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Second Submission to the Productivity Commission Inquiry into Waste Generation and Resource Efficiency

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Contents

Executive summary 2
1. Introduction 4
2. Role of the Australian Government 6
2.1. Need for national consistency 6
2.2. Role of the *National Environment Protection Act 1992* 7
2.3. Best practice policy development 7
2.3.1. Oil 7
2.3.2. National Packaging Covenant 8
2.3.3. Plastic bags 9
2.3.4. Computers, televisions and tyres 10
2.4. Improved data collection 11
3. A national approach to product stewardship? 11
3.1. The value of product stewardship 11
3.2. Co-regulation vs regulation 12
3.3. Costs of compliance 13
3.4. Regulatory capture 13
4. Cost benefit analysis 14
4.1. Quantifying environmental costs and benefits 14
4.2. Understanding and informing community values 15
4.3. Opportunity for a national approach 16
5. Waste management policy 16
5.1. Waste hierarchy 16
5.2. Focus and scope of 'waste management policy' 16
6. Other issues 18
6.1. Market failures associated with patterns of consumption 18
6.1.1. Environmental and social externalities 19
6.2. Further information 20
Appendix A: Further information: landfill gas capture and energy from waste, Product Stewardship for Oil Programme, Basel Convention 21
Landfill gas capture and greenhouse policy 21
Energy from waste 22
Product Stewardship for Oil Programme 23
Basel Convention 24
Appendix B: Benefits of product stewardship approach 26
National Packaging Covenant 26
Tyres, televisions, computers 26
Business and environmental benefits of newsprint recycling 28
Acronyms 29
References 30

Executive summary

The Productivity Commission's draft report provides a critical review of waste management policy in Australia. Through a principles-based approach, the commission has provided valuable perspectives on the current state of waste policy in Australia. Although the Department of the Environment and Heritage (DEH) supports the key findings of the draft report, there are four important areas that could benefit from further consideration:

1. The role of the Australian Government

While the commission notes the value of coordinating waste management policies among the different spheres of government, it could provide more detailed guidance on the need for strong national leadership on waste matters of national significance. In addition, the commission could provide guidance on the role it considers the Australian Government should play in the future, particularly as that relates to increasing productivity and economic efficiency (in its broadest applications). DEH provides further evidence on this issue in this submission and draws to the attention of the commission industry support for a harmonised approach versus separate jurisdictional approaches.

2. The value of product stewardship schemes

The draft report states that product stewardship is only likely to have net social benefits if a very narrow set of conditions is met, namely for sectors which involve more hazardous products and a small number of firms, and where compliance can be readily monitored and enforced. DEH believes that the evidence supports the view that product stewardship approaches, developed according to best practice policy guidelines, can deliver economic and environmental benefits in a wider range of circumstances.

3. Valuing the impacts and benefits and informing community views

DEH agrees with the commission that waste policy development should be guided by open and rigorous analysis of costs, benefits and risks. However, the final report could also highlight the challenges that policy makers face in quantifying environmental and indeed community values, costs and benefits and in addressing gaps in knowledge, data and expertise. Without clear national leadership in the areas of assessing the relative policy options and informing the public with robust information, waste policies are likely to be inconsistent and potentially, result in undesirable outcomes. Few nationally agreed methodologies exist for environmental cost benefit analysis in the Australian waste management context and there are significant opportunities for national leadership in this area. A clear understanding of all values, benefits and impacts is essential if government is to develop policies that benefit society and reflect society's desired social outcomes. Further guidance from the commission on future work would be helpful.

4. The scope of waste management policy

The inquiry's terms of reference required that waste generation and disposal be considered within a product life cycle framework, embracing externalities arising upstream in the production chain. Waste policy can legitimately include interventions at various points of the product life cycle. The commission could examine upstream issues in more depth and further consider the effect of product life cycle linkages. For example, the final report could further investigate the role of separate and well targeted 'upstream interventions' (that is, policy measures that target specific products at the design or manufacturing stage) in effectively addressing market failures that lead to 'inefficient' market and waste outcomes and adverse disposal impacts. The commission is

asked to respond more fully to the wide range of upstream externalities identified in the first DEH submission.

This second submission also responds to the commission's findings on landfill gas capture and energy from waste, clarifies some points of fact in relation to the Product Stewardship for Oil Programme, and responds to a specific request for further information about the Basel Convention. This information is set out in Appendix A.

1. Introduction

The Department of the Environment and Heritage (DEH) welcomes the opportunity to make a submission in response to the Productivity Commission's draft report *Waste Management* (the draft report).

The Australian Government is committed to the principles of sustainable development, including reducing environmental impacts associated with resource consumption and waste generation. These impacts include emissions to air, land and water at various stages in the product life cycle – from extraction of raw materials to processing, marketing and transport, through to consumption and disposal. Further, in June 2006 the Government endorsed the Cement Industry Action Agenda which recommended that the Australian Government develop and implement a nationally consistent approach to waste policy, addressing such issues as eco-efficiency, recycling and product stewardship.

DEH agrees with many of the broader findings in the draft report. It is clear that waste policy should be guided by best practice approaches to policy development, in which objectives, costs and benefits are clarified and fully considered, and the policy selected gives the best return to the community. DEH shares the commission's view that there is a need for more consistent data at a national level to support policy development and that the most effective environmental policy measures would address an issue directly, rather than indirectly.

Notwithstanding the above comments, DEH believes there are opportunities for the commission to strengthen the report before the inquiry is finalised. Waste management in Australia is characterised by dispersed responsibility involving all spheres of government. Greater recognition should be given to the value of national cooperation and national coordination of waste arrangements for matters of national significance, where a robust and comprehensive analysis of all costs and benefits justifies such action. The commission could usefully examine in more detail the potential costs which might arise from separate jurisdictional schemes for waste, and recognise possible benefits to industry of harmonised national approaches.

Moreover, there is strong community support for action as represented by the policy platform of elected representatives and a demonstrated willingness by communities to contribute to the financial costs of recycling and environmental remediation. In many cases, sound policy development is hampered by insufficient information and difficulties in quantifying environmental risk and value. The commission's final report would have greater relevance for the wider community if its recommendations recognised existing policy processes, competing priorities and political realities.

This second submission by DEH proposes further analysis on four issues:

1) the role of the Australian Government (see section 2)
2) the value of product stewardship schemes (section 3)
3) valuing the impacts and benefits and informing community views (section 4)
4) the scope of waste management policy (section 5).

The submission also comments on the areas of energy from waste, greenhouse and the Product Stewardship for Oil Programme, and responds to the specific request for more information about the Basel Convention (Appendix A). Importantly, it does not consider issues that have not been identified as matters of national significance. For example, landfill policy and associated

regulatory or market based instruments are largely a concern of state, territory and local governments. This submission does not dwell on the recommendations made by the commission in these areas.

A further introductory point is the need to clarify statements made in the draft report concerning extended producer responsibility (EPR) and product stewardship (PS) schemes.

The commission defines EPR and PS in the introduction to chapter 10 of the draft report but thereafter discusses them as if they are synonymous ('EPR and PS'). While there is a degree of similarity, there are important differences between EPR and PS in policy terms. The term EPR is normally used internationally to refer to schemes which impose mandatory physical and/or financial responsibility for the end-of-life management of products **on producers**.

Product stewardship schemes aim to allocate responsibility to the most appropriate players in the supply chain (e.g. manufacturers, retailers, consumers and/or governments). Product stewardship schemes can be entirely voluntary, combine voluntary initiatives with underpinning legislation to capture free riders[1] or can, should the level of environmental impact or government and industry response warrant, be mandatory. Table 1 summarises the differences.

