

**Western Australian Department of Environment and
Conservation**

**Submission to Senate Standing Committee on
Environment, Communications and the Arts**

into

Management of Australia's Waste Streams

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Western Australian Context

Waste generation, recycling and disposal in Western Australia

Approximately 3.3 million tonnes per year of solid waste is disposed to landfill in the Perth Metropolitan Region. Over 50% of this material is classed as Construction & Demolition waste, approximately 20% is Commercial & Industrial waste, while the remainder is Municipal waste.

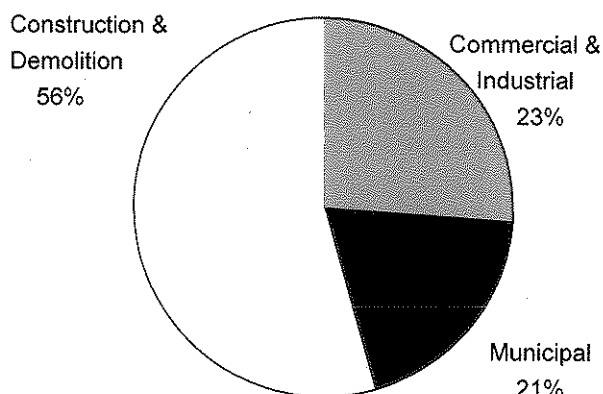


Figure 1: Waste disposed to landfill in Perth by source

According to a recent study undertaken on behalf of the Waste Management Board [1], approximately 1.66 million tonnes per year of solid waste is recovered for re-use or recycling.

Stream	Landfill 2006/07	Landfill 2005/06	Recycled 2005/06
Municipal	690,282	698,243	361,710
C&I	788,380	668,426	852,240
Inert	1,894,370	1,709,693	451,750
TOTAL	3,373,032	3,076,362	1,665,700

Table 1: Landfill and recycling tonnages in Perth

The most recent waste disposal figures show that Construction & Demolition waste is by far the largest component of the waste disposed to landfill. It also represents a substantial proportion of waste recycled in Western Australia (WA). Commercial and Industrial material provides the largest proportion of recycled material (by weight) in WA. Recovery of material from the municipal domestic waste stream is around 34%, half of which is food and garden organics.

Of the material recovered for recycling in WA, approximately 71% is reprocessed locally, while most of the remainder (26%) is exported internationally, mainly to Asia. Only a small percentage (3%) is sent interstate for reprocessing.

The role of the Department of Environment and Conservation and Waste Authority

The WA Department of Environment and Conservation (DEC) is the lead State Government agency on solid waste management and resource recovery issues. A number of other State Government agencies also have statutory or functional roles related to 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 and Food has a functional interest in the management of agricultural wastes, including manures.

DEC is responsible for the regulation of waste management facilities and the transport and disposal of Controlled Waste. Regional officers of the Department, located across WA, conduct the enforcement of the *Environmental Protection Act 1986* and licence conditions. DEC also provides support to the Waste Authority and implements the Authority's Business Plan (programs) on its behalf.

In 2007, the WA Parliament passed the *Waste Avoidance and Resource Recovery Act 2007* (WARR Act). The WARR Act creates the Waste Authority, which replaces the Waste Management Board. The primary role of the Authority is to provide strategic advice to the Minister for the Environment on waste management issues. The Authority is also responsible for developing policy and programs relating to the management and reduction of waste, and the encouragement of recycling. Figure 2 represents the organisational structure of waste management in DEC.

