

Regulatory Assessment Statement and Cost Benefit Analysis for a waste disposal levy proposal

Proposed new legislation:

Waste Reduction and Recycling Bill 2011

December 2010

An invitation to comment

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
1. ISSUES STATEMENT	6
2. POLICY OBJECTIVES	8
3. OPTIONS AND ALTERNATIVES	12
4. IMPACT ASSESSMENT	13
5. CONSULTATION.....	23
6. PREFERRED OPTION.....	24
7. CONSISTENCY WITH OTHER POLICIES AND REGULATION.....	25
8. IMPLEMENTATION, EVALUATION AND COMPLIANCE SUPPORT STRATEGY....	25

Executive summary

In May 2010, the Queensland Government agreed to a significant reform package for waste management and resource efficiency. A key element of the reform package is the Queensland's Waste Reduction and Recycling Strategy 2010-2020 (the strategy). The strategy is to be supported and implemented through a variety of mechanisms, including a new legislative framework, a waste disposal levy (the levy), legislation and programs funded from the levy.

In June 2010, the draft strategy was released for public consultation. The draft strategy discussed the need to strengthen Queensland's legislative framework for waste management. Proposed legislative reform includes the introduction of a new Act—the *Waste Reduction and Recycling Act 2011* (the WRR Act). The new Act will focus on avoiding waste and promoting improved resource recovery, leaving the waste disposal as a last resort.

Waste or, to put it another way, any unwanted product, has the potential to cause environmental impacts from when it is produced until – and after – it is disposed of.

Examples of such environmental impacts include the energy and resources used to produce the goods, greenhouse gas emissions from transporting the product at every stage of manufacturing, its sale, and ultimate disposal.

The environmental impacts of waste buried in landfill are particularly concerning. Landfill disposal can allow contaminants and greenhouse gases from the breakdown of organic materials to leach into the air, soil, and groundwater systems. Establishing a landfill site also impacts upon the environment through habitat destruction and reduced biodiversity as land is cleared for new sites.

Landfills also impact upon surrounding land uses such as residential communities and there is often significant opposition to new sites. Increasing population and higher living standards result in more materials being consumed and discarded as waste to landfill, accelerating the need for new sites.

The proposed WRR Act will introduce a waste disposal levy, to meet the following key policy objectives:

- creating a price signal to focus waste generators' practices on waste avoidance and resource recovery and a disincentive to unnecessary landfill disposal.
- ensuring a level of consistency with waste disposal costs in other states that will be a reasonable deterrent to the unnecessary disposal of interstate waste into Queensland's waste disposal sites.
- providing funding for programs help establish better waste avoidance and resource recovery practices and overall waste management initiatives.
- reducing the impact upon Queensland's carbon footprint caused by waste disposed to landfill.

In summary, the proposed levy is a price charged in addition to the normal waste disposal gate fee at a waste disposal site. The levy applies to waste presented for disposal. In many cases, the levy is an avoidable charge, as the more material that is recycled, the less the levy liability.

The levy applies to commercial and industrial (C&I), construction and demolition (C&D) wastes and regulated wastes. Municipal solid waste (MSW) i.e. domestic kerbside-collection by local governments is excluded from the levy.

The Department of Environment and Resource Management (DERM) commissioned Synergies Economic Consulting to undertake a cost-benefit analysis (CBA) to assess the overall impacts of the levy to business, government and the community over a 10-year

period (2011-2021). The use of a CBA is recommended by best practice regulatory principles to ensure government decisions appropriately balance the benefits and costs of new regulation. The CBA investigated the impacts of the levy under the following three scenarios:

- The base case: maintaining the status quo, which means that a levy is not introduced
- Option 1: applying a levy to C&I, C&D and regulated wastes and zero levy to MSW
- Option 2: applying a levy to all waste streams.

In summary, the CBA identified the following as impacts (including benefits and costs) of the levy:

- **Resource savings** (benefit): This benefit relates to the commodity value of materials diverted from landfill disposal to recycling or re-use as a result of the levy on disposal.
- **Economic benefits of reduced landfill waste:** Where materials are diverted from, and not disposed of to, landfill, costs associated with landfill disposal are avoided or deferred. Avoiding such costs is a benefit of the levy. Costs associated with landfill disposal include the land, lining, on-site gas recovery and flaring, fencing, post-closure capping and landscaping, operational costs such as labour, fuel and materials, and the cost of rehabilitation and after-care.
- **Environmental benefits of reduced landfill waste:** This benefit arises from avoiding greenhouse and other gas emissions, leachate leakage and amenity damage created by landfill disposal.
- **Avoided emissions from production** (benefit): This benefit relates to further reductions in greenhouse gas emissions achieved by using recovered materials instead of virgin materials.
- **Source reduction and waste avoidance**¹ (benefit): The levy price signal will encourage businesses to avoid or reduce the amount of waste produced. It will also promote investment in innovation, design, manufacture, purchase or use of materials or products in ways that reduce either the amount of waste generated or increase the amount of recoverable waste. Examples include altering the type of packaging used in manufacturing or producing low-waste products.
- **Illegal dumping:** This cost arises from the need to manage increases in illegal dumping caused by people trying to avoid payment of the levy.
- **Costs of material recovery and reprocessing:** Where materials are diverted from, and not disposed of to, landfill, there will be costs associated with recovering and reprocessing such materials.
- **Levy implementation, administration and business compliance costs:** These are costs to both government and businesses and include set-up costs such as training, site and infrastructure upgrades, IT systems, and ongoing levy administration and compliance costs.
- **Impacts on the skip bin industry:** Excluding domestic self-haul waste from the levy has the potential to impact the domestic clientele of skip bin operators. This will depend on whether householders will choose to self-haul their waste or to use council kerbside services instead of paying the increased price of a skip bin.

¹ The CBA referred to this benefit as 'reduced packaging from process innovation'. However, DERM is of the view that reduced packaging from process innovation is a part of a broader category of benefits referred here as source reduction and waste avoidance.

- **Other impacts: households and employment:** Household costs are likely to rise if the levy was applied to domestic kerbside-collected waste (levy option 2). The levy will also encourage a shift in jobs from the landfill sector to the resource recovery sector.

The proposed introduction of a waste disposal levy was supported by the CBA, which found both option 1 (zero levy on MSW) and option 2 (MSW-inclusive) similarly cost-effective and beneficial to the state. The net present value (benefits minus costs) and the benefit-cost ratio of both levy options were positive. On that basis, the base case – not introducing the levy at all – was disregarded.

The CBA found that resource savings were the most significant benefit of the levy at the present value of around \$112 million for option 1 and \$144 million for option 2. This is followed by the economic benefits of reduced landfill waste, with a present value of around \$96 million for option 1 and \$123 million for option 2, while the present value of the environmental benefits of reduced landfill waste is estimated at approximately \$24 million for option 1 and \$36 million for option 2. Conversely, the material recovery and reprocessing costs account for the significant majority of the total costs of the levy (81.1 per cent under levy option 1 and 81 per cent under levy option 2).

A detailed account of the CBA on the levy options is included in the Impact assessment section of this Regulatory Assessment Statement (RAS), which has been prepared as part of the Queensland government's commitment to regulatory best practice. The full CBA is Attachment 1 to this RAS.

The Queensland Government has decided to adopt option 1, which applies a levy rate of zero to MSW, as this is the only option that meets all key policy objectives. Currently, householders are charged a flat rate for waste management collection services by council regardless of how much waste they produce or recycle. Accordingly, at this stage, it is considered that charging a levy on MSW would not create a price signal to improve behaviour in the domestic household sector.