Table 1: Responsibility: product stewardship (PS) vs extended producer responsibility (EPR)

Criteria	Product stewardship	Extended producer responsibility
Who is responsible?	All groups in the product chain, including raw material suppliers, manufacturers, retailers, consumers, recyclers and all levels of government	Producers (brand owners and importers)
What are they responsible for?	Each group is responsible for reducing the environmental impacts that they can most effectively and efficiently control	Responsibility for end-of-life recovery shifts from local government to producers (which in turn is intended to drive changes in design and manufacturing to facilitate recovery)

Given the flexibility of product stewardship schemes, such schemes have the potential to achieve desired outcomes more efficiently than EPR.

The National Packaging Covenant and proposed schemes for TVs and tyres all embrace the concept of co-regulatory product stewardship (not EPR). For an explanation of co-regulation, refer to section 3.2.

[1] A free-rider can be defined as 'One who enjoys the benefits of a public good or common-pool resource without paying a share of the costs of providing for or maintaining it.' In the context of product stewardship, a 'free rider' is a non-participant in a product stewardship scheme, which may derive the benefits of the scheme (e.g. a cleaner environment, or an agreement by government to exempt an industry sector from regulation) without the effort of participation, thus potentially placing participants in the scheme at a competitive disadvantage.

2. Role of the Australian Government

2.1. Need for national consistency

The commission acknowledges the Environment Protection and Heritage Council (EPHC) waste framework as being sound in many respects and including many principles of good policy design. That said, the commission goes on to say that waste policy is poorly coordinated in Australia (p. xxvi).

The lack of coordination in part reflects the fact that most solid wastes are managed at a regional rather than national level where policies reflect the local availability of economically competitive treatment/disposal facilities and the costs of long distance transport. Given constitutional powers, waste policy and regulatory regimes have developed historically at a state level, with little imperative for national coordination, except where certain limited waste streams (e.g. scheduled organochlorine wastes) necessitated the control of cross-border movements and coordination to find national solutions.

Increasingly, however, major waste generators and commercial waste managers, including recycling or resource recovery companies, view Australia as one national market and are looking for greater consistency among governments in establishing priorities and policy settings for waste management. Inconsistent and duplicative environmental regulation is of concern to business, with cross jurisdictional variations adding considerable cost to companies operating across state boundaries (Taskforce on Reducing the Regulatory Burden on Business 2006). The manufacturing sector supports national consistency and coordination of environmental policy.

The draft report acknowledges that there have been efforts to develop a more coordinated approach where national issues are at stake (p. xxxiii). The final report could provide more explicit comment on the Australian Government's role in waste issues of national significance and how the Government can best contribute to such issues, taking into account its limited constitutional powers to engage directly in waste management.

Without a consolidating role from the Australian Government the economic costs, particularly compliance costs to businesses and impediments to investment, would grow as individual jurisdictions pursue, within their legitimate constitutional capabilities, potentially different policies.

However, DEH does not advocate national government intervention for its own sake. There are some issues which are more appropriately handled by individual state and territory or local governments, e.g. landfill management (including levies or diversion targets). The commission could elaborate on what it considers to be matters of 'national significance'. The EPHC waste framework is key in this regard but it could, as indicated by the commission, benefit from further development.

Waste policy also needs to be coordinated with broader greenhouse, resource and sustainability policies to ensure that the pursuit of objectives in one area (such as recycling) does not have other negative environmental impacts. A recent study in the UK (Grant Thornton and Oakdene Hollins 2006) argued that waste management policy needed to be aligned with 'the carbon agenda' to avoid conflicting outcomes. This was supported by a case study of glass recycling which demonstrated that higher recovery rates were being achieved at the expense of lost CO_2 benefits. The authors also argue that energy from waste is a CO_2 beneficial option for some waste

disposal, particularly the treatment of organics. It would be useful if the Productivity Commission could address this aspect of policy coordination in its final report.

2.2. Role of the *National Environment Protection Act 1992*

The commission questions the value of policy coordination for some waste management issues. In its discussion of the costs and benefits of policy coordination, the commission could consider in more detail the value of the *National Environment Protection Act 1992*.

The *National Environment Protection Act 1992* seeks to resolve some of the trade-offs between subsidiarity and national coordination. Part of the 1992 Intergovernmental Agreement on the Environment, the Act seeks to enshrine benefits of national coordination. The agreement's objectives included that 'people enjoy the benefit of equivalent protection from air, water or soil pollution and from noise, wherever they live' in Australia; and that 'decisions by business are not distorted and markets are not fragmented by variations between jurisdictions in relation to the adoption or implementation of major environment protection measures.'

Policies are implemented under the Act through the creation of National Environment Protection Measures (NEPMs), broad framework-setting statutory instruments that outline agreed national objectives for protecting or managing particular aspects of the environment. NEPMs are implemented through different policy instruments in each jurisdiction. This mechanism allows for decentralised government action to reflect local circumstances in the implementation of nationally agreed policy.

2.3. Best practice policy development

As the commission says, waste management policy in Australia needs to be guided by best practice policy development. The process of identifying objectives, articulating costs and benefits and providing opportunity for public consultation is an essential part of delivering the best returns to the community.

Although the formulation of policy on certain waste issues in Australia may not appear to have followed ideal policy processes, DEH disagrees with the suggestion that national product stewardship schemes have been (and are likely to be) introduced without rigorous cost benefit analysis and public consultation.

The final report should recognise that the ongoing waste policy work of EPHC including the development of product stewardship schemes is indeed guided by COAG (Council of Australian Governments) best practice policy principles to the extent that this is possible. EPHC always aims to collect adequate data, quantify costs and benefits and, importantly, work cooperatively with the community and industry stakeholders to develop the most practical, cost effective and efficient way to resolve nationally significant waste issues. For some issues comprehensive data may not have been readily available, such as for packaging. However, best practice policy processes have been followed using the 'best available' data.

Specific issues from the draft report are highlighted to illustrate EPHC's processes.

2.3.1. Oil

The Product Stewardship for Oil Programme is used in the draft report as an example of a product stewardship programme that has provided significant environmental outcomes in managing a hazardous liquid. DEH suggests that elements of this programme may be transferable to the management of solid, non-hazardous wastes. The commission makes no direct

recommendations concerning the programme but comments on the programme and quotes recommendations from the Independent Review of the *Product Stewardship (Oil) Act 2000* by the Allen Consulting Group.

In terms of good policy development, the Product Stewardship for Oil Programme was subject to a regulatory impact statement which accompanied the Bill, and forms part of the explanatory memorandum for the legislation. Economic modelling was also undertaken through ABARE (Australian Bureau of Agricultural and Resource Economics) to determine the levy rate and the associated benefit rates for used oil recycling.

Indeed, the Business Roundtable on Sustainable Development noted that the 'product stewardship arrangements for used oil demonstrate the application of good practice principles' (BRSD 2006, p. 31).

The Product Stewardship for Oil Programme has achieved its objective to provide market based incentives (benefits) to encourage recycling. Different benefit rates provide the incentives to encourage the development of 'healthy' secondary markets.

Again, consistent with good public policy, there will be a major review of the programme in 2008. As the commission has indicated it will be important to consider the tiered benefits and administrative arrangements.

Further comment about the commission's discussion of the programme can be found in Appendix A.

2.3.2. National Packaging Covenant

The draft report states that while a regulatory impact statement on the second National Packaging Covenant was released for public consultation, it had major deficiencies and provided little insight into whether the covenant would deliver a net social benefit (p. 242).

That there were deficiencies in the regulatory impact statement is not disputed. However, as discussed elsewhere in this submission, adequate *quantitative* cost benefit analysis can be hampered by poorly developed methodologies (see section 4) and limited data. Lack of data limited the quantitative assessment of the first covenant and the measurement of the likely benefits of the second covenant was necessarily based on qualitative as well as quantitative information.

