NATIONAL LANDFILL DIVISION

Waste Management Association of Australia

Waste and Resource Efficiency Enquiry
Productivity Commission

The National Landfill Division of the WMAA is a Division established in Western Australia, South Australia, Victoria, Tasmania, New South Wales and Queensland to foster the interests and disseminate ideas and information on landfills for owners, operators, designers and regulators. It is based on local sub-branches in each State that organise local events for members. Many active members are owners and operators of landfills. The National Division is responsible for the National Landfill Conference, National Speaking Tours, a National Landfill Survey, National Landfill Excellence Awards and a national research project into alternative covers for landfills.

Landfills perform an important role for the Australian community by providing safe disposal for residual waste. Landfills have successfully managed solid waste in an environmentally responsible and cost effective manner. The landfill industry operates in a competitive commercial environment and meets strict environmental goals. The industry believes it still provides the optimal solution for residual waste disposal for most locations in Australia.

Major urban and regional landfills have changed greatly since the Industry Commission's enquiry in 1990 and have developed sophisticated environmental management systems. Landfills are continuing to improve their performance including making a worthwhile reduction to Greenhouse Gas emissions by capturing landfill gas and generating renewable electricity. Research into improved landfill performance is an active field in Australia and overseas. An example is the Australian Alternative Capping Assessment Program, which has been awarded a $735,000 grant from the ARC and has $2,000,000 committed from the landfill industry over the next 5 years. Another example is the research being undertaken by Collex in Bio-reactor Landfills. Bioreactor landfills enhance the rapid degradation of organic wastes not otherwise able to be recycled and the recovery of energy.

The landfill industry is fully supportive of waste reduction and composting and is in fact a major player in resource recovery. Landfills commonly have materials separation including green waste. Landfills have started to install mixed waste sorting facilities for commercial waste e.g. BaxVis in Melbourne and for construction wastes e.g. Resource Co in Adelaide. In Victoria, recycling at landfills has risen from 300,000 tonnes per year to over 1,500,000 tonnes per year or about 30% of the waste taken to landfill in that State.

Alternative waste disposal technology costs considerably more than landfill and the only technology that is proven long-term for mixed waste is mass burn incineration. The additional cost can be prohibitive for small communities and rarely attracts commercial waste. The new technologies still need landfills for the foreseeable future for their residual waste. Alternative waste disposal technologies need to lock communities into contracts lasting 20 years or more and technical improvements can be expensive. Landfills have adopted new technology with only small increases in costs.

There are, however local amenity problems with odour, litter and birds that still need to be controlled adequately at some sites. Public opposition to landfills are primarily a NIMBY response to amenity issues. Public opposition to alternative waste disposal technology sites will be as strong. However, we believe that the general public do not want to change from landfill to more expensive alternative waste technology.

This submission is intended to provide the Commission with accurate information on the economic cost of landfill waste disposal taking into Best Practice as currently enforced by Australian regulators (Term of Reference 1.1). The submission also provides information that might be useful for the Commission based on our National Landfill Survey (Term of Reference 1.6).

1.1 ***The economic, environmental and social benefits and costs of optimal approaches for resource recovery and efficiency and waste management, taking into account different waste streams and waste related activities.***

The real cost of establishing, constructing, operating and monitoring a Best Practice landfill taking 100-200,000 tonnes per annum of municipal and commercial waste in an Australian capital city is shown in the table below. For the costs per tonne in the table the depth of the landfill is assumed as 20m, the waste density is assumed as 750kg/m^3 and the capacity is assumed to be 3 million tonnes. The costs are ex GST and have been gathered from major landfill operators from all States. Best Practice in Australia is becoming widely accepted as including:

- Site selection to minimise environmental risks to ground and surface waters and impacts on local amenity;
- Weighbridge, sealed roads, secure fencing, small vehicle transfer, litter fences;
- Composite cell lining with clay, geomembrane and leachate collection layer;
- Cell capping with clay, geomembrane, revegetation and gas collection and energy recovery;
- Leachate and stormwater management;
- Comprehensive monitoring and reporting; and
- Aftercare for up to 30 years.

Smaller rural sites may not have all the Best Practice features, but many are introducing them as old sites close and new ones open. Smaller sites will have higher operations costs.

Cost of Landfill

Element	Cost/tonne
Land purchase including airspace	$2
Approvals and site development	$2
Cell development	$6.50
Operation including monitoring and fees	$10
Capping and rehabilitation	$2.50
Aftercare	$2
Total cost	$25

This cost is the baseline cost. The actual gate rate will include levies, management costs, profit margin and GST. Every landfill has different circumstances that influence these costs and the price that can be charged. In some States a Financial Assurance is required that will be in the form of a Bank Guarantee, Industry Fund or Company Guarantee.

In some cases where a new landfill is entering a market, it will drop its prices temporarily to attract volume, but sooner or later the price must rise to reflect the actual costs. In some markets there may be a long established landfill, which doesn't operate to Best Practice and has costs less than above, but eventually the old landfills close or get squeezed out of the market by the enforcement of the Best Practice regulations.

1.61 ***The adequacy of current data***

In 2005 the National Landfill Divisions launched a National Landfill Survey. The aim of the survey was to collect time-series data from every licensed landfill in Australia on the nature of the waste stream, site and operations. While State EPA's keep databases on landfills, these data are generally limited to ownership, location details and tonnage for levy calculation. The EPA databases do not include much information about the operations.

The National Landfill Survey had limited resources in 2005 and was able to collect data from about $^{1}/_{3}$ of landfills handling about ½ the tonnage of residual waste. The data that was missing was from South Australia and smaller landfills in other States. The WMAA plans to enhance the database this year

Some data that the Commission may find useful is listed below. Other data could be provided if requested.

- There are approximately 650 licensed landfills in Australia. These vary from small rural trench taking a few 100 tonnes per year to fill sites to major urban sites taking 500,000 tonnes per year. The estimated annual tonnage handled by the 230 landfills, which responded to the survey, was 10.5 million tonnes. We estimate the total amount of municipal, commercial and construction solid waste being landfilled in Australia is approximately 20 million tonnes per year. 68% of the waste is disposed of in landfills taking 100,000 or more tonnes per year.

- 45% of the sites taking over 200,000 tonnes per year have energy recovery from Landfill Gas. 25% of the sites taking between 100,000 and 200,000 tonnes per year have energy recovery from Landfill Gas. These percentages are increasing year on year.

- Depending on the size, between 60% and 90% of the landfills surveyed recycled metals, paper, bottles and cans, oil and green waste depending on the material. Between 40% and 50% of the landfills recycled timber, concrete and bricks.

I would like to make a presentation and answer any questions at the Public hearings in Melbourne.

Yours sincerely

National Landfill Division (WMAA)

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Chair