It is expected that introducing a levy on C&I, C&D and regulated wastes at the rates described in Figure 3 will be an effective mechanism to change waste generators' behaviour. The levy will also benefit the resource recovery sector; will provide a disincentive to unnecessary landfill disposal; and will provide a level of consistency with waste disposal costs in other states. This should work as a deterrent to unnecessary interstate waste disposal to landfills in Queensland.

Submissions on the RAS are sought by 28 January 2011.

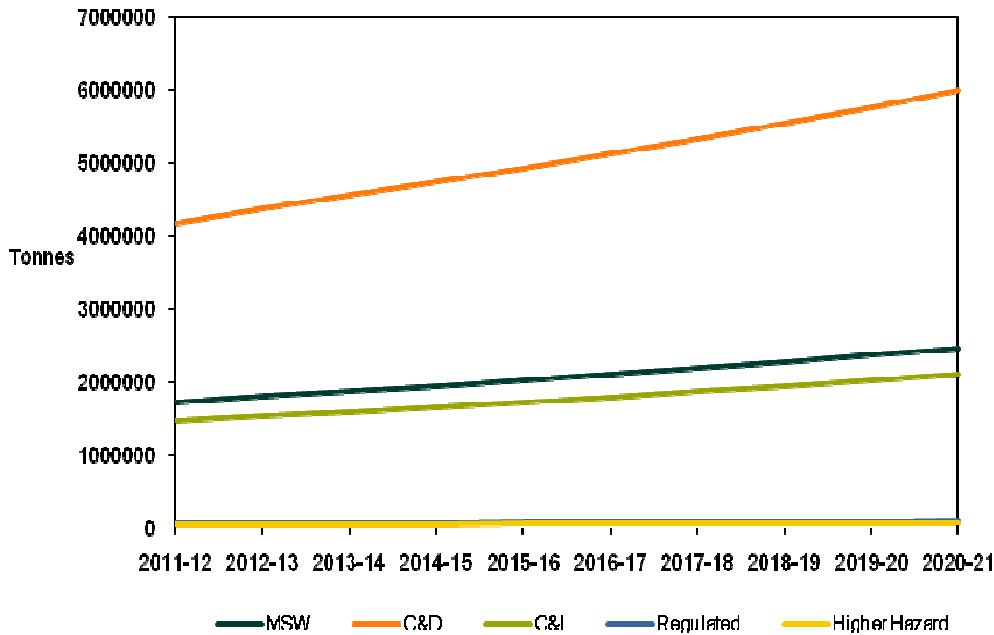
Submissions on this RAS will be considered in preparing the proposed WRR Act, which will provide a head of power for the proposed levy. It is proposed to review the efficacy of the levy at the same time the waste strategy is reviewed. This will enable a more complete assessment of the benefits obtained from delivering the programs funded by the levy revenue. Timeframes for reviewing the waste strategy will be determined under the new Act.

1. ISSUES STATEMENT

Waste generation in Queensland is increasing at a rapid pace. Between 2003–04 and 2007–08 there was around a 40 per cent increase in overall waste generation whilst Queensland's population grew only by 10 per cent. This trend is predicted to continue due to ongoing population pressures and higher living standards, which result in more materials being consumed and discarded as waste.

Queensland is largely dependent on landfill disposal to manage waste and, at only 33 per cent, has one of the worst recycling rates in Australia. Although recycling trends in the household sector are showing some gradual improvement, recycling overall is not keeping pace with increases in waste generation and landfill disposal. The forecast levels of waste disposed at landfill for the whole of Queensland, by waste stream, are shown in Figure 1.

Figure 1 Forecast levels of waste disposed at landfill – whole of Queensland



Currently, disposal prices quoted by Queensland’s local councils and private operators generally take account of the running costs of the landfill, but do not include the full environmental costs of disposal. Disposal prices often don’t also account for the long-term costs of disposal including post-closure care and maintenance of old landfill sites, and the cost of establishing a new landfill site.

Disposal remains a comparatively inexpensive option and is often easier than recycling or resource recovery. The low cost of disposal to landfill inhibits developing markets for resource recovery products, investment in new technologies, and improved practices (particularly for regional areas). Work undertaken by the National Recycling Initiative, a partnership between the Australian Council of Recyclers and the Boomerang Alliance, highlighted the quantum of industry investment that Queensland is potentially missing in comparison with other states that have a levy price signal and other contemporary waste management and resource recovery policies.

Government intervention, in the form of a waste disposal levy, is a widely used policy instrument in Australia. All mainland states apart from Queensland have enacted legislation that imposes a levy on waste disposed of to landfills or similar waste disposal facilities. Waste disposal levies are used to fund waste management and environmental initiatives, and to encourage behavioural change among consumers intending to dispose of waste.

Introducing a levy in Queensland will make consumers more accountable for disposal costs and will encourage greater waste avoidance and resource recovery. A benefit-cost assessment undertaken by the BDA Group for South Australia’s Waste Strategy 2005–2010 estimated that implementing proposed levy increases would see higher diversion rates from landfill and, in particular, would help meet South Australia’s target for diversion of C&D

waste². Also, analysis of the levy impacts in New South Wales shows that its levy has encouraged more recycling, particularly for large tonnages³.

Where government takes no action to introduce the levy, a price signal incentive to control and reduce excessive waste disposal to landfill will not be created.

The absence of a waste levy in Queensland also makes Queensland landfills an attractive and cheap option for interstate waste disposal. In 2008, for example, the Queensland Government was notified of a company's intent to send to a facility in Queensland 55,000 tonnes per year of regulated waste generated in Victoria. Disposing of such waste in Victoria would cost the company around \$680 per tonne, compared with around \$40 per tonne in Queensland – a saving of between \$8 and \$11 million per year to that company.

Introducing a levy in Queensland will make disposal costs more comparable with other states and discourage interstate transport of waste to Queensland landfills. The National Waste Policy, released in November 2009, aims to achieve consistency in waste management practices across Australia. Carting interstate waste to Queensland could potentially impact on improving Australia's overall waste management performance.

It is proposed to enact new legislation to introduce a waste disposal levy in Queensland effective from 1 July 2011.

Groups affected by such a levy include local and state governments, waste and recycling industry, other industries, environmental and community groups. All groups have taken part in the consultation process for Queensland's draft waste strategy.

Submissions received about the draft waste strategy were concerned with both the proposed levy and other waste-related matters, such as managing priority products and illegal dumping. The Summary Consultation Report on the draft strategy and the final strategy will be released before the end of 2010.

Section 5 of this RAS outlines consultation processes on the proposed levy to date.

All are invited to make submissions on this RAS. Submissions will be considered in the making of the new legislation.