The EPHC took the view at the time of signing the first covenant that it was a pragmatic 'first step' towards a consistent national approach to packaging waste. As such it avoided onerous and prescriptive data generation, relying instead on a strong philosophy of continuous improvement by individual signatories. If governments had held out for more data to measure performance it is unlikely there would have been agreement to the covenant. The counterfactual position was that jurisdictions were determined to act to reduce packaging, so this would inevitably have risked an array of onerous, inefficient and inconsistent schemes.

One of the most important elements of the second packaging covenant, which came into effect in July 2005, is the collection of data by signatory companies which, together with an annual audit of packaging material consumption and recycling, should provide a robust basis for governments to measure its success and inform future policy. Also, businesses with under $5 million per annum in revenue are not required to report under the Packaging National Environment Protection Measure (NEPM). This reduces the cost of compliance with the scheme and focuses on the companies that make the most significant contribution to the packaging waste stream.

Although the draft report is sceptical of the difference between co-regulatory and mandatory schemes (p. 220), industry has found in many cases that the benefits to them from participation in co-regulatory schemes can exceed their initial expectations.

Under the National Packaging Covenant, industry plays an important role in deciding how to meet the agreed outcomes. One way it does this is through the Environmental Code of Practice for Packaging, which guides companies on ways to minimise the environmental impacts associated with packaging. The code seeks to avoid the perverse outcomes (e.g. losses, contamination and in-transit damage of goods) hypothesised in the draft report on page 239.

The covenant is in essence an industry driven agreement, supported by government with the implementation of free-rider legislation (the Packaging NEPM). There is a large degree of flexibility – the covenant allows for innovation in how companies achieve the objectives. The final report could usefully highlight that a significant proportion of the packaging industry supports the covenant and that industry recognises the value the community places on reducing litter and the environmental impacts of packaging. Importantly, industry understands the potential costs of differing jurisdictional schemes to control packaging, if a national approach is not adopted.

The commission also makes a recommendation that the terms of reference for the review of the second covenant by the end of 2008 should be extended (p. xlii recommendation 10.1). This may prove to be difficult. The scope of the evaluation is set out in section 9 of the covenant, and will specifically address the progress the covenant has made towards meeting the overarching targets set by EPHC in 2005. As the National Packaging Covenant Council (which will undertake the study) makes its decision by consensus, it is unlikely that agreement would be reached to expand the terms of reference beyond those originally agreed in the covenant. It should be noted, however, that the evaluation would be expected to include economic, social and environmental consideration in its overall determination.

Supplementary case studies of non-waste advantages accruing to National Packaging Covenant signatories are included in Appendix B.

2.3.3. Plastic bags

The commission recommends that governments and retailers should not proceed with their foreshadowed plan to eliminate plastic shopping bags by the end of 2008, unless it is supported by transparent cost benefit analysis (p. xxxix recommendation 8.1).

Through the EPHC, governments reaffirmed in June 2006 their resolve to phase out plastic bags by December 2008, reflecting strong community desires to address problems associated with plastic bag use. The Australian Government is working with the state and territory governments to ensure that sound process is followed to fully evaluate the costs and benefits of any measures to achieve such a phase out.

A regulatory impact statement is being prepared in accordance with COAG requirements, to review a number of possible regulatory and voluntary options for plastic bags. As part of this process, an independent cost benefit analysis by the Allen Consulting Group was commissioned. EPHC has agreed that this cost benefit analysis be released, as part of a process of public consultation. This will occur in coming months.

A full public consultation process will then occur, including release of the regulatory impact statement. This process, involving consultation within and between jurisdictions, would need to

be completed before any decision on regulatory or quasi-regulatory approaches is taken by ministers.

By means of voluntary action by consumers under the auspices of the agreement developed by the Australian Retailers Association and adhered to by major supermarkets, Australian consumers are already using two billion fewer plastic shopping bags per year.

2.3.4. Computers, televisions and tyres

The commission is concerned about governments' efforts to establish new stewardship schemes for computers, televisions and tyres (p. 243), and recommends that such schemes should not be introduced without robust evidence that there would be a community benefit and that other policy options would not deliver a greater net benefit. This is particularly the case if a mandatory approach – involving either industry-government co-regulation or government regulation – is being contemplated (p. 245).

As mentioned above, EPHC is in fact following best practice policy processes in developing proposals, a product stewardship NEPM and schemes to manage computers, televisions and tyres. Governments will ensure that the best available information is used, including the results of public consultation, before decisions are taken on whether to introduce product stewardship schemes for these products.

In December 2004, EPHC released a discussion paper titled Co-regulatory Frameworks for Product Stewardship for consultation. The paper sought feedback on a range of issues, including a proposed co-regulatory model using a NEPM to deliver national consistency. In total, 66 submissions were received from stakeholders, including industry, government, and non-government organisations.

In July 2005, the National Environment Protection Council initiated the development of a NEPM for product stewardship. The NEPM, if agreed by governments, would consist of a generic framework that establishes guidelines and principles to be applied by governments in determining the merits of a co-regulatory approach for a particular sector. The NEPM would progressively include product stewardship agreements, schemes and schedules in free rider regulation. Although there will only be one agreement per sector, flexibility has been built in to allow differing sector schemes if appropriate.

The NEPM itself will be subject to a mandatory impact assessment, public consultation and whole of government decision-making processes. These examine the nature of the problem(s) being addressed and include actual market failures, environmental and health externalities and social aspects, alternative approaches for addressing those problems, and a detailed cost benefit analysis of the options. Likewise, each sector-specific product stewardship scheme would be subject to standard COAG regulatory impact assessment processes. The proposed schemes and regulatory impact statements would be subject to public consultation and whole of government decision-making. Good process is being followed.

The commission supports shredding tyres as a means of addressing the impact of tyre disposal in landfill. Several jurisdictions already require shredding but alone it is not sufficient to deal with the significant risk of fires (once lit, tyre fires can be difficult to extinguish and have been known to burn for prolonged periods). More information about the fire risk is included in the first DEH submission.

To conclude, the Business Roundtable on Sustainable Development commends the work already done to develop the tyres product stewardship scheme and acknowledes that the market does not realise the recyclable value embodied in used tyres, nor the full potential of uses to which used tyres can be put. This in turn limits investment in recycling or reprocessing used tyres, so that most used tyres are sent for disposal either legally or illegally where they create environmental problems. The roundtable notes that the tyres project demonstrates the benefits of following the principles of good practice waste management policy development in that:

- it is targeted specifically at identified market failures
- disposal avoidance [is] not a driving force
- it clearly identifie[s] the benefits being sought
- a considered, systematic policy development process [is being] followed
- the involvement of stakeholders in the development phase [is] extensive
- the outcome measure is efficient and fully costed
- there are provisions to prevent 'free riders' (BRSD 2006).

The roundtable points are strongly supported by the most recent findings of a market failure study into waste tyre management which will be incorporated into the relevant draft regulatory impact statement.

2.4. Improved data collection

DEH supports the commission's recommendation that the EPHC should coordinate the development of a concise, nationally consistent data set for waste management (recommendation 13.1, p. 302). This data set could aid in informing the community more broadly about environmental impacts.

3. A national approach to product stewardship?

The commission concludes that there are likely to be high costs and few benefits from both ongoing national product stewardship schemes (e.g. the National Packaging Covenant) and schemes in development (computers, televisions and tyres). However, the potential costs to business and the community of separate schemes operating in different jurisdictions are significant and industry support for national, co-regulatory schemes cannot be disregarded.

DEH believes that the product stewardship approach has the potential to achieve both environmental and economic benefits in circumstances well beyond those mooted by the commission.