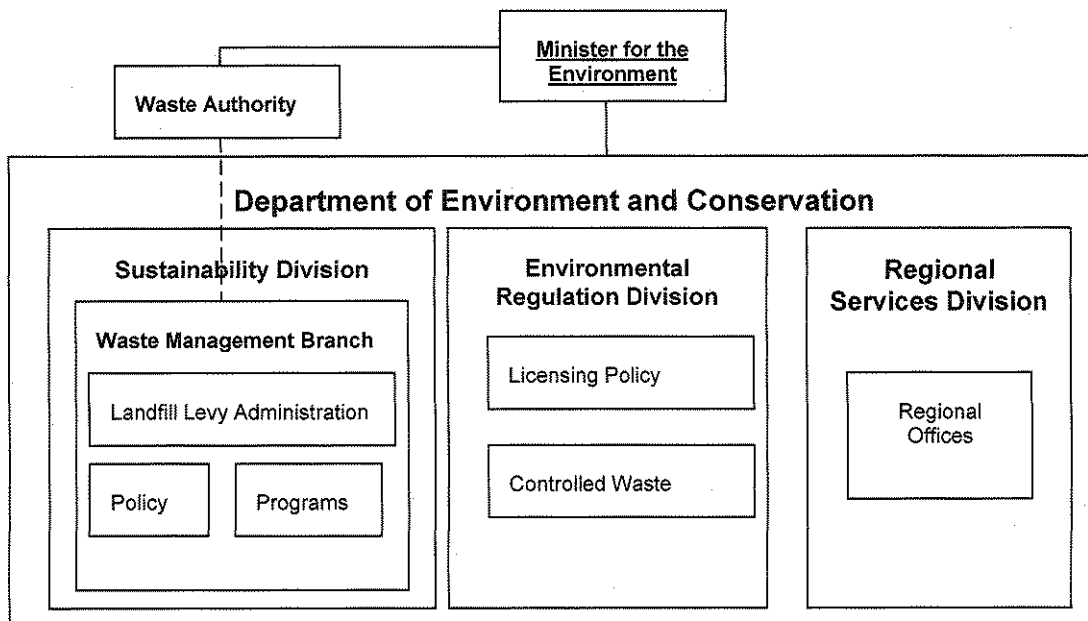


Figure 2: WA Department of Environment and Conservation Waste Management Organisational Structure

Particular issues for Western Australia

There are a number of characteristics of WA's geography and its economy that impact on waste management and resource recovery in this State.

The State has a small population spread over a very large area. Some regional centres are large enough to support modern waste management systems and recycling. However, many rural and remote towns rely on the local "tip" as the sole means of disposing of all their garbage.

In 2005, the Waste Management Board released a study about the economics of transporting recyclable materials from rural, regional and remote centres to Perth (and elsewhere) for recycling [2]. This study found that high transport costs and low landfill fees meant that 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. In a number of regional and remote communities, recycling provided significant social benefits not quantified in the economic modelling. Some communities have already recognised the environmental and social benefits of recycling and have decided to bear the financial cost of transporting recyclables to market.

A major issue for Western Australia is the lack of local reprocessing infrastructure. Much of the material collected for recycling is exported, either interstate or internationally, for reprocessing. This affects the economics of recycling in the State. The Waste Management Board has identified the need to support the development of local infrastructure and local markets for recycled-content products, in order to support a viable local recycling industry.

Western Australia is currently experiencing an economic boom due to the large global demand for minerals and oil and gas. This has led to a large increase in the amount of construction and demolition (C&D) waste and encouraged the emerging C&D recycling industry to expand its operations.

Waste Policy in WA

Strategic Direction for Waste Management in WA

The Waste Authority must prepare a long-term Waste Strategy for the State as soon as is practical after the commencement of the relevant section of the WARR Act. This strategy will address continuous improvement of waste services, waste avoidance and resource recovery. It will also set targets for waste reduction, resource recovery and the diversion of waste from landfill.

Until such time as the new Authority develops a Waste Strategy, the direction for waste management in the State will be guided by the *Statement of Strategic Direction for Waste Management in Western Australia: Vision & Priorities*, released in 2004.

The Waste Authority will have a major role in developing policy and program priorities to maximise the efficiency of efforts to reduce, recover and reuse material from different waste streams.

Policy Instruments

The Waste Management Board and DEC have investigated a range of policy instruments to determine their suitability in certain circumstances. The main policy instruments for achieving change in waste management practices in WA are discussed below.

Regulatory instruments

Product Stewardship/Extended Producer Responsibility

In 2005, the WA Government released its Policy Statement on Extended Producer Responsibility (EPR). [3] This policy states that the WA Government believes that producers have a responsibility for recycling or reducing the environmental impacts of disposal of their products at the end of the product's life.

The WA Government has a strong commitment to Product Stewardship/EPR, and has included provisions for both in the WARR Act. WA is also represented on the project team developing the Product Stewardship National Environment Protection Measure on behalf of the Environment Protection and Heritage Council. This team will be focusing on a NEPM for tyres as the next stage in this process.