2. POLICY OBJECTIVES

2.1 Policy proposal: Introducing a waste disposal levy

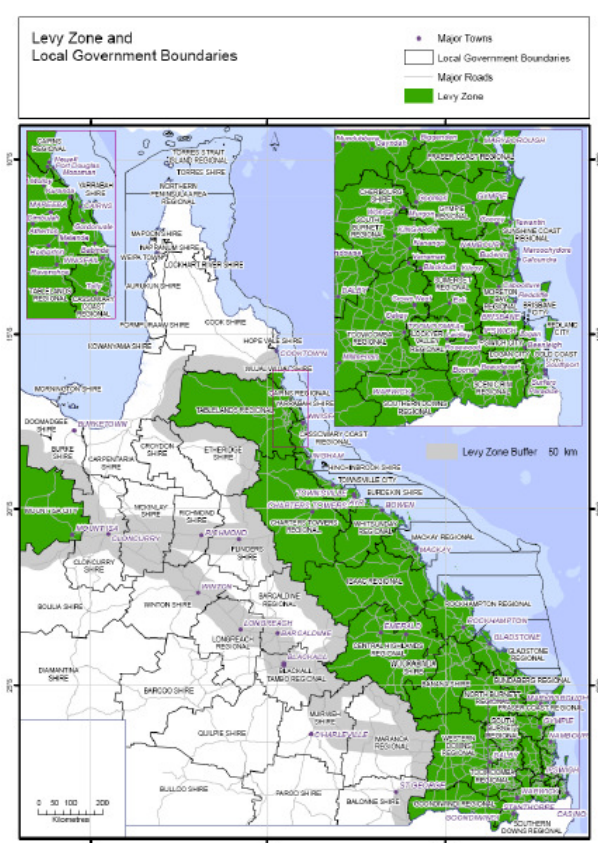
It is intended to introduce a waste disposal levy under a new Queensland Act, the *Waste Reduction and Recycling Act 2011* (the WRR Act).

The levy will be a charged on waste presented for disposal at waste disposal sites. The WRR Act will establish a levy zone for the purposes of the levy. Over 95 per cent of Queensland's population resides within the levy zone. The proposed levy zone is shown in Figure 2.

² South Australia's Waste Strategy 2005-2010, Benefit Cost Assessment, page 13. The report may be accessed through: http://www.zerowaste.sa.gov.au/upload/resources/publications/cost-benefit-analysis/2188/BenefitCostAnalysisVolume_summary.pdf

³ NWS State of the Environment Report 2009, page 106.

Figure 2 Proposed levy zone map



The levy will be charged on applicable waste that is disposed of to a waste disposal site within the levy zone. The levy will not discriminate between Queensland and interstate waste as all applicable waste being disposed of within the levy zone will be leviable.

The levy will also be charged on applicable waste generated within the levy zone but disposed of to a waste disposal site outside the levy zone. This is to avoid waste being transferred out of the levy zone to avoid paying the levy.

The levy does not apply to waste that is both generated and disposed of to a waste disposal site outside the levy zone.

Applicable waste to which the levy applies will be defined under the WRR Act. Applicable waste includes the following waste streams:

- **Commercial and Industrial (C&I) waste:** This is waste that is produced by business and commerce. It includes waste from schools, restaurants, offices, retail and wholesale businesses, hospitals, primary production and manufacturing industries.
- **Construction and Demolition (C&D) waste:** This is waste that is produced by construction, renovation or remodelling, or demolition activities and has the potential for resource recovery. C&D material may include plastic and cardboard packaging, material off-cuts, timber, steel, concrete and recovered appliances, doors and windows, taps, roofing iron and tiles and pipe work. Much of this material is able to be recovered for a beneficial use.
- **Municipal solid waste (MSW):** This is domestic waste that is generated by household kerbside-collected material and local government street sweeping, maintaining litter bins and public parks and gardens; and water and sewage treatment plants.
- **Regulated waste:** This can be lower or higher hazard waste. This waste is generated from non-domestic sources and is subject to additional controls due to the increased

risk associated with its management. It includes acids, oil, batteries, tyres and clinical waste. Regulated waste may be a solid or liquid.

Section 3 of this RAS summarises the benefits and costs associated with charging the levy on all waste streams above, or limiting the levy to C&I, C&D and regulated wastes only.

The government has decided that the levy rate of zero will apply to MSW.

For the purposes of the cost-benefit analysis (CBA) discussed under this RAS, self-haul was included in the definition of MSW. However, consultation in the draft Strategy revealed a number of issues with the exclusion of domestic self-haul from the levy. The CBA also showed the potential impacts on the skip bin industry if self-haul is excluded from the levy. On that basis, on the day of publication of this RAS, the inclusion of self-haul in the levy was still under discussion

The preferred option is to introduce the proposed levy rates as described in Figure 3 below.

Figure 3 Proposed levy amounts

Waste stream	Disposal levy amount
Commercial and industrial waste	\$35 per tonne
Construction and demolition waste	\$35 per tonne
Contaminated and acid sulphate soils	\$35 per tonne
Lower hazard regulated waste	\$50 per tonne
Higher hazard regulated waste	\$150 per tonne
Municipal solid waste	\$0

Source: Queensland Department of Environment and Resource Management. 2010. *Queensland's Waste Strategy 2010-2020: Proposed Industry Waste Levy Consultation Draft*. June. p 2.

It is also proposed to make certain exemptions to the levy available on a case-by-case basis and upon application to DERM. It is envisaged that exemptions could be available for:

- waste resulting from a declared natural disaster, such as cyclone, bushfire or flood
- waste generated as a result of a biosecurity outbreak
- waste where disposal is required by regulation, such as appropriately managed asbestos and fire-ant waste
- community service waste such as litter or illegally dumped waste collected by a local government, community group or other organised event, such as Clean Up Australia Day, and waste that has been received by charities as part of donations.

2.2 Key policy objectives

The key policy objectives of introducing a levy on waste disposal are to provide:

(a) A price signal to change waste generator's behaviour and provide a disincentive to unnecessary landfill disposal

The levy will be a price signal to encourage waste generators to improve their waste management behaviour.

The waste disposal site operator will be responsible for paying the appropriate levy to the State for waste received at their disposal site. Waste disposal site operators may choose to pass the cost of the levy to their clients. This will make waste generators more accountable for waste disposal costs and thus influence their waste management decisions. The strategy advocates a waste and resource management hierarchy for making waste management decisions. The hierarchy, which will be embedded in the proposed WRR Act, promotes

waste reduction as the preferred waste management option, followed by reuse, recycling, other recovery including energy recovery, treatment and, finally, disposal.

Introducing a strong price signal on disposal supports the hierarchy and is a step towards changing the way people perceive waste; in other words, it is a step towards valuing the things society currently wastes.

(b) A level of consistency with waste disposal costs in other states

Queensland is the only Australian mainland state that has not introduced a waste disposal levy. Queensland's waste generators often pay comparatively less for disposal than their interstate counterparts. The absence of a waste disposal levy in Queensland makes disposal to Queensland's waste disposal sites an attractive option for waste generators in other states trying to avoid paying the levy required under their own legislation.

When Queensland's waste disposal levy is introduced on 1 July 2011, the New South Wales levy will be around \$80 per tonne and the levy in Victoria will be \$40 per tonne.

At \$35 per tonne for C&I and C&D waste, and with the differentiated levy for regulated wastes, the levy will bring waste disposal costs in Queensland closer to costs in other states. This means that the levy will create a reasonable deterrent to the unnecessary disposal of interstate waste into Queensland's landfills.

(c) Funding for programs to help establish better waste avoidance and resource recovery practices and overall waste management initiatives

The levy will be set at an amount that provides sufficient funding for programs to help waste generators change their practices, support investment in waste and resource recovery infrastructure, and foster markets and technologies for recovered materials.

Introducing a levy will encourage businesses to adopt stronger recycling processes, and will boost investment in the waste and resource recovery industry sector including investment in new infrastructure and technologies in Queensland. The levy will also bring environmental and economic benefits as waste previously destined for landfill is diverted to reuse, recycling and energy recovery activities.

(d) Reduction in Queensland's carbon footprint from waste disposed to landfill.

Waste buried in landfill produces significant greenhouse gas emissions. The levy will divert materials from landfill to be recovered, recycled or re-used, helping to reduce Queensland's carbon footprint.