3.1. The value of product stewardship

The commission has expressed concerns about 'the proliferation of EPR schemes.' This has certainly been the case internationally, where widely varying approaches to EPR (extended producer responsibility) have been applied. In Australia, the national schemes currently under consideration – which have usually taken the form of PS (product stewardship) rather than EPR schemes – have been or will be subject to full cost benefit analysis and public consultation before a decision is made on their introduction. In several cases Australian industry has introduced or is

planning to introduce its own product stewardship schemes on the basis of meeting consumer expectations (mobile phones, batteries etc).

Case studies of the potential benefits of proposed and existing product stewardship schemes are provided in Appendix B.

3.2. Co-regulation vs regulation

National co-regulatory[2] product stewardship schemes have many advantages over other approaches, for example:

- they involve shared responsibility for reducing the impacts of the products, so action can be taken at the point in the supply chain where it is most cost effective
- the voluntary component of co-regulatory schemes is more flexible than straight mandatory approaches, resulting in lower costs and greater efficiency for industry
- the regulated component (e.g. through a NEPM) resolves the problem of free riders, encourages industry participation and reduces unfair market distortions
- a national scheme avoids the higher costs of compliance associated with disparate state-based schemes and can also decrease government costs.

The benefits of a national approach as opposed to disparate state-based schemes could be considered in light of the international experience. In 2004, it was estimated that there were 87 separate schemes developed or proposed for compliance with the European Union Directive on Waste Electrical and Electronic Equipment (WEEE) (Mayers 2006). DEH has received representations from many multi-national companies concerned with the growth in the number of divergent schemes throughout Europe and other developed nations.

Although the commission argues *participation* in co-regulatory product stewardship schemes is effectively mandatory, there is a significant difference between the incentive nature (and hence the potential efficiency) of co-regulatory and mandatory schemes. The only mandatory product stewardship scheme in Australia is the Product Stewardship for Oil Programme. Other existing product stewardship schemes on matters of national significance or those under development are co-regulatory.

Under co-regulatory schemes, companies have flexibility to build on industry-level information and knowledge (not always readily available to governments) to choose the manner in which they meet the requirements of the scheme. This flexibility is one of the major reasons that voluntary (and co-regulatory) schemes tend to be preferred by industry over mandatory 'command and control' regulations. While achieving a necessary environmental outcome, companies are free to choose the response that is most appropriate to their products and their businesses and the timing of particular initiatives. Flexible co-regulatory schemes on matters of national significance are therefore likely to be more efficient for individual firms than government imposed schemes that may feature container deposit legislation, taxes or levies and recycling targets or take-back requirements.

[2] 'Co-regulation' is an approach to regulation which encourages companies to undertake voluntary action to achieve a particular environmental goal and puts in place a regulatory net to catch companies which don't.

3.3. Costs of compliance

The likely costs and benefits (and/or effectiveness) of any policy can only be evaluated by reference to the alternatives. The National Packaging Covenant and other proposed co-regulatory schemes (e.g. for TVs) are likely to involve higher transaction costs than a purely voluntary or 'do nothing' approach. However, due to their greater flexibility they are likely to be less expensive than command and control style regulation. There is always a trade-off to be made between the costs of compliance (including costs of reporting and monitoring) and the effectiveness of the policy. Co-regulation provides a good compromise between high cost, inflexible policy options (such as mandatory EPR schemes) and less costly but less effective or potentially unworkable options (such as voluntary product stewardship agreements).

The commission considers there is little evidence of a problem that justifies the creation of the National Packaging Covenant scheme. However, governments are responding to community concerns about packaging. The regulatory burden of the covenant is modest when compared with the disparate alternative (state-based) policy options which would arise without national coordination.

Apart from broader sustainability benefits arising from improved packaging and support for kerbside recycling, there is evidence that many in industry prefer the National Packaging Covenant due to the national consistency it offers.

> Collection of accurate, verifiable data on packaging flows must be a priority for the revised Covenant. Industry has shown a willingness to absorb these additional costs of data collection and reporting as long as the Covenant continues to serve as the primary policy vehicle for post-consumer packaging waste management in Australia (Australian Food and Grocery Council 2006 p. 14).

3.4. Regulatory capture

The commission argues that the co-regulatory model is vulnerable to industry capture and regulatory gaming (p. xxxiii). DEH believes that these risks are outweighed by the potential benefits of the co-regulatory approach as outlined in 2.4.1.

The risk of industry capture can be minimised by designing the scheme in such a way that:

- the desired environmental outcomes are clearly specified
- the operation of the scheme is transparent, so that companies can be held accountable for their performance
- sanctions for non-participation or non-compliance are available and enforced
- third parties such as non-government organisations have the opportunity to participate in the scheme's ongoing development and monitoring.

These concerns were addressed in the negotiation of the second National Packaging Covenant.

4. Cost benefit analysis

DEH supports the commission's view that policy development should be guided by open and rigorous analysis of costs, benefits and risks. Nevertheless we have two major concerns:

- There are uncertainties about applying and interpreting the quantitative results of cost benefit analysis when a lack of reliable data makes it difficult to undertake quantitative assessment of all benefits and costs (especially those incurred due to environmental externalities), thus potentially skewing policy decisions away from environmentally sound outcomes.
- Community values and priorities are difficult to reflect in a quantitative cost benefit analysis but need to be considered by governments as an important input to the policy process.

4.1. Quantifying environmental costs and benefits

There is disagreement in Australia about appropriate methods for quantifying and aggregating costs, benefits and risks. For example, various methods are used to calculate emissions from landfill or environmental costs associated with packaging.

Difficulties with cost benefit analysis are particularly apparent in the development and evaluation of environmental policy (including waste management policy). Economic valuation of environmental impacts is challenging as it requires a definitive assessment of systems that are dynamic and indeterminate. Environmental cost benefit analysis can be characterised by uncertainty and incomplete data on how human activities affect environmental conditions. This is particularly the case for long-term impacts.

In terms of evaluating alternative waste management policy options, the costs to businesses (e.g. compliance and reporting costs) and to government (e.g. administration costs) are often reasonably straightforward to quantify.

In contrast, the benefits – which may accrue to individuals, communities and industries – are often far more complex to assess numerically. For example, many of the key benefits to society of waste management policy may be associated with improved environmental quality (or avoided environmental damages) such as improved air and water quality, visual amenity, avoided greenhouse gas emissions, or avoided damage to ecosystem services.

Even where changes in environmental quality affect direct-use values (e.g. productivity or consumption) and can be valued using conventional techniques, difficulties often remain in assessing the linkages between environmental quality and value, and in having these assessments accepted by key stakeholders. Results from environmental cost benefit analysis can be difficult to interpret and are frequently disputed. Quantification is often sensitive to assumptions about risk and the value of key variables, for example the cost of greenhouse gas emissions.

Furthermore, in many situations the environmental benefits may accrue to individuals and/or are not amenable to measurement using conventional, and more widely accepted, market-based techniques. For example what value should be placed on improved amenity from the reduction of litter or illegally dumped vehicles? Although techniques exist to quantify many of these values, they are often inherently biased, expensive to apply and hence potentially subject to criticism by stakeholders and decision-makers.

In terms of waste management or product stewardship policy development, there is the potential for a bias in decision-making because costs are simpler to quantify (and more readily accepted) than benefits.

An approach which is often used for waste and environmental decision-making in Australia is the Life Cycle Assessment method. In response to requests from all levels of government and business for simplified information on the costs and benefits of different environmental policy options, the Environmental Economic Valuation or 'eco-dollar' method was developed in Australia by Hyder Consulting (previously Nolan-ITU) as a variation of the Life Cycle Assessment method. The main aim of the method is to make life cycle assessment more meaningful and accessible to a broader cross-section of stakeholders. However, the method and its results are not always accepted by stakeholders. Further work is needed to develop a more widely accepted alternative, appropriate for Australian conditions.

