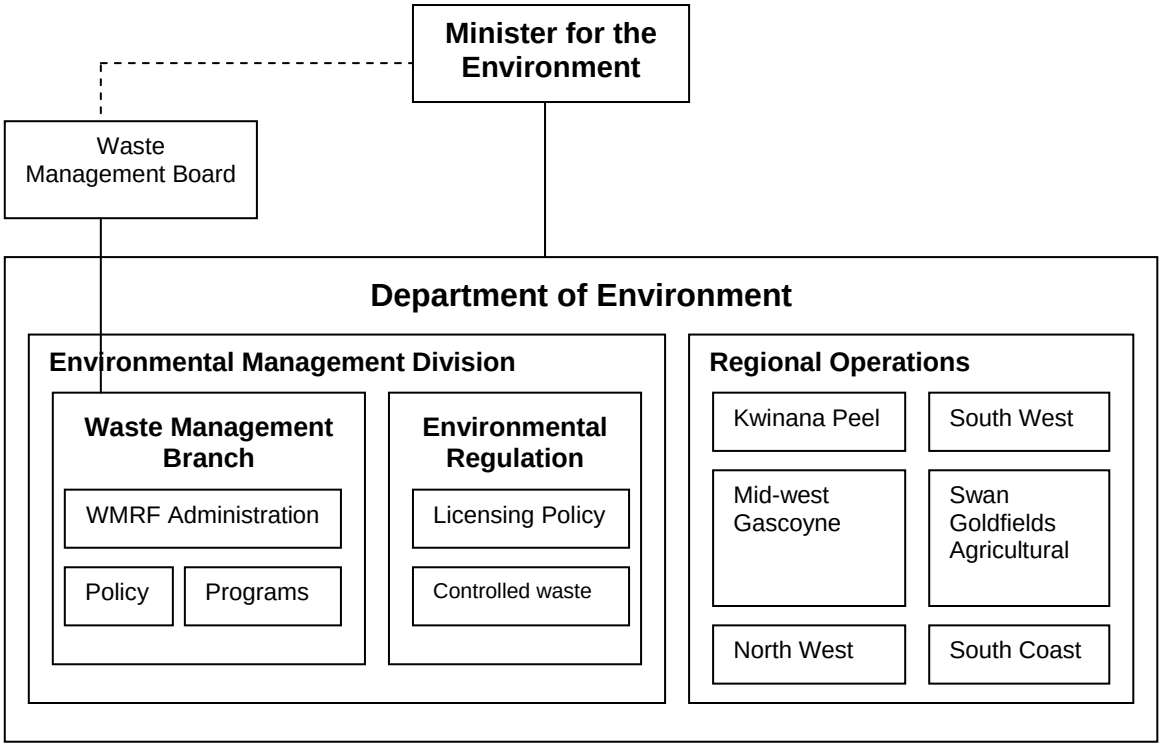


**Figure 3: WA Department of Environment Waste Management Organisational Structure**

## *Particular issues for Western Australia*

There are a number of characteristics of Western Australian geography and economy that impact on waste management and resource recovery in this State.

The most obvious issue is a relatively small population spread over a large land mass. While many regional centres are large enough to support modern waste management systems and recycling, there are many rural and remote towns that rely on the local "tip" as the sole means of disposing of all their garbage. In 2005, the Waste Management Board released a study into the economics of transporting recyclable materials from rural, regional and remote centres to Perth (and elsewhere) for recycling [2].

This study found that, due to high transport costs and low landfill fees, recycling was not economically viable for most parts of the State outside the Perth Metropolitan Region. However, the study also found that the environmental benefits outweighed any financial losses for nearly all locations in the State. Further, in a number of regional and remote communities, recycling provided significant social benefits that were not quantified in the economic modelling. A number of communities have already recognised the environmental and social benefits of recycling and decided to bear the financial cost of transporting recyclables to market.

Another major issue for Western Australia is the lack of local reprocessing infrastructure. A large proportion of material collected for recycling is exported, either interstate or internationally, for reprocessing. This has a substantial effect on the economics of recycling in this State. The Waste Management Board has identified the need to support the development of local infrastructure, as well as local markets for the recycled-content products, in order to support a viable local recycling industry.

# Waste Policy in WA

## *Strategic Direction for Waste Management in WA*

In September 2004, the Waste Management Board's *Statement of Strategic Direction for Waste Management in Western Australia: Vision & Priorities* was released. This document clearly and concisely sets out the principles by which waste should be managed, and proposes a timetable for a transition towards Zero Waste.