2.3 Authorising law and relationship with other legislation

The proposed WRR Act will be the authorising law for the levy and thus will establish the head of power for the levy.

Queensland's waste management legislative framework is more than 10 years old and has never been significantly reviewed. The current framework is established under the *Environmental Protection Act 1994* (the EP Act) and includes: the Environmental Protection (Waste Management) Policy 2000; the Environmental Protection (Waste Management) Regulation 2000; and the Environmental Protection Regulation 2008 (EPR).

The current framework deals with the environmental impacts of waste after it has been generated or with managing the impacts resulting from waste management activities. For example, the legislation provides for the licensing of waste management activities that may cause environmental harm (environmentally relevant activity), tracking of regulated waste, design rules for waste equipment, and so on.

The legislation, however, is not focused on promoting waste avoidance or reduction, resource recovery, recycling and reuse and does not reflect contemporary waste management practices adopted by industry, local governments and other states.

The WRR Act and regulation will be introduced to deal with waste reduction and resource efficiency. It is also proposed to repeal the Environmental Protection (Waste Management) Policy 2000 and the Environmental Protection (Waste Management) Regulation 2000 to allow relevant provisions to be incorporated in the new legislation. Consequential amendments to the EP Act and EPR will also be required.

Separating the waste legislation from the core environmental protection legislation will enable the legislation to focus on specific waste issues and will provide clarity to businesses, the community and local governments on the legislative tools dealing with the various aspects of waste management and resource recovery.

The proposed legislation is not inconsistent with the policy objectives of other Queensland or Commonwealth legislation. The proposed legislation will bring Queensland closer to waste management regulatory frameworks of other states, a key goal of the National Waste Strategy.

3. OPTIONS AND ALTERNATIVES

DERM has considered maintaining the status quo, which would see no levy introduced. This is referred in this RAS as the 'base case'. Two options have been considered regarding the introduction of a waste disposal levy. The base case and the two options are discussed below.

The base case: levy is not introduced

Under the base case, a waste disposal levy is not introduced. Maintaining the current system would have significant implications for Queensland. As demonstrated in Figure 1, disposal to landfill will continue to rapidly rise and there will be no suitable alternative market incentive to control and reduce excessive waste disposal.

Waste generators will be less accountable for cost of disposal to landfill and thus will be less likely to improve their approach to resource recovery and waste avoidance. The absence of a levy will also hinder investment in the resource recovery sector and developing markets for recovered materials and new technologies.

In the base case it is expected that more interstate waste will be diverted to Queensland landfills for disposal as this would be a cheaper option than disposal costs in other states where levy rates continue to increase. This will put pressure on Queensland's landfill sites and may affect Australia's overall waste management goals under the National Waste Policy.

Without a levy, there will be no additional funding to support waste-related and environmental programs and the targets of the waste strategy will be compromised.

The base case does not meet the key policy objectives and thus is not recommended.

Option 1: Levy applies to C&I, C&D and regulated wastes and does not apply to MSW

Under option 1, the levy applies to waste streams other than MSW (i.e. the levy rate for MSW is zero). The levy amounts proposed per waste stream under this option are described in Figure 3 on page 9 of this RAS. The costs and benefits associated with this option are discussed in Section 4 of this RAS.

This option meets all key policy objectives and is the recommended option.

Option 2: Levy applies to all waste streams

Under option 2, the levy would apply to all waste streams – C&I, C&D, regulated waste and MSW.

The levy amount for MSW would be the same as the levy rate proposed for C&I and C&D waste streams; \$35 per tonne. The proposed levy amounts under this option are described in Figure 4.

Figure 4 Proposed levy amounts

Waste stream	Disposal levy amount
Commercial and industrial waste	\$35 per tonne
Construction and demolition waste	\$35 per tonne
Contaminated and acid sulphate soils	\$35 per tonne
Lower hazard regulated waste	\$50 per tonne
Higher hazard regulated waste	\$150 per tonne
Municipal solid waste	\$35 per tonne

The costs and benefits associated with this option are discussed in section 4 of this RAS.

Option 2 meets most key policy objectives and is consistent with the approach in other Australian jurisdictions where the levy applies to all waste streams.

However, introducing a levy on MSW disposal in Queensland is unlikely to represent a price signal that will change the domestic household sector's behaviour. Currently, local governments charge all residents in a particular area equally for waste management services, independently of residents' individual waste management practices. This means that residents have no control over how much they pay for waste disposal, regardless of how much they recycle. In other words, a resident who produces less waste or recycles better is charged the same price as residents who produce more waste or recycle less.

Applying a levy on MSW at this stage would not provide an incentive for individual households to be more efficient in managing their waste, given the established council practice of charging all residents a flat rate.

Additionally, applying the levy on MSW could potentially hinder the uptake or expansion of domestic household kerbside collection services by local governments. These services have significantly contributed to improved recycling practices in the domestic household sector.

This option is not recommended.

It is reasonable and appropriate to take a legislative approach to introducing a waste disposal levy. A legislative approach is consistent with the waste management approach in other states and ensures the policy objectives are able to be achieved through a set of legally enforceable provisions.

4. IMPACT ASSESSMENT

4.1 Methodology

A cost-benefit analysis (CBA) was undertaken to identify the impacts, including benefits and costs, of the introduction of a levy under options 1 and 2. The impacts under each option

have been assessed against the base case where no levy is introduced. The following impacts have been identified:

- resource savings
- economic benefits of reduced landfill waste
- environmental benefits of reduced landfill waste
- avoided emissions from production
- source reduction and waste avoidance⁴
- illegal dumping
- costs of material recovery and reprocessing
- levy implementation, administration and business compliance costs
- impacts on skip industry
- other impacts on households and employment.

Parameters have been developed to quantify benefits and costs of the levy options where possible. All parameters are described in the CBA attached to this RAS.

The benefits and costs of the two options for implementing the levy (one including all waste streams and the other excluding MSW) were modeled over a 10-year period (2011–2021) using a social discount rate of 6 per cent. This social discount rate was applied given the nature of the levy as a corrective tax. In other words, the levy will be imposed to align production and consumption decisions with the best possible use of resources. The adjustment to business and consumer resource use is a benefit to society and thus was taken into account by the CBA.

The benefits and costs were quantified using a present value (PV) method. Such a method is used to show the value in today's dollars (2010), thus acknowledging that an amount of money today is worth less in the future. A Net Present Value (NPV) shows the net impacts of the levy; that is, benefits minus costs. A positive NPV means the community is better off with the policy than without it.

A Benefit Cost Ratio (BCR) method was also used to evaluate the levy's impacts. A BCR is used when there are several options being assessed and more than one option can be implemented (such as levy options 1 and 2). The BCR is a 'value for money' indicative that depicts the total financial return for each dollar invested to implement each option. A ratio of greater than one indicates that the option is cost-effective and beneficial to the community.

Where an impact could not be quantified, qualitative analysis has been undertaken.

The findings of the CBA have been summarised in the body of this RAS. Full information on the impacts of the levy under each option is included in the CBA attached to this RAS.

4.2 Resource savings

Among the proposed levy's benefits are the resource savings resulting from diverting materials from disposal. This benefit was quantified by:

- calculating the percentage of materials by waste stream that would be diverted from disposal if the levy was introduced
- applying such a percentage to the forecast amount of materials presented for disposal if the levy is not introduced
- estimating the monetary value of materials diverted from disposal.