The final report could usefully discuss this issue in more depth including the need for coordinated development of techniques for assessing uncertain environmental benefits and the links between environmental and socio-economic impacts.

4.2. Understanding and informing community values

Attitudes to particular environmental issues are often deeply felt and linked to broader concerns about the intrinsic value of the natural environment and the quality of life that the community wants for current and future generations. The widespread media response to the issue of plastic bags illustrates broader environmental concerns in the community and the desire by many people to take action in small but practical ways that may or may not be cost effective.

While being mindful of community values and expectations, governments must take responsibility to inform and shape community understanding on issues important to society. Indeed, this is done routinely across a wide suite of policies that relate to employment, education, health and welfare, science, transport etc. Waste policy should be no different.

The draft report acknowledges that community expectations and concerns should be considered and can help to identify waste management issues requiring attention. The final report could explore how such concerns and expectations could be shaped.

From 1996 to 2003, the Australian Government invested $6 million of Natural Heritage Trust funds to raise awareness on waste and resource recovery issues through its Waste Management Awareness Programme. The programme focused on raising awareness and facilitating the development of secondary markets although it did provide some guidance to the broader community on waste issues of national significance. An independent evaluation pointed to the success of this programme which 'enabled the Commonwealth to act as one of the catalysts for major changes in the way in which waste management was addressed nationally' (Walter Turnbull, 2003). It recommended that the Government's national leadership and coordination role with state and local governments be maintained.

Further national action on waste awareness could, consistent with COAG objectives, be taken to inform the community of the benefits but also the costs of the various policy options for dealing (or not dealing) with waste. Such a programme could promote the development of improved methods for quantifying environmental and community values, costs and benefits and collection of robust national data. It could also develop a stronger information base to support assessment of alternative waste treatment options like energy from waste facilities (as proposed in the commission's recommendation 8.3, p. xl). Any new initiative in this area would need to

recognise that community values are difficult to quantify and therefore to incorporate into any cost benefit analysis because they are not amenable to valuation in a conventional economic sense.

4.3. Opportunity for a national approach

The discussion in the draft report about methodologies for valuing the cost of externalities associated with waste leaves many questions unanswered.

To conclude, specific issues relating to cost benefit analysis of environmental policy which need to be resolved include:

- the most appropriate methodology for valuing community concern about waste issues, for example through stated preferences (survey data), revealed preferences (willingness to make a financial contribution to the cost of recycling through rates, or prices paid for products which are reusable/recyclable) or other approaches
- difficulties involved in identifying and quantifying the benefits of environmental policy, including where these benefits may potentially accrue to a large and diverse group in the community or industry
- the value of Life Cycle Assessment data and the most appropriate methodology for integrating the data into a cost benefit framework
- the most appropriate methodology for assessing risks to human health and the environment and incorporating this risk assessment into cost benefit analysis, for example, the risks associated with the disposal or recovery of particular products such as electronics (exposure to heavy metals, flame retardants and other additives).

DEH would welcome the commission's views on these matters.

5. Waste management policy

5.1. Waste hierarchy

The commission argues that the waste hierarchy, if interpreted literally as the basis for waste policy, is inconsistent with good policy principles (p. xxix). DEH does not dispute this assertion *per se*. However, Australian waste policy is not driven by literal interpretation of the waste hierarchy. In reality, the waste hierarchy concept is not used as a prescriptive tool; nor has it been implemented in an uncritical way by jurisdictions. Like aspirational targets, the 'waste hierarchy' is used as a communication tool – in particular, to provide information about and to highlight the range of alternative options for waste management including waste minimisation, recycling and reuse.

5.2. Focus and scope of 'waste management policy'

The commission argues that waste management policy should primarily be concerned with externalities in waste disposal, and that upstream issues (e.g. issues or impacts associated with products at the design or manufacturing stage) should be addressed through other policy instruments (p. xxvii).

While DEH recognises the commission's need to interpret its terms of reference in a manageable way, this definition of 'waste management policy' is at odds with the interpretation used by government agencies and stakeholders both in Australia and overseas.

Although waste management policy once traditionally focused on addressing the externalities arising from waste disposal by means of command and control measures, waste management policy today embraces a wider suite of policies which address economic activities and impacts across the product life cycle (including those which indirectly affect waste streams).

The calls by various inquiry participants for greater recognition of 'upstream' issues does not constitute (as appears to have been interpreted by the commission) a desire for upstream market failures to be addressed by downstream (i.e. waste disposal) instruments.

Environmental issues occurring upstream in the product life cycle (for example land degradation associated with mining or air pollution from resource extraction) should be addressed directly where they occur. However, upstream issues, if targeted by upstream measures, would have environmental impacts (including on waste streams) downstream – and vice versa. Therefore, waste policy needs to consider upstream issues by taking a systemic product life cycle approach rather than a narrow focus on the point of disposal, so that linkages (physical and market) can be considered in the policy design process.

Policies which prevent or minimise waste would generally reduce pollution and other upstream environmental impacts at the same time. A life cycle approach to waste policy can be an effective and complementary way of securing a wide range of benefits. A case study of the print industry illustrates the value of a life cycle approach (Appendix B).

Some environmental indicators in Australia continue to worsen, such as the number of extinct, endangered or vulnerable species and the health of inland waterways. Globally, ecosystem services provided to human populations by the natural environment are being degraded at an unsustainable rate. There is therefore a degree of urgency which requires new, creative whole-of-life policy and anticipatory or precautionary approaches. 'End of pipe' solutions are no longer sufficient.

Policies which seek to prevent or minimise waste have the potential to improve business productivity and reduce costs upstream in the product life cycle. The first DEH submission provided information on the benefits of cleaner production which appears to have been ignored by the commission.

Market failures in the design, manufacture and consumption of products and materials contribute to the amount of waste being generated and the environmental impacts of this waste. It makes sense to target these market failures through an integrated or life cycle product policy approach. As the commission acknowledges, companies often overlook opportunities to change the design of their product in a way which would improve recyclability, not because the changes are costly but because markets do not send a clear price signal about the benefits to them or the community (p.220).

The approach of considering upstream factors reflects the latest thinking internationally on waste policy and its role in promoting effective environmental management and sustainability. The European Commission argues that waste policies 'need to be complemented by a policy that looks at the whole of a product's life cycle, including the use phase. This should ensure that environmental impacts throughout the life cycle are addressed in an integrated and cost effective

way – and so are not just shifted from one part of the life cycle to another' (Commission of the European Communities 2003, p. 3).

The Productivity Commission uses the example of paper recycling to argue against the use of waste policy to target upstream environmental issues such as those associated with forestry (Box 5.3, p. 96). In Australia newsprint recycling is encouraged, through the Publishers National Environment Bureau product stewardship programme, on the grounds that recycling reduces waste (and associated impacts) and is more efficient than the use of virgin materials (e.g. by using less energy).[3] A qualification therefore needs to be made in the final report to make it clear that the forest-based argument is not relevant nor does it reflect current industry or government arguments in favour of newsprint recycling. The draft report provides an incorrect account of the rationale being used for newsprint recycling.

In its first submission DEH argued that situations do exist where there is an economic rationale for waste minimisation. The use of materials and other natural resources can be costly for business. More efficient use of materials and waste reduction initiatives can save money and improve firms' competitiveness. It has been estimated that the economic opportunity from waste reduction at a company level is significant – approximately 1–3 per cent of company turnover in particular sectors.