While the WA EPR Policy does make a commitment to negotiate voluntary schemes with industry, the WARR Act provides the option for implementing mandatory EPR schemes where voluntary schemes are inappropriate or fail.

Container Deposit Scheme

Since January 2006, Western Australia has been conducting an extensive investigation into a best practice container deposit scheme (CDS), which is an example of EPR. In 2006, a Stakeholder Advisory Group began identifying what would constitute a best practice scheme for WA. The Advisory Group also gave an indication of the likely effects of implementing such a scheme. Subsequently, further independent research was commissioned to determine the likely benefits, costs and community attitudes to implementing such a scheme. During the investigation, over 20 different schemes in operation around the world were analysed, including the current South Australian scheme.

Recent research has identified a range of factors that have an impact on any cost-benefit determination. The issues are complex to analyse and are still being assessed in Western Australia. Given that a range of assumptions and valuations have been employed by consultants and researchers investigating container deposit systems, DEC recognises that the body of knowledge is not static and that no source should be used to provide an absolute reference point for making assessments. Nevertheless, container deposit systems commonly achieve a recovery rate of above 75% for applicable containers, which brings with it additional costs as well as social and environmental benefits. The full report of the Stakeholder Advisory Group findings is available online at www.zerowastewa.com.au.

At the EPHC's April 2008 meeting, Environment Ministers agreed to investigate the merits of a national container deposit system, taking into account the experience of the South Australian scheme and the results of investigations undertaken for similar schemes in Western Australia and Tasmania. The EPHC is committed to effective long-term strategies to deal with Australia's waste management issues, and wants to be able to

consider an authoritative analysis of container deposit schemes at the same time it considers the mid-term review of the National Packaging Covenant. WA and Queensland are co-chairing a working group overseeing this investigation.

Regulation of landfills

In 2005, the former 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 will become a requirement in the future. A number of large putrescible landfills have voluntarily installed landfill gas extraction systems. The WA Government has a commitment (page 15, Premier's Climate Change Action Statement, May 2007) to require landfill sites to capture or destroy methane gas emissions and will be undertaking further investigations into selected landfills (5000 – 100,000 tonnes per year) with a view to identifying specific requirements for these facilities. WA will be reporting to the EPHC on this matter.

Used Tyres

The State Government has recently announced changes to the Environmental Protection Regulations (Part 6 – Used Tyres) that will ban tyres being disposed to landfill within a prescribed Tyre Landfill Exclusion Zone, by 2011. These regulations are designed to encourage recycling of used tyres in the State. The regulations are currently being prepared.

Used tyres are currently being exported to southeast Asia in significant numbers. However, they are still a significant disposal and illegal dumping issue for Western Australia, particularly in rural and remote areas. While the current export market remains strong, investment in additional local recycling infrastructure will remain difficult to achieve.

Economic instruments

Landfill levy

WA has levies of \$6/tonne for putrescible waste and \$3/cubic metre for inert waste, on waste generated in the Perth Metropolitan Region that is disposed to landfill. The levy on putrescible waste will rise to \$7/tonne and inert waste will rise to \$5/cubic metre in July 2008. The levy will reach \$9 /tonne for putrescible waste and \$9/cubic metre for inert waste in 2010.

The WA Government commissioned a review of the current and future effectiveness of the landfill levy in 2007 [4]. The Waste Management Board considered the review and identified the need to continue with the differential levy rates, the potential of the landfill levy to complement the development of EPR programs, and the need to strengthen communication tools to disseminate information about landfill levy supported projects.

Incentive Schemes

The Waste Management Board, as a way to encourage local governments to implement continuous improvement and move towards best practice, has recently endorsed a Regional Funding Model. Funding will be provided to regional groupings of local governments to implement Strategic Waste Management Plans that are currently being developed under the Zero Waste Plan Development Scheme.

The Strategic Waste Initiatives Scheme provides significant funding assistance for projects that align with the current priorities of the Waste Management Board. This scheme invites submissions for funding in a number of targeted waste areas. Currently, listed priority wastes include C&D Waste, Plastics, Glass and Organics.

The Community Grants Scheme provides assistance to small and more community-orientated projects, providing up to \$20,000 in funding per project.

Used Oil and Household Hazardous Waste disposal are currently being significantly subsidised by funds from the Waste Management and Recycling Account, so that these two waste streams can be adequately dealt with in the short-term, whilst more sustainable strategies are investigated.