⁴ The CBA referred to this benefit as 'reduced packaging from process innovation'. However, DERM is of the view that reduced packaging from process innovation is a part of a broader category of benefits referred here as source reduction and waste avoidance.

The estimated percentage of materials by waste stream that would be diverted over the 10-year period from disposal after the levy is introduced is described in Figure 5.

Figure 5 Assumed Queensland's annual diversion rates under levy

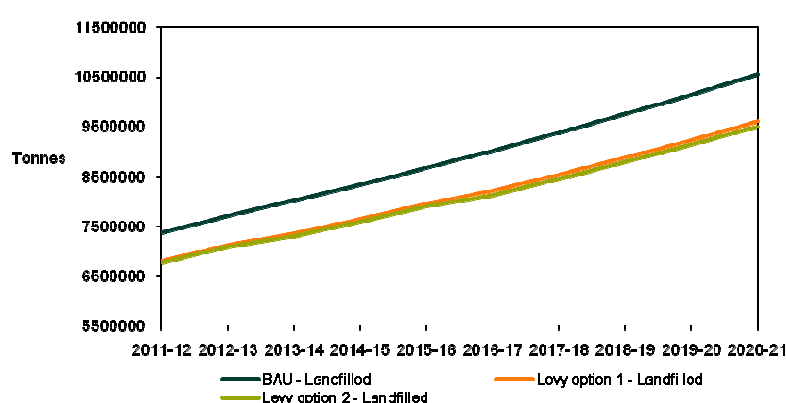
Waste stream	2011-12 & 2012-13	2013-14 to 2015-16	2016-17 to 2020-21
MSW (levy option 2 only)	2%	3%	4%
C&D	2%	3%	4%
C&I	3%	4%	5%
Regulated	1%	1%	1%
Higher Hazard	0%	0%	0%

These percentages were arrived at by moderating New South Wales diversion rates since the introduction of the levy.⁵ New South Wales diversion rates needed adjustments given that the recycling rates currently being achieved in New South Wales, in relation to C&I and C&D, are significantly higher than those achieved in Queensland (44 per cent and 67 per cent compared to 17 per cent and 22 per cent). This indicates Queensland's higher potential for growth in recycling rates for these waste streams.

The annual diversion rates resulting from the introduction of the levy will contribute to the achievement of the targets under Queensland's waste strategy. However, whilst the strategy aims for diversion of 50 per cent of the waste stream, this target includes the effect of an integrated approach, which includes legislation and programs, in addition to the levy price signal. The assumed annual diversion rates are the expected result from introducing the levy alone.

The assumed annual diversion rates resulting from the levy (in Figure 5) were applied to the current and forecast levels of waste disposed at landfill in Queensland (Figure 1) over 10 years under the base case, in which no levy is introduced. Figure 6 below shows the amount of resources that are expected to be diverted from landfill disposal under options 1 and 2 over the 10-year period.

Figure 6 Forecast landfill disposal rates



⁵ The current annual recovery growth rates for New South Wales are: 2% for MSW, 2.25% for C&I and 0.75% for C&D. *Recycling: The Shameful Facts - NSW Is behind on 8 out of 9 Targeted*. Catherine Cusack, 25 Mar. 2009. Web. 28 Sept. 2010. <http://www.catherinecusack.com.au/index.php?option=com_content&view=article&id=428:recycling-the-shameful-facts--nsw-is-behind-on-8-out-of-9-targets&catid=1&Itemid=100079>.

The monetary value of materials diverted from disposal has been calculated on the basis of publicly available information on the lost commodity value attributable to landfill waste.⁶ Figure 7 presents an overview of estimates calculated for the lost commodity value from landfill waste in Queensland, Victoria and Western Australia.

Figure 7 Estimates for lost commodity value from landfills

State	Year	Lost commodity value (\$)	Landfill waste (t)	\$/tonne
Queensland	2005	351.9 million	6,025,000	58.4
Victoria	2005/06	283.8 million	4,080,000	69.6
Western Australia	2004	252.6 million	3,797,000	66.5

Source: Data obtained from a series of reports prepared by the Total Environment Centre titled 'State of Waste Series'.

The data obtained above for Queensland is from 2005 and has been inflated at the rate of 3 per cent per year over six years (which brings it to 2011 when the levy is introduced)⁷ resulting at an estimate of \$70/tonne, which is broadly comparable with the data from other states. At \$70 per tonne of diverted waste, it is estimated that the present value of resource savings under each option over 10 years will be as per Figure 8:

Figure 8 Resource savings benefits for each option

Waste stream	Option 1 (no MSW)	Option 2 (MSW incl.)
MSW	-	\$ 32,148,984
C&D	\$ 75,980,088	\$ 75,980,088
C&I	\$ 35,854,253	\$ 35,854,253
Regulated	\$ 396,761	\$ 396,761
High Hazard	-	-
Total (PV)	\$112,231,102	\$144,380,086

4.3 Economic benefits of reduced landfill waste

Economic costs associated with landfill disposal include the land, lining, on-site gas recovery and flaring, fencing, post-closure capping and landscaping, operational costs such as labour, fuel and materials, plus rehabilitation and after-care. These costs will be avoided or deferred where materials are diverted from landfill disposal.

The cost savings from diverted materials have been calculated based on estimates by the BDA group on private costs for a medium-sized landfill of \$60 per tonne⁸.

A medium-sized landfill has been adopted for Queensland, given that of Queensland's 428 landfill sites only 18 have greater than 100,000 tonnes capacity. At \$60 per tonne of diverted waste, it is estimated that the present value from reduced landfill waste under each option over 10 years will be as per Figure 9.

⁶ The lost commodity value represents the potential benefits that can be obtained from diverting waste away from landfills.

⁷ The 2005 estimate of \$58.4/tonne was inflated at 3% over a six year period.

⁸ BDA Group (2009). The full cost of landfill disposal in Australia. Department of Environment, Water, Heritage and the Arts.

Figure 9 Reduced landfill waste (economic benefits)

Waste stream	Option 1 (no MSW)	Option 2 (MSW incl.)
MSW	-	\$ 27,556,272
C&D	\$ 65,125,790	\$ 65,125,790
C&I	\$ 30,732,217	\$ 30,732,217
Regulated	\$ 340,081	\$ 340,081
High Hazard	-	-
Total (PV)	\$ 96,198,088	\$ 123,754,359

4.4 Environmental benefits of reduced landfill waste

Environmental benefits follow when environmental costs associated with landfill disposal are avoided. Benefits arise when materials no longer end up in landfill.

Avoiding greenhouse gas emissions is the most significant environmental benefit of reduced landfill waste. Avoided greenhouse emissions were quantified by applying to the tonnes of diverted waste:

- the figures on emissions per waste stream provided by the Australia Greenhouse Office⁹
- applying to these figures a rate of \$25 per tonne, which was the initial carbon price assumed in the Australian Government's Carbon Pollution Scheme White Paper.

Other environmental benefits include avoiding other gas emissions; leachate leakage and amenity damage. These were quantified at the rate of \$1 per tonne of diverted waste, based on the values reported in the Productivity Commission and BDA Group studies on the environmental cost of landfill waste.¹⁰

The present value of reduced landfill waste for each option is included in Figure 10.