In its first submission DEH argued that market failures which occur upstream from the point of disposal contribute to levels of waste which are too high. For example:

- The lack of appropriate pricing for waste disposal means that there is little incentive for consumers to modify their purchasing decisions in order to reduce waste. Waste disposal and recycling costs are not internalised in purchasing decisions.
- Companies lack complete information on the full costs of waste, which include waste disposal and transport, costs of raw materials (purchased but ultimately disposed of as waste) and the labour and energy costs of waste handling. There are also institutional barriers to waste reduction and recycling such as a resistance to change, a lack of expertise and capacity and competing business priorities. As a result companies may generate inefficient levels of waste in the production process and recycle at inefficient levels.

Product designers lack information on the environmental impacts of waste disposal and the recyclability of materials. Waste and recycling costs are therefore often not considered in the design process.

6. Other issues

6.1. Market failures associated with patterns of consumption

DEH is surprised at the focus that the commission has placed on landfill in the draft report, and the limited coverage of other relevant externalities and their implications for government policy on matters of national significance.

[3] The history of newsprint recycling and the rationale in Australia is outlined in the Newsprint Producer/Publisher Group (2005) *National Environmental Sustainability Plan (Newspapers) 2006–2010*, http://www.pneb.com.au/pdf/publishers_sustainability_plan_2006-10.pdf

Programmes that facilitate or encourage the more efficient use of materials can be justified on the basis of market failures in the production and consumption of products. These are summarised in Table 2 but are discussed in more detail in DEH's original submission (pp. 38–43).

Table 2: Market failures addressed by the more efficient use of materials

Life cycle stage	Market failure
Raw materials extraction or harvesting	Environmental and social externalities associated with extraction or harvesting, e.g. land degradation, biodiversity loss
Manufacturing of materials/components/products	Environmental and social externalities associated with manufacturing Inadequate price signals (material costs do not reflect external costs of extraction or costs of disposal at end of life) Information failure (e.g. lack of information on the full private costs of waste disposal, latest technologies) Institutional barriers (cognitive limits of managers, time pressure, restrictions on introducing innovative technology due to existing infrastructure and long-term waste management contracts)
Consumption of the product	Environmental and social externalities associated with consumption Inadequate price signals (product costs do not reflect external costs of manufacture or costs of disposal at end of life) Information failure (inadequate information on life cycle environmental impacts, recyclability etc of the product)
Recycling of the product	Environmental and social externalities associated with recycling Information failure (inadequate information on recyclability of products)
Disposal of the product	Environmental and social externalities associated with landfill or litter Inadequate price signals (disposal charges do not reflect external costs of landfill)

6.1.1. Environmental and social externalities

Using materials more efficiently in the manufacture of products and packaging eco-efficiency reduces externalities associated with their production, distribution and consumption. The reduction in externalities achieved by lightweighting a product (for example by reducing the wall thickness of a bottle or eliminating an unnecessary component in an appliance) was illustrated in the first DEH submission (see Table 3).

A saving in materials used in manufacture would reduce the environmental externalities associated with every stage of the product's life cycle. While the reduction may seem small for one item of the product, the saving is significant when multiplied by the number of products manufactured and when these savings are multiplied through the supply chain.

Perhaps some lessons could be learned from a report from the Warren Centre at the University of Sydney (Warren Centre 1998). This report featured five case studies on the value of energy efficiency (in a power station, a manufacturing foundry, a chemical production plant, a mining facility and a sewage treatment plant). It highlighted how the lack of a systematic approach to

energy management was preventing industry from attaining significant predicted energy efficiency benefits (over $1 billion nationally). DEH understands that this lack of a systematic approach stemmed in part from a lack of knowledge, capability and capacity to embrace such efficiencies. The present submission by DEH therefore reiterates the market failures and externalities associated with materials handling and believes there would be value in fully exploring whether, as for energy efficiency, there is a similar lack of capability and knowledge for materials efficiency.

Table 3: Externalities addressed by more efficient use of materials

Life cycle stage	Immediate impacts of lightweighting	Externalities reduced as a result of lightweighting
Raw materials extraction or harvesting	Reduced demand for raw materials	Reduction in land degradation, biodiversity loss, social impacts of mining
Manufacture of the material	Reduced demand for material	Reduction in air emissions (pollution, global warming, health impacts), waterborne wastes (pollution, reduced water quality), solid wastes to landfill (greenhouse emissions, leachate etc)
Transport of the material to the product manufacturer	More efficient use of truck/container or lighter weight of load	Reduction in air emissions (air pollution, global warming, health impacts)
Transport of the product to distribution/retail centres	As above	As above
Consumption of the product	Would depend on the product, e.g. lightweighting cars improves fuel efficiency	Would depend on the product, e.g. lightweighting cars would result in a reduction of air emissions (air pollution, global warming, health impacts)
Recycling the product	Less material to be recycled at end of life	Reduction in waterborne wastes, air emissions etc associated with recycling activities
Disposal of the product	Less material in landfill	Reduction in air emissions (global warming associated with methane), particularly for organic materials such as paper/cardboard. Reduction in leachate (groundwater pollution) etc

6.2. Further information

This submission also responds to the commission's findings and recommendations on landfill gas capture and energy from waste, clarifies some points of fact in relation to the Product Stewardship for Oil Programme, and responds to a specific request for further information about the Basel Convention (see Appendix A).

Appendix A: Further information: landfill gas capture and energy from waste, Product Stewardship for Oil Programme, Basel Convention

Landfill gas capture and greenhouse policy

The commission does not support the mandatory installation of systems for gas recovery (finding 8.2) and recommends that 'greenhouse gas externalities should only be addressed within a broad national response to greenhouse gas abatement, not through landfill regulation or levies' (recommendation 8.2).

DEH concurs with the commission's finding that current regulation of landfill is generally acceptable from an environmental perspective and that regulation mandating the installation of systems for gas recovery does not of itself serve to produce net benefits. Regarding recommendation 8.2, DEH considers that greenhouse gas externalities as they relate to landfill are best addressed within a broad national response to greenhouse gas abatement. However it is DEH's view that restricting actions to only those coordinated at a national level potentially limits responses across jurisdictions.

There are three main objectives for gas recovery. Firstly, and the reason that many jurisdictions initially required gas recovery, was the need to reduce the release of malodorous gases. Gas recovery is an efficient method of odour control and means that buffer areas around landfills can be reduced in size, freeing up land for more productive use. Secondly, some gas collection systems, depending on the landfill's characteristics, provide a positive economic return from gas to energy conversion. Thirdly, the dominant gas released from landfills is methane, a greenhouse gas which is 21 times more potent than carbon dioxide. Interception of methane and using it as a fuel source can be an effective way of reducing greenhouse gas emissions. Therefore, there are a range of benefits – social, economic and environmental – that can be gained through gas recovery.

The Australian Government has in place a comprehensive climate change strategy which addresses all sectors of the economy, including the waste sector. At the Commonwealth level, action is being taken to reduce greenhouse gas emissions from landfill through the Greenhouse Challenge Plus Programme. Action is driven by the Mandatory Renewable Energy Target. All states and territories are implementing waste management policies that address methane capture and use. The major responsibility for implementing actions to capture and use methane from landfill rests with local governments.

The Productivity Commission's draft report notes that greenhouse gas emissions from waste contribute a very low proportion of Australia's overall emissions, and that non-waste related abatement options are generally more cost effective. Greenhouse gas emissions data released since the commission's report was drafted indicates that landfill now accounts for approximately 2.7 per cent of Australia's total greenhouse gas emissions (not 1.5 per cent as at the time chapter 4 of the report was written). Landfill emissions comprise a relatively small proportion of Australia's greenhouse gas emissions. However this statistic does not sufficiently recognise that landfill gas recovery is making a significant contribution towards reducing emissions and towards Australia meeting its 108 per cent Kyoto target, as landfill gas recovery is projected to deliver approximately 5.2 per cent of Australia's total greenhouse gas abatement in 2010. Neither does the statistic reflect the positive economic return from landfill gas energy generation.