Informational instruments

Communication and Education

Communication and education are essential tools for raising awareness and changing behaviour. The WA Government uses communication and education both in discrete programs and as part of integrated programs targeting material or product types or 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.

A Reinvigorating Recycling project will be considered by the Waste Authority in the near future. The project is aimed at improving the awareness of the importance of recycling as well as providing education about how to recycle the resources in waste.

DEC also runs the Waste Wise Schools program, which educates teachers in waste practices, and provides assistance in developing programs and projects within schools to educate children about recycling and waste reduction.

DEC also runs the ZeroWasteWA website, which provides information to the public about what is happening in waste management in the State and elsewhere.

Sustainability

The WA Government's State Sustainability Strategy [5] 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 the Premier and Cabinet's website (www.sustainability.dpc.wa.gov.au). Waste management and environmentally responsible procurement are aspects of the Sustainability Action Plans.

Waste and Resource Recovery Data

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 [6]. A comprehensive data collection program was developed, following an internal review of the recommendations, which is in the process of being implemented.

As for communication and education, data are 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.

A list of the data collection projects underway and planned is given below.

Data projects 2007/08

- Total Recycling Activity Report 2006/07
- Program monitoring and evaluation
- Performance of kerbside waste composition
- Data collection protocol formation.
- Auditing of local government data provided in the 2006/07 on-line survey for the Zero Waste Plan Development Scheme
- Development of protocol for kerbside waste and recycling composition analyses.

DEC already holds a considerable amount of data on the quantities of domestic waste disposed to landfill or recycled. These data have been collected through administration of the landfill levy previously through the Resource Recovery Rebate Scheme. DEC intends to incorporate a data component into all relevant projects, including those undertaken by external parties. Hence, a comprehensive data collection and reporting regimes will be established over time.

Litter and Illegal Dumping

Litter Prevention Strategy

In March 2006, the Minister for the Environment released the Litter Prevention Strategy for Western Australia 2006-09 [7], developed by the Western Australian Litter Prevention Taskforce.

The Litter Prevention Strategy 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; investigation into container deposit systems); 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:** Undertake negotiations and partnerships with the various stakeholders on implementation of the Litter Prevention Strategy.

Waste and Resource Recovery Infrastructure

Disposal to landfill

In 2005, DEC released a discussion paper on the environmental impacts of landfill, particularly in Western Australia. DEC has recently commissioned a review into the current capacity of WA's waste processing infrastructure and the future infrastructure that will be required to meet the demands of the expanding population.

Regionalisation

As modern waste management facilities and services require substantial investment, in order to make such investment worthwhile, proponents (public or private) require economies of scale and security of supply beyond what can be offered by a single local government or commercial waste collector.

Regionalisation of collection and recycling/disposal contracts can offer the necessary security to enable large-scale infrastructure projects to proceed. In metropolitan Perth, this has been achieved by the establishment of Regional Councils, which manage waste collection and recycling/disposal on behalf of constituent local governments. The initiative to encourage development of Strategic Waste Management Plans covering all local governments, and the associated incentive scheme, are designed to encourage councils to operate in groups. These initiatives have progressed further regional activity across local governments, particularly in non-metropolitan areas.

National Co-ordination

There are a number of current national waste initiatives underway. However, co-ordination of national initiatives can be cumbersome and slow. Furthermore, national projects can lead to measures being implemented that are not productive, or are even counter-productive, to the less well-resourced States. An example of this is waste oil. The system works reasonably well on the east coast due to size and density of the markets, however in WA, where the markets are more dispersed, the State Government needs to significantly subsidise oil collection in order for collection schemes to work effectively. In addition, the Office of Best Practice Regulation has requirements for Regulatory Impact Statements that can often lead to major obstacles when trying to progress national waste initiatives.

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

Western Australia is currently working on two such areas where national schemes have been suggested. These are:

- used tyres - amended regulations are being drafted that aim to encourage local reprocessing; and
- container deposit scheme - the State Government has undertaken significant research into a best practice scheme for WA.

References

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- [3] WA Government, *Extended Producer Responsibility: Policy Statement*, Department of Environment, Perth, 2005
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- [6] Nolan ITU, Program for the Collection, Analysis and Reporting of Major Waste Streams in Western Australia, Department of Environment, Perth, 2004
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