Figure 10 Reduced landfill waste (environmental benefits)

Waste stream	Option 1 (no MSW)	Option 2 (MSW incl.)
MSW	-	\$ 11,941,051
C&D	\$ 9,226,154	\$ 9,226,154
C&I	\$ 14,597,803	\$ 14,597,803
Regulated	\$ 161,538	\$ 161,538
High Hazard	-	-
Total (PV)	\$ 23,985,495	\$ 35,926,546

4.5 Avoided emissions from production

It is expected that there will be an additional reduction in greenhouse gas emissions achieved by using recovered materials instead of virgin materials. Although the CBA was not able to quantify this benefit, such expectation is validated by studies in other jurisdictions.¹¹

⁹ MSW - 1,000kg CO₂-e/kg; C&I - 1,100kg CO₂-e/kg; C&D - 300kg CO₂-e/kg; Regulated - 1,100kg CO₂-e/kg; Higher Hazard - 1,100kg CO₂-e/kg

¹⁰ Productivity Commission. 2006. *Waste Management*. No 38. October. p 76. BDA Group (2009). The full cost of landfill disposal in Australia. Department of Environment, Water, Heritage and the Arts.

¹¹ United States Environmental Protection Agency published a report titled 'Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks' which estimated greenhouse gas reductions from replacing virgin materials with recycled materials in manufacturing processes.

4.6 Source reduction and waste avoidance

This benefit could not be quantified. However, a benefit is expected as a direct outcome of the levy price signal. The levy will encourage changes in behaviour by providing an incentive to businesses to avoid paying the levy by reducing the amount of waste they produce. Also, the levy will encourage investment in innovation, design, manufacture, purchase or use of materials or products in a way that reduces either the amount of waste that is generated or increase the amount of recoverable waste. Examples include altering the type of packaging used in manufacturing or producing low-waste products.

4.7 Illegal dumping

Illegal dumping is a cost of the proposed levy. In order to quantify this cost it is necessary to estimate:

- the volume of illegally dumped waste in Queensland under the base case (no levy)
- the cost of illegally dumped waste
- the expected increases in illegal dumping (if any) under each levy option.

Publicly available information on illegal dumping expenditure in other jurisdictions (Victoria, South Australia and New South Wales) shows that the average cost of illegal dumping is \$1.37/person¹². A cost benefit study undertaken for the South Australian waste strategy estimated the cost of illegally dumped waste at \$300 per tonne.

These estimates were used to quantify the volume and cost of illegally dumped waste in Queensland. When the average cost of \$1.37 per person is applied to the Queensland's population (4,473,000¹³), the estimated annual cost of illegal dumping in Queensland is \$6.2 million.

The volume of illegally dumped waste in Queensland under the base case was arrived at by applying the rate of \$300/tonne to the annual cost of illegal dumping estimated at \$6.2 million. This equates to an annual volume of approximately 20,666 tonnes of illegal dumping.

DERM calculated what this tonnage of illegal dumping represented in terms of a percentage of the total predicted tonnage of waste to be deposited in Queensland landfills located within the levy zone for 2010/11. These calculations were arrived at by considering the following (see Figure 11):

- the total tonnage of waste predicted to be deposited in Queensland landfills per waste stream for 2010/11 (7,044,253)
- that only 95 per cent of the Queensland's waste referred above is generated within the levy zone and 1 per cent of this waste is predicted to be exempt from the levy (thus reducing the total amount to 6,621,598)¹⁴

¹² Average cost of illegal dumping per person is: for South Australia \$0.98; New South Wales \$1.39 and Victoria \$1.75.

¹³ At the end of the December quarter 2009.

¹⁴ The 1% does not relate to MSW but to exemptions such as charitable, disaster or other waste which will be exempt by regulation or on an application to the chief executive.

Figure 11 Predicted tonnage of waste to be deposited in Queensland landfills for 2010/11 (levy zone)

Waste stream	Tonnes
MSW	1,642,424
C&D	3,881,663
C&I	1,401,906
Regulated	66,113
Higher Hazard	52,147
Total	7,044,253
94% of total	6,621,598

Accordingly, the predicted tonnage of waste (including MSW) to be deposited in Queensland landfills located within the levy zone for 2010/11 is or 6,621,598 tonnes which equals 0.31 per cent of the waste predicted to be deposited in Queensland landfills located in the levy zone in 2010–11 if no levy is introduced.

Data from other Australian jurisdictions¹⁵ show that a larger part of illegally dumped waste has been attributed to MSW and that illegal dumping is likely to decrease as people adjust to the price signal brought by the levy. Accordingly, the assumed increase in illegal dumping described in Figure 12 shows higher rates of illegal dumping in option 2 than option 1 and a decrease over the years.

Figure 12 Assumed increases in illegal dumping rates (as a % of total waste deposited at landfills)

Projection period	Levy option 1 (no MSW)	Levy option 2 (MSW included)
2011/12 & 2012/13	0.335% p.a.	0.403% p.a.
2013/14 to 2015/16	0.329% p.a.	0.388% p.a.
2016/17 to 2020/21	0.322% p.a.	0.372% p.a.

The present value of illegal dumping for each option is included in Figure 13.

Figure 13 Cost of illegal dumping under each option

Cost	Levy option 1 (no MSW)	Levy option 2 (MSW included)
Illegal dumping (PV)	\$ 3,272,276	\$ 14,155,637

Despite the differences in illegal dumping costs under the options, illegal dumping has a minimal impact on the overall costs of the levy under both options as described in Figure 13.

¹⁵ The Benefit Cost Assessment of the South Australian waste strategy in 2007 suggested that 80% of illegal dumping incidents relate to municipal solid waste.

4.8 Cost of material recovery and reprocessing

The costs associated with recovering and reprocessing materials in Queensland were calculated by applying a rate of \$100 per tonne to the expected tonnes of diverted waste. The rate of \$100 per tonne has been arrived at based on publicly available information from other jurisdictions¹⁶. This rate has been applied equally for all waste streams.

Figure 14 shows the expected costs (present value) associated with material recovery and reprocessing under each option.

Figure 14 Material recovery and reprocessing costs

Waste stream	Levy option 1 (no MSW)	Levy option 2 (MSW included)
MSW	-	\$ 45,927,119
C&D	\$ 108,542,983	\$ 108,542,983
C&I	\$ 51,220,362	\$ 51,220,362
Regulated	\$ 566,801	\$ 566,801
Higher Hazard	-	-
Total (PV)	\$ 160,330,146	\$ 206,257,265

4.9 Levy implementation, administration and compliance costs

The levy will impose additional implementation, administration and compliance costs to government and business. These cost estimates do not vary under the two levy options.

In summary, DERM estimates implementation costs to government of \$5,360,000 (including information technology costs) will be incurred in the first levy year. Continuing administration and compliance monitoring costs to government have been estimated at \$2,293,253 in year 1 and \$1,490,231 for years 2 through to 10.

In terms of the cost to business, it has been estimated that the initial set-up costs will total \$2,292,460 (to be incurred in the first year), with ongoing compliance costs estimated at \$1,727,564 per year.

Attachment 2 to this RAS contains a table with detailed information on the estimated costs for implementation, administration and compliance.

The continuing costs of the levy, including business compliance and government administration and compliance costs have been indexed at a rate of 2.5 per cent a year over the study period to estimate its present value. The rate of 6 per cent for social benefit discount has been applied to all costs including first year and ongoing costs.

¹⁶ The range of estimates produced for a comingled container of recycling were \$95/tonne for large facilities to \$143/tonne for small facilities: Productivity Commission. (2006). *Waste Management*. No 38. October.

The New York City Independent Budget Office reported that, in 2008, its recycling costs amounted to US\$46/tonne. Converting to Australian dollars produces an estimate of approximately \$50/tonne: New York City Independent Budget Office (2007). *Inside the Budget – May 1 2007*, Number 150.