DEH shares the commission's views as discussed in chapter 8 that adopting one method (regulation) for reducing landfill gas emissions and other methods for other sources of greenhouse gases is unlikely to deliver least cost greenhouse gas abatement. Increasing uptake of gas recovery systems by waste managers appears to have occurred independently of regulation mandating the installation of such systems. Rather, and as the above policy measures suggest, specific greenhouse incentives may be the best way to deal with greenhouse externalities – better than broad waste pricing policies.

While greenhouse gas emissions from landfill are a minor proportion of Australia's overall emissions, future options for national policy coordination to reduce greenhouse gas emissions from landfill will be considered in the Australian Government's overall climate change strategy. There are a number of mechanisms through which policy responses to greenhouse gas emissions are developed at the broader national level. These include, for example, COAG, which has identified current greenhouse priorities in its Climate Change Action Plan, and the Environment Protection and Heritage Council (EPHC), which has identified the need to consider climate change implications of its future activities in its draft strategic plan for 2006–2008. These and other government councils/strategies would be likely to consider and develop future approaches to addressing greenhouse gas externalities from landfill waste.

DEH agrees with the commission's view that improving policy coordination through a national approach to greenhouse gas abatement as it relates to the waste sector would promote least cost abatement options. A national approach would allow Australia's greenhouse response to be considered in light of international efforts to address what is a global issue and to be coordinated with international abatement efforts. Australia's participation in international activities, such as the Methane to Markets partnership, is providing access to cost effective strategies to reduce greenhouse gas emissions from landfill.

Energy from waste

DEH supports initiatives to increase awareness of the potential benefits of producing energy from waste, for example:

- In 2005 the EPHC adopted National Guiding Principles for the Recovery of Energy from Waste, a consistent set of principles for governments involved in promoting energy recovery from waste.
- DEH made a grant to the Waste Management Association of Australia to produce a code of practice for industry on energy from waste. This code of practice provides a national framework for industry, communities and governments to guide the establishment of energy from waste processes and facilities.
- Another grant to the Waste Management Association of Australia enabled the association to produce a Sustainability Guide for Projects involving the Production of Energy from Waste. This guide gives communities and governments the tools required to develop and evaluate energy from waste proposals.

DEH also provides some financial assistance to companies wishing to establish energy from waste facilities. Funding is also currently available under the Low Emissions Technology Abatement – Renewables programme.

Modern energy from waste facilities have repeatedly demonstrated their ability to provide significant positive environmental and economic outcomes by generating energy and reducing

greenhouse gas emissions as well as reducing odour and landfill volume. While, as stated elsewhere, non-waste related abatement options are generally more cost effective means of reducing greenhouse gas emissions, DEH considers that energy from waste facilities have an important role to play in reducing environmental externalities.

Significant numbers of new energy from waste proposals are now emerging, driven in part by the increasing costs of energy. The proponents claim strong sustainability benefits. Two aspects of the energy from waste debate could usefully be added to awareness raising:

- developing rigorous tools to enable the sustainability of such proposals' benefits to be fully evaluated
- informing communities of the pros and cons of local energy from waste facilities.

Product Stewardship for Oil Programme

A number of statements concerning the programme in the draft report are inaccurate or misleading.

On page 205 of the draft report, the commission makes the following statement concerning subsidising recyclers:

> The Product Stewardship for Oil Programme, distributes the funds collected from the ARF to recyclers. The size of the subsidy varies for different end-products. The subsidy differential appears to be based on cost differences for different levels of recycling (the more expensive it is to recycle, the higher the subsidy), as well as a view that recycling to recreate a refined grade of oil ('lube to lube') is a more desirable outcome.

This statement does not accurately reflect the basis on which the differential benefit rates were established. While costs and benefits of treatment methods were considered, this was not the determining factor in developing the benefit rates. The principal factor in setting benefit rates was the amount of incentive required to increase the volume of oil recycled. It was recognised that more expensive recycling processes were likely to require more incentive but would deliver a better quality product with improved environmental outcomes.

In order to ensure the long-term sustainability of the used oil recycling industry, it is important to develop a diverse range of products (and consequently diverse markets). The benefit categories reflect the diverse range of recycled products identified during the development of the Product Stewardship for Oil Programme.

Re-refining of used oil in Australia to create an as-new product (Category 1 – known as lube-to-lube) did not occur before implementation of the Product Stewardship for Oil Programme. There was significant risk involved for industry in investing in the necessary infrastructure given that there were no established markets for the product. The level of incentive required for industry to develop an Australian re-refining industry was therefore significantly greater than the incentive required to expand existing recycling processes and markets.

The rationale for setting benefit rates is explained in the Explanatory Statement to the Product Stewardship for Oil Regulations 2000:

> The Regulations prescribe a benefit table, the items of which are arranged in a descending hierarchy. This hierarchy broadly reflects the recycling effort and investment required to produce products of better quality with improved environmental outcomes. The proposed categories and benefit rates are founded using the principle that *benefits should only be paid where they might serve as an incentive for increased recycling activity. This has been given precedence over other*

> *factors.* [Emphasis added.] The hierarchy is thus designed to encourage the increased recycling of waste oil and not to simply reward current good practice or provide industry assistance.

Although this rationale is acknowledged in Appendix C (p. 356), the commission also refers to the independent review of the *Product Stewardship (Oil) Act 2000* (Allen Consulting Group 2004) and questions whether the subsidy rates reflect the costs and benefits of different treatment methods. DEH considers that the Allen Consulting Group analysis of this matter was flawed. The Allen Review drew on a European study, which compared burning in a cement kiln with acid-clay treatment. The review noted that acid-clay treatment creates a toxic waste. However, the re-refining processes recognised under the Product Stewardship (Oil) Act do not produce the same level of toxic waste and the results of the European study used in the Allen Review cannot be directly extrapolated to Australia.

The commission also comments on the costs of compliance with the Product Stewardship for Oil Programme, and misrepresents the findings of the Allen Review of the Product Stewardship (Oil) Act. The Allen Review found that the administrative costs of the programme were reasonable and compliance costs were not unreasonable. The Allen Review noted that administrative costs had been constrained by using existing excise and customs arrangements. It also noted that the programme was reasonably flexible for business while identifying some concern about the paperwork burden (Allen Consulting Group 2004 p. x).

The commission asserts that the programme is causing market distortions, again drawing on the Allen Review's use of a European study comparing burning in a cement kiln with acid-clay treatment. Acid clay treatment is not recognised as a re-refining process in the Product Stewardship (Oil) Act, so the findings of the European study cannot be extrapolated to Australia.

DEH also takes the opportunity to correct some inaccuracies in the draft report. For example, with regard to the footnote on page 355, in comparing revenue and payments it would be more appropriate to use the figure of $15.7 million paid in benefits rather than the $13.7 million paid for recycling. The $15.7 million in benefits includes Category 8 payments, which are not for recycling but rather a reimbursement of the levy for specific uses of oil, and Category 9 benefits which offset a 2004 excise change. Similarly, in Table C1 on page 356, the heading on the 'amount' column and footnote A refer to benefits paid per kilogram on greases. This is incorrect. Benefits are paid on a per litre basis. Where the levy is collected on a petroleum grease, it is collected on a per kilogram basis. The graph on page 357 misrepresents the intent of the benefit rates. It would be more accurate to identify the increase over time within each category. For example, even with the significant benefit rate available, there is currently only one company re-refining used oil in Australia with another company due to commence next year.