The foundation principles presented in the Statement of Strategic Direction for Waste Management in Western Australia are Prevention, Recovery and Disposal. Prevention is the avoidance of the creation of waste. Recovery is the treatment and management of waste for re-use through recycling or re-processing. Disposal is the responsible management of waste into the environment.

Where the foundation principles differ from the traditional waste hierarchy is that there is not necessarily a blanket preference for one over the others, particularly with respect to Waste Management Board programs in the short term. It is acknowledged that disposal and recovery will dominate waste management into at least the short term future, and that there needs to be a maintained focus on these areas in order to ensure they are performed to achieve the best possible outcomes.

However, a shifting focus towards waste prevention in particular is required. The timetable for transition towards zero waste indicates that, over time, the focus should shift away from disposal, and even recovery, to be predominantly on prevention. However, the transition is gradual and occurs over a period of 15 years.

## *Policy Instruments*

The WA Waste Management Board and the WA Department of Environment have investigated a range of policy instruments to determine their suitability in certain circumstances. The main policy instruments to be employed in implementing the Strategic Direction for Waste Management in WA are discussed below.

### Regulatory instruments

<u>Extended Producer Responsibility</u>

In 2005, the WA State government released its Policy Statement on Extended Producer Responsibility (EPR).[7] This policy states that the WA government believes that producers have a responsibility for recycling or disposal of their products at the end of the product's life. The policy sets out a process for development of EPR schemes within WA.

The WA government has a strong commitment to the implementation of EPR, both nationally and at a State level. WA is represented on the project team developing the Product Stewardship NEPM on behalf of the EPHC.

While the WA EPR Policy does make a commitment to negotiate voluntary schemes with industry, WA firmly believes that there is a need for governments to have the option for implementing mandatory EPR schemes where voluntary schemes are inappropriate or fail.

In 2005, the WA State government announced that Container Deposit Legislation (CDL) would be introduced in Western Australia. A Stakeholder Advisory Group (SAG) has been established to advise the government on the best way to implement CDL in WA. The CDL SAG will be examining the operation of container deposit schemes around the world, including South Australia, in order to ensure that the most appropriate system for WA is developed.

### Regulation of landfills

In 2005, the WA Department of Environment released draft Best Practice Environmental Management (BPEM) guidelines for landfill based on a similar document produced by the Victorian EPA. The draft BPEM was released in conjunction with a review and update of the Landfill Waste Acceptance Criteria, which stipulates what types of waste can be disposed into different classes of landfill.

The major changes to the regulation of landfills were to reduce the amount of non-inert materials allowed in loads disposed to “inert” landfills, and to increase the requirement for landfill liners.

At present, there are no regulatory requirements for gas extraction systems at landfills in WA. However, it is possible that this may become a requirement in the future. A number of large putrescible landfills have installed landfill gas extraction systems voluntarily.

## Economic instruments

### Landfill levy

WA has a levy on waste generated in the Perth Metropolitan Region that is disposed to landfill of $3/tonne for putrescible waste and $1/tonne for inert waste.

The WA government is currently reviewing the landfill levy. Two discussion papers have been released for public consultation; one paper on the size and application of the landfill levy and a second on how the levy money should be utilised. [10,11] The key proposal presented in these papers is a staged substantial increase to the landfill levy over the next 15 years to fund a range of programs, primarily incentive schemes (rebates and grants) to influence behaviour and support establishment of best practice infrastructure and systems.

The WA government believes that while a landfill levy may act as a moderate disincentive for disposal to landfill in some circumstances e.g. for Construction & Demolition waste, its main benefit is to raise revenue to support waste reduction initiatives. This view is supported by a recent investigation commissioned by the Waste Management Board. [1]

### Incentive Schemes

The WA Government currently runs a Resource Recovery Rebate Scheme (RRRS) that provides funds to local government for collecting recyclables from households. Payment is on a per tonne basis. The RRRS has been very successful in supporting the implementation of kerbside recycling collection services across WA, particularly in supporting recycling outside of Perth. One major benefit to the State government of the RRRS has been the provision of detailed data on the volume and type of recyclables collected.

The RRRS is funded from revenue derived from the landfill levy. As part of its review of the landfill levy, the WA government is conducting a review of the RRRS, with the view to replacing it with a integrated suite of incentive schemes that would provide stimulation at key intervention points in the "supply chain". It is envisaged that incentives would be available to local governments, private industry, the waste industry and purchasers of recycled-content goods. The details of the proposed schemes are presented in a discussion paper that is currently out for public comment. [11]

## Informational instruments

### Communication and Education

Communication and education is an essential tool for raising awareness and changing behaviour.