Figure 15 summarises in terms of present value the implementation, administration and compliance costs associated with the levy.

Figure 15 Implementation, administration and compliance costs under each levy option

Item costed	Levy option 1 (no MSW)	Levy option 2 (MSW included)
Levy implementation cost to government (year 1 cost)	\$ 5,056,604	\$ 5,056,604
Levy administration and compliance cost to government (year 2-10)	\$ 12,901,140	\$ 12,901,140
Set-up costs for business (year 1 cost)	\$ 2,162,698	\$ 2,162,698
Business operating and compliance (year 2- 10)	\$ 14,077,548	\$ 14,077,548
Total (PV)	\$ 34,197,990	\$ 34,197,990

4.10 Impact on skip bin industry

Skip bin operators' waste is classified as C&I and is subject to a levy under both options 1 and 2. It is expected that skip bin operators will pass the cost of the levy to their clients. The skip bin industry fears that where MSW (in particular, domestic self-haul) is excluded from the levy (option 1), householders will prefer to self-haul their waste or to use council kerbside services rather than the increased price of a skip bin.

This potential impact is dependent upon the proportion of skip bin operator revenues that are associated with the domestic household sector and on how householders are likely to react to a potential increase on skip bin prices. This could potentially result in a loss of income and jobs in the skip bin industry.

Information provided by the Waste Contractors and Recyclers Association of Queensland (WCRAQ) says that the domestic household sector can amount to between 35 and 80 per cent of skip bin operators' clientele. Advice to DERM from individual skip bin operators is that this can account to 100 per cent of the business of small operators. Advice to DERM also indicates that the Brisbane skip bin industry is currently worth \$60 million a year and directly employs 500 people. This sector represents about 30 per cent of the Queensland waste industry and is estimated to collect approximately five million cubic metres of waste annually.

The Brisbane residential skip bin market is currently serviced by around 50 companies. Estimates from the sector indicate potential lost revenue of around \$15 million due to the additional price of a bin charged directly to the resident. The impact is likely to be more evident in regional areas where smaller operators provide services. The loss of one or two service providers in a regional centre could mean there is no skip bin service provider available.

Applying the levy to domestic self-haul waste would remove the potentially adverse impacts of the levy on the skip bin industry. At the time of publication of this RAS this issue was still under discussion.

4.11 Other impacts

Impacts on employment

Introducing a waste disposal levy is likely to affect employment. It is expected that jobs could move from the landfill sector to the resource recovery sector. In June 2009, the Australian Government commissioned Access Economics to study the potential for green job creation under the National Waste Policy released in November 2009. The study reported that the direct FTE employment per 10,000 tonnes of waste is 9.2 for recycling and 2.8 for landfill¹⁷. The higher FTE for recycling is due to activities in the recycling sector being more labour-intensive when compared when landfill-related employment. The benefit-cost assessment undertaken by the BDA Group for the South Australia's Waste Strategy 2005-2010 also anticipated positive employment impacts in South Australia brought by its strategy, including a levy¹⁸.

Impact on households

The impacts of the levy on households can not be quantified. However, levy option 2 is likely to have a higher impact on household costs as this option charges the levy on MSW.

Implementing a levy on MSW will raise the costs of local government services, which will presumably be passed onto households. Such an increase in costs, however, is unlikely to result in a price signal that can be avoided by behavioural change. This is because all householders in a particular area are charged the same for waste collection services regardless of how much waste they produce or recycle. Residents have no control over these charges, which are typically included on their rates notices.

Applying the levy on MSW might also hinder local government expanding domestic household kerbside-collection services. These services have significantly contributed to improved domestic recycling practices and are supported by the strategy.

4.12 Comparative analysis of impacts under proposed levy options

An analysis of the general impacts of the levy and a comparison of both proposed levy options is given below.

The CBA found that resource savings are the most significant benefit of the levy at the present value of around \$112 million for option 1 and \$144 million for option 2.

This is followed by the economic benefits of reduced landfill waste, with a present value of around \$96 million for option 1 and \$123 million for option 2, while the present value of the environmental benefits of reduced landfill waste is estimated at approximately \$24 million for option 1 and \$36 million for option 2.

The CBA also showed that the material recovery and reprocessing costs account for a significant majority of the total costs of the levy (81.1 per cent under levy option 1 and 81 per cent under levy option 2).

Figures 16 and 17 show the total quantified benefits and costs of each levy option.

¹⁷ Access Economics (2009), *Employment in Waste management and Recycling*, p.2.

¹⁸ South Australia's Waste Strategy 2005-2010, *Benefit Cost Assessment*.

Figure 16 Total quantified benefits and costs under each levy option

Benefits	Option 1 (no MSW)	Option 2 (MSW included)
Resource savings	\$ 112,231,102	\$ 144,380,086
Reduced landfill waste (Economic)	\$ 96,198,088	\$ 123,754,359
Reduced landfill waste (Environmental)	\$ 23,985,495	\$ 35,926,546
Total (PV)	\$ 232,414,685	\$ 304,060,991

Figure 17 Total quantified costs under each levy option

Item costed	Option 1 (no MSW)	Option 2 (MSW included)
Illegal dumping	\$ 3,272,276	\$ 14,155,637
Material recovering and reprocessing costs	\$ 160,330,146	\$ 206,257,265
Implementation, administration and compliance costs	\$ 34,197,990	\$ 34,197,990
Total (PV)	\$ 197,800,412	\$ 254,610,892

Generally, introducing a waste disposal levy is supported by the findings of the CBA. The CBA indicated that the total quantified benefits of either option 1 (no levy on MSW) or option 2 (MSW inclusive) outweigh the costs associated with each of these options. The overall net impact of moving from the base case to either option 1 or 2 is also similarly positive.

Figure 18 demonstrates the overall levy impacts for each option.

Figure 18 Summary of impacts of the levy under each option

Value	Levy option 1 (no levy on MSW))	Levy option 2 (MSW included)
Total benefits	\$ 232,414,685	\$ 304,060,991
Total costs	\$ 197,800,412	\$ 254,610,892
NPV	\$ 34,614,273	\$ 49,450,100
BCR	\$ 1.175	\$ 1.194

The BCR for option 1 is 1.175 and for option 2 is 1.194 making both options cost-effective and beneficial to Queensland.

A sensitivity analysis has also been performed on several key variables and parameters used in quantifying the impacts. None of the scenarios modelled in the sensitivity analysis result in a negative net impact for either levy option. Full details of the sensitivity analysis are included in the CBA attached to this RAS.

The levy proposal is consistent with the Competition Principles Agreement.

5 CONSULTATION

Queensland's waste reform process was initiated in October 2007 with the public release of the Let's not waste our future: Queensland Waste Strategy Discussion Paper (the discussion paper).

The discussion paper canvassed opinions and ideas on waste management and resource recovery issues, and options for strategic action. It was the first document to consider the introduction of a waste disposal levy in Queensland. The then-Environmental Protection

Agency also commissioned Hyder Consulting to run stakeholder consultation forums during November and early December 2007.

Responses to the discussion paper and outcomes from stakeholder consultation forums were gathered. This included feedback from local government, the waste and recycling sector, environment and community groups, and other key industry sectors.

These 2007 outcomes informed the development of the draft Waste Strategy 2010-2020 and the Proposed Industry Waste Levy Consultation Draft (supplementary levy document), which were released for public consultation in June 2010.

The consultation period for the draft waste strategy and the supplementary levy document ran for 10 weeks and was extended twice due to significant stakeholder and community interest in this issue. Submissions were received from six broad sectors: individuals acting in a private capacity, community and environment groups, local governments, Queensland government agencies, the waste and resource recovery sector, and general business and industry.

During the consultation period, the Department of Environment and Resource Management organised and attended stakeholder consultation briefings in south-east and regional Queensland. Representation in such briefings included more than 110 waste and resource recovery sector representatives, 80 general business and industry representatives, 60 local government representatives, and 20 environment and community representatives. Various issues associated with introducing a waste disposal levy were raised through the consultation on the draft strategy and the supplementary levy document.

Full details of the outcomes of the consultation on the draft strategy and supplementary levy document will be published with the release of the Consultation Summary Report.

This RAS has been prepared to outline the application of the levy under option 1 (to exclude MSW from the levy) and option 2 (levy on all waste streams). Submissions on the levy options proposed under this RAS are sought by 28 January 2011.

6 PREFERRED OPTION

Option 1, which excludes MSW from the levy, is the preferred option. This option has been assessed as cost-effective and beneficial under the CBA. Option 1 is a reasonable and appropriate response to the key policy objectives in that it will provide:

- a sufficient price signal to improve waste generators' approach to waste avoidance and resource recovery and a disincentive to unnecessary landfill disposal
- a level of consistency with waste disposal costs in other states that will be a reasonable deterrent to the unnecessary disposal of interstate waste into Queensland's waste disposal facilities
- reasonable funding for programs to help establish better waste avoidance and resource recovery practices and overall waste management practices
- a reduction in Queensland's carbon footprint from waste disposed to landfill.

The base case, in which no levy is introduced, has been discarded as it does not meet the key policy objectives outlined above. In fact, the base case is likely to adversely impact on waste generators' behaviour and encourage disposal as a first option due to the current low prices associated with it. It is also likely to make Queensland's waste disposal sites increasingly attractive for interstate waste cartage, thus impacting on Australia's overall performance under the National Waste Strategy. Under the base case, there will be no funding from the levy revenue to encourage better waste avoidance and resource recovery practices, and greenhouse emissions from landfilling are expected to continue to increase.

Option 2 has a BCR of 1.194, which is higher than option 1 by less than 0.02. This difference is not considered to be significant and both options are considered similarly cost-

effective and beneficial to society. Option 2 is not recommended as it is considered that charging a levy on MSW at this stage would not create an appropriate price signal to improve behaviour in the domestic household sector. This is due to current charging practices by local governments, who apply a flat rate to all householders in their area regardless of their waste management behaviour. This means that a resident who produces less waste or recycles better is charged the same price as residents who produce more waste or recycle less.

Also, applying the levy to MSW could potentially hinder the uptake or expansion of domestic kerbside-collected services - a practice which provides significant contribution to improved recycling practices in the domestic household sector.

7 CONSISTENCY WITH OTHER POLICIES AND REGULATION

7.1 National competition policy

The guiding principle of the Competition Principles Agreement, under the National Competition Policy, is that legislation should not restrict competition unless it can be demonstrated that the:

- benefits of the restriction to the community as a whole outweigh the costs
- objectives of the legislation can only be achieved by restricting competition.

The levy proposal does not restrict competition and is consistent with the Competition Principles.

Waste disposal site operators (including private and local government operators) located within the proposed levy zone will be required to pay the levy calculated on applicable waste disposed of at their sites to the Queensland Government. This requirement does not restrict competition or disadvantage such operators in comparison with waste disposal operators located outside the levy zone.

The legislation ensures that waste disposal sites operated within the levy zone do not lose business from waste generators trying to avoid the levy by diverting their waste to sites outside the levy zone. This is achieved by applying the levy to waste generated within the levy zone that is diverted to sites outside the levy zone therefore making uneconomical for waste generators to divert their waste.

The CBA has not identified restrictions associated with the levy proposal.

7.2 Fundamental Legislative Principles

The proposed levy framework under options 1 and 2 discussed in this RAS is consistent with the fundamental legislative principles under the Legislative Standards Act 1992. An assessment of the fundamental legislative principles for other aspects under the proposed WRR Act will be undertaken as part of the drafting process.

8 IMPLEMENTATION, EVALUATION AND COMPLIANCE SUPPORT STRATEGY

Queensland's Waste Reduction and Recycling Strategy 2010-2020 will be implemented and supported by measures external to the strategy. These include introducing new legislation, the waste disposal levy and programs funded from levy revenue. Details of how these measures will be implemented will be available in early 2011, following consultation on this RAS, finalisation of a Waste Reduction and Recycling Bill, and a submission to introduce the legislation.

Attachment 1

Cost Benefit Analysis

Attachment 2

Implementation, administration and compliance costs

Compliance cost calculator methodology

Activity		Costing methodology	Total cost	
Initial implementation costs (Year 1)	Set-up costs (Business)	Levy collection – training	This is based on the approximate number of private and local government waste collection businesses throughout the levy collection zone. Labour costs and hours have been estimated to be four hours training at \$71.60/hour for two staff members.	\$114,560
		Levy collection – procedures	Set-up of internal levy collection and reporting procedures for local government. It has been assumed that private facilities already have access to internal levy collection procedures used by their employers in other Australian states. Labour costs and hours have been estimated to be 32 hours in total at \$71.60/hour.	\$77,901
		Site upgrades (where applicable)	The potential costs that may be incurred through upgrades required for the collection of the levy. These costs may include: \$15,000 for hardware, software and licences \$1,000 for signage \$5,000 for cash handling equipment. It has been estimated that these costs will be incurred by 50% of total landfill and transfer station sites.	\$2,100,000
	Government implementation costs	Local government infrastructure and supporting IT system rollout program	This includes the infrastructure support that will be provided to local government within the levy area that collect more than 10,000 tonnes of waste a year and currently do not have a weigh bridge at their landfill site.	\$4,100,000
		IT system	The design and deployment of a new Web-based database application that will be able to be accessed both internally (Intranet) by DERM users and externally (Internet) by waste disposal site operators, and the public, as an effective and efficient external data collection, assessment, analysis, receipting and auditing system The total cost of the IT system is \$2.1M – 40% of this cost (\$84,000) has been attributed to general waste data collection and therefore has not been included in the levy collection	\$1,260,000

Activity		Costing methodology	Total cost	
		costs.		
	Levy administration	This is based on 24 employees during year (levy implementation), and 15 employees during years 2 to 10 (levy application and enforcement). The employee numbers are based on employees required for the implementation, application and enforcement of the levy only. Employee costs are based on an average labour cost per hour.	\$2,293,253	
Total initial implementation costs (Year 1)			\$9,811,714	
Annual operating and compliance costs (Years 2 – 10)	Ongoing business compliance costs	Levy collection	This is based on the approximate number of private and local government landfill and transfer station sites throughout the levy collection zone. Labour costs and hours have been estimated to be one hour per week at \$71.60/hour.	\$1,563,744
		Levy reporting	This is based on the approximate number of private and local government waste collection businesses throughout the levy collection zone. Labour costs and hours have been estimated to be two hours per month at \$71.60/hour. An extra two hours per month has been included for the facilities that will manually collect the levy.	\$163,821
	Ongoing government administration costs	Levy administration	This is based on 24 employees during year (levy implementation), and 15 employees during years 2 to 10 (levy application and enforcement). The employee numbers are based on employees required for the implementation, application and enforcement of the levy only. Employee costs are based on an average labour cost per hour.	\$1,490,230
Total annual operating and compliance costs (Years 2 – 10)			\$3,217,796/year	