In July 2005, the Waste Management Board released its Communication Strategy, which targets action across four broad areas:

- Promotion and marketing
- Education
- Building networks
- Surveys and Research.

The WA government uses communication and education both in these discrete programs and as part of integrated programs targeting a material or product type or a stakeholder group.

While the impact of communication and education is difficult to measure, the WA government believes that this is a fundamental component of its waste reduction initiatives. As such, it has made significant commitment to such programs in the past, and will continue to do so in the future.

### Data

As for communication and education, data is primarily a support tool that is essential to the success of any waste reduction policy or program. A lack of data severely limits the decision-making capacity of all players in the industry; government and private sector alike. Governments require data to make sound and targeted policy decisions, and to monitor progress. Local government and the private sector need data in order to make decisions about investment in infrastructure and setting prices for service provision.

In 2004, the WA government commissioned a review of its existing data and future data needs. The consultant identified a range of data sets that would assist in the development of waste policy and programs.[5] Following an internal review of the recommendations, a comprehensive data collection program has been developed, which is in the process of being implemented.

Further discussion on the Waste Management Board's data program is given below.

### *Sustainability*

The WA government's sustainability strategy [8] is a statement of commitment to the principles of sustainability. It also provides a framework for State government agencies to incorporate sustainability into their core business. State government agencies are required to prepare and submit a Sustainability Action Plan, which is made available to the public via the Department of Premier and Cabinet's website (www.sustainability.dpc.wa.gov.au). Waste management and environmentally responsible procurement are aspects of the Sustainability Action Plans.

For the immediate future, the waste management programs of the WA government will focus on improving standards at disposal facilities and increasing resource recovery. However, as outlined in the Strategic Direction for Waste Management in WA, the medium to long-term focus will be on waste prevention and increased efficiency of resource use.

## Waste and Resource Recovery Data

As noted above, data is extremely important for monitoring progress, informing policy development and program planning. After receiving independent advice [5], the Waste Management Board has embarked on a comprehensive data collection program. The purpose of this program is to ensure both the WA government and its key stakeholders have sufficient data to progress WA's Zero Waste vision. A list of the data collection projects underway and planned is given below.

Data projects 2005/06:

- Assessment of Recycling Activity in WA
- Regulatory Impact Assessment for increasing the landfill levy
- Collation of data on composition of kerbside domestic bin waste in WA
- Disposal based waste composition - reviewing existing data from WA and other jurisdictions
- Review of waste classification in WA
- Review of waste density figures used to covert volumetric survey data to tonnages
- Characterisation of kerbside waste across WA
- Characterisation of waste to landfill across WA.

Data projects 2006/07

- Data collection protocol formation
- Reprocessing Activity in WA data collection
- Identification of the Key Priority Products
- Investigation into Waste Prevention Strategies
- Program monitoring and evaluation
- Assessment of re-use activity in Industrial and Commercial Situations
- Performance of kerbside waste composition analyses
- Performance of Disposal-based waste composition analyses.

The Waste Management Board already holds a considerable amount of data on the volumes of domestic waste disposed to landfill and recycled. This data has been collected through administration of the landfill levy and the Resource Recovery Rebate Scheme. This demonstrates the value of including data reporting requirements into programs implementing policy. The Waste Management Board intends to incorporate a data component into all its projects, including those undertaken by external parties, for example under a grant. Hence, a comprehensive data collection regime will be established over time, through the normal conducting of its business.

# Litter and Illegal Dumping

Litter Prevention Strategy

In 2005, the Western Australian Litter Prevention Taskforce released a Draft Litter Prevention Strategy for Western Australia. [4]

According to the Draft Strategy, approximately $16 million per year is spent on litter reduction measures in Western Australia each year, mostly by local governments on litter and illegal dumping clean up.

The Draft Litter Prevention Strategy for Western Australia outlines a broad range of measures to be implemented by various stakeholders to reduce litter. These fall into the following broad categories:

1. **Auditing and evaluation**: Participation and promotion of the National Litter Audit

2. **Policy and legislation**: Review and revision of current litter legislation; implementation of Container Deposit Legislation (CDL); Support for the national project to reduce the use of plastic bags (co-ordinated through EPHC).

3. **Education, information and training**: Conduct litter reduction education through the Sustainable Schools program; Development of a litter education campaign resource package; Development and maintenance of a litter prevention website; Best practice litter prevention guidelines and training packages; Share information and collaborate on litter issues through national networks.

4. **Enforcement**: Build capacity to investigate and prosecute incidences of littering and illegal dumping; Promote the litter reporting scheme.

5. **Physical intervention**: Support Clean Up Australia Day, and establish a second annual Clean Up Day in Western Australia; Promote best practice public place waste and recycling infrastructure; Identify and promote effective illegal dumping measures.

6. **Incentives**: Promote existing and develop new community pride programs, such as Tidy Towns; Establish a litter prevention and management grants program; Encourage private sector sponsorship of litter prevention and management initiatives; Promote and reward best practice litter prevention and management initiatives.

7. **Stakeholder responsibility**: Recruit a State litter co-ordinator to liaise with the various Stakeholder on implementation of the State Litter Strategy.

As can be seen from the list above, it is proposed to utilise a number of policy instruments concurrently to address issues of litter and illegal dumping. The Draft Litter Prevention Strategy for Western Australia is currently being considered by the WA government.

### Used Tyres

Used tyres are a significant disposal and illegal dumping issue for Western Australia, particularly in rural and remote areas. In 2005, the Waste Management Board commissioned a Triple Bottom Line Analysis of the recycling and disposal of used tyres in Western Australia.[6] This study found that while there is current a strong demand for used truck and off-road tyres (ORT) for re-treading and recycling, there is currently no recycling and only limited disposal options for passenger tyres in Western Australia. It is anticipated that the implementation of the national Used Tyre Agreement, currently being brokered through the EPHC, will encourage the establishment of tyre recycling infrastructure to process used passenger tyres.

The Used Tyre Strategy for Western Australia [13] identifies a number of actions for the WA government to undertake that will support the implementation of the national Used Tyre Scheme and the establishment of used tyre processing infrastructure in WA. Some of these actions are currently underway, and include data collection, preparation of guidelines for storage and handling of tyres and market development for products made from used tyres.

## Waste and Resource Recovery Infrastructure

### Disposal to landfill

In 2005, the Waste Management Board released a background paper on the environmental impacts of landfill, particularly in Western Australia. After consideration of this paper, the Waste Management Board resolved to conduct a study into more appropriate technologies for dealing with waste in the Perth Metropolitan Region.

Another resolution resulting from the discussion paper on landfills was to instigate the development of a Waste and Resource Recovery Infrastructure Plan.

Regionalisation

Many modern waste management facilities require substantial investment. In order to make this level of investment, proponents (public or private) require economies of scale and security of supply beyond what can be offered by a single local Council or commercial waste collector. Regionalisation of collection can offer the necessary security to enable large-scale waste and recycling infrastructure projects to proceed.

In metropolitan Perth, this has been achieved by the establishment of Regional Councils, which manage waste collection and processing on behalf of groupings of local government Councils. This initiative has been very successful in facilitating the development of modern waste collection systems and processing infrastructure for the Perth metropolitan region.

Energy from waste

As in other States, local environmental and community groups are strongly opposed to any incineration of waste. Sections of the local recycling industry, particularly the recycled organics processors, are also strongly opposed to the burning of materials that could potentially be feedstock into their facilities. While Western Australian legislation (Environment Protection Act, 1986) does allow the Department of Environment to grant permission for use of wastes as fuel where the emissions are sufficiently low/controlled, this is unlikely to occur in the short to medium term due to community and environment group concerns. Therefore, energy from waste does not feature prominently in the local debate on waste management issues.

# National Co-ordination

There are a number of initiatives that are most effectively implemented nationally. However, co-ordination of national initiatives can on occasion be cumbersome and slow. Further, national projects tend to be dominated by the “larger” States, the State Government agencies of which have more staff and resources to allocate to such projects. This can lead to measures being implemented that are not productive, or are even counter-productive, to the “smaller” States.

Therefore, in some cases, it would be more expedient and appropriate to the State’s needs to implement initiatives at a State level, even if a national process is in train. However this would need to be done in a manner that is consistent with the National approach.

# References


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[10] WA Waste Management Board, Resourcing the Zero Waste Vision - A Discussion Paper on the Landfill Levy and the Programs it Funds, Department of Environment, Perth, 2005

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[13] WA Waste Management Board, *Used Tyre Strategy for Western Australia*, Department of Environment, Perth, 2005