Basel Convention

The draft report overstates the controls placed on the transboundary movement of hazardous waste for recycling. The Basel Convention, and its implementation in Australia through the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*, does not ban the export of hazardous waste to member countries of the OECD (Organisation for Economic Co-operation and Development), although certain conditions must be met as set out under the Hazardous Waste (Regulation of Exports and Imports) (OECD Decision) Regulations 1996. The process established under the Act allows for transparent decision-making, and also allows the Minister to consider aspects of 'efficiency'. It remains the fact, however, that several other aims of the Basel Convention need to be considered, including minimising transboundary movements and ensuring

environmentally sound management of the waste. Decisions involve balancing the achievement of all of these objectives within the statutory requirements of the Act.

The results of the permit application process in the Australian context do not support the commission's view that the Basel Convention 'might at times unnecessarily restrict the desirable export of recyclable materials'(p. 284). However, it is difficult to say whether exports have not gone ahead because of an exporter's lack of determination to do so – for example, unwillingness to meet the application requirements – or for some other reason.

For the financial year 2005–06, one application was rejected and one application withdrawn compared to 12 export permits granted (all for recycling) and 10 import permits granted (seven for recycling). All but one of the exports were destined for OECD-member countries. The application that was withdrawn was waiting on consent from the importing country, and while this was expected, appeared to take longer than the applicant was willing to wait. All other statutory requirements had been met by the applicant. The decision by the minister not to grant a permit was based on the availability of a domestic option, and this decision was not disputed by the applicant.

The export to non-OECD countries of hazardous waste for recycling is more difficult, but still possible if certain conditions are met under the Act. One company has been able to export toner cartridges and photocopier hulks to its recovery facility in Thailand. At this facility, the toner cartridges are refurbished and the photocopier hulks are dismantled to recover metals, plastics and glass. The company's recovery facility in Thailand takes material from the Asia–Pacific Region (except Japan and China) and requires the feedstock from Australia in order to achieve the economy –of scale necessary to make the operation viable. Using the Australian feedstock, the company is able to achieve greater recovery rates than at its Japanese plant.

It should be noted also that some recyclable wastes, even if not treated as hazardous, might still be treated as dangerous goods thereby presenting regulatory, insurance and shipping barriers to their export.

Appendix B: Benefits of product stewardship approach

The following case studies provide evidence of benefits from adopting a product stewardship approach.

National Packaging Covenant

National Foods Limited was an early signatory to the National Packaging Covenant and submitted their first action plan in 2001. Since that time they have implemented a number of packaging design changes to reduce waste or improve recyclability. Many of these initiatives have also reduced packaging costs.

In 2005 the manufacturing plant in Morwell, Victoria stopped using pallet liners. Pallet liners (cardboard sheet placed on top of pallets) were thought to be originally used to protect outer cartons from damage from poor quality pallets. However when liners were removed in trials there was no additional damage to the cartons. Removal of pallet liners has resulted in annual savings of $28,000 and 23 tonnes of cardboard.

In June 2005 all milk manufacturing sites (excluding Victoria) commenced purchase of a new charcoal coloured milk crate containing 15 per cent recycled plastic. This change has resulted in a reduction of 60 tonnes of virgin plastic being used in the production of National Foods milk crates in the first year and savings of $83,000 per annum.

These savings of about $111,000 arise from the actions of just one company in one year. Obviously, the cumulative benefits of similar actions being taken by the 421 signatories to the National Packaging Covenant would be considerable.

Tyres, televisions, computers

DEH would encourage the commission to reconsider its views on national co-regulatory product stewardship schemes when compared with alternative approaches, including EPR (extended producer responsibility) and container deposit legislation. Co-regulatory schemes provide an innovative and flexible policy approach that enables the best balance to be achieved between cost and effectiveness.

Electronic waste:

Product Stewardship Australia was established by the Consumer Electronics Suppliers Association primarily to establish and manage a permanent collection and recycling programme for televisions. The industry has made it clear to the EPHC that the scheme would only go ahead if there is supporting legislation to effectively eliminate the problem of free riders.

Some key issues in developing a product stewardship scheme include:

- The number of televisions in use in Australia is growing – the latest estimate is that there are approximately 9.7 million TVs owned by households (Ipsos Australia 2005).
- Televisions contain potentially hazardous materials including lead in cathode ray tubes, mercury and cadmium in printed circuit boards and brominated flame retardants in plastics. While there is some scientific uncertainty about the impacts of these substances in landfill and beyond, the weight of evidence from international research is that the disposal of electrical and electronic appliances poses significant environmental risks (e.g.

Nordic Council of Ministers 1995; Swedish Environmental Protection Agency 1995; European Commission 2000; Five Winds International 2001; AEA Technology 2004).

- Product Stewardship Australia's collection and recycling scheme is being driven by multinational companies with global environmental policies and a commitment to the safe and environmentally sound management of their products. This is partly in response to global regulations (such as the Waste Electrical and Electronic Equipment Directive in Europe).
- The co-regulatory model provides industry with the flexibility to design a programme which will meet the needs of manufacturers, their customers and other stakeholders.
- A national approach is preferred to disparate state-based schemes which are likely to be less effective and more costly to industry, governments and consumers.

Members of the public are increasingly concerned about the environmental impacts of toxic and hazardous substances in landfill. Product Stewardship Australia receives weekly calls from consumers and non-government organisations about the disposal of used TVs (Product Stewardship Australia 2006).

Tyres:

The Australian tyre industry has committed to implementing a Tyres Product Stewardship Scheme. The scheme will provide for short-term market intervention to correct the identified market failures. It has the full support of the representatives of the tyre industry and other key product stewards in the value chain of a tyre, including governments, tyre dealers, tyre recyclers and users of tyre derived products. Their support is based on economic modelling. The benefits of the proposed scheme are that it will:

- deliver to the Australian consumer a saving of $130 million over the 10-year life of the scheme and eliminate ongoing costs associated with tyre disposal
- remove or reduce the associated environmental and human health risks associated with landfilling and illegal disposal of tyres
- ensure that full resource recovery from end-of-life tyres is realised by creating sustainable markets for end-of-life tyres in Australia
- apply to all forms of tyres, including large 'off road' tyres such as those used in the agricultural and mining sectors
- have specific targets for recycling that are based on projected market development scenarios from the 2005 economic modeling
- include specific timelines and geographic coverage requirements to ensure that tyres from regional, rural and remote locations are included.

Business and environmental benefits of newsprint recycling

Publishers committed to the use of recycled newsprint back in 1990 under a national Industry Waste Reduction Agreement. This allowed a $135 million newspaper de-inking and recycling project to go ahead at the Albury newsprint mill then owned by Australian Newsprint Mills (now Norske Skog). Newsprint manufactured at Albury contains 40–55 per cent recycled content. The Boyer plant near Hobart is the only other mill manufacturing newsprint in Australia, and it produces newsprint with a recycled content of 20 per cent.

The original goal of the Industry Waste Reduction Agreement was to reduce packaging waste going to landfill, but other significant upstream benefits have been achieved.

The use of recycled newsprint by publishers has resulted in an increase in the newsprint recycling rate from 37 per cent in 1991 to 74.5 per cent in 2004. This has reduced the amount of paper waste going to landfill by 500,000 tonnes in 2004 alone, with an associated reduction in methane emissions.

Paper with 40 per cent recycled fibre was found to be of superior quality to virgin newsprint. The smoother printing surface obtained by the addition of recycled fibres and clay (from recycled old magazines) gave a superior printing surface with less show-through (increased opacity). Thickness was reduced as well giving a better, more easily stacked product. Paper roll yields were improved and waste was reduced by about 7 per cent with flow-on environmental benefits in handling and road transport.

One of the most significant benefits of recycling old newspapers into newsprint is the reduction in energy needed. Mechanical pulping of wood is an energy intensive process. It takes one-sixth the energy to make pulp from old newspapers rather than from wood.

Acronyms

COAG	Council of Australian Governments
DEH	Department of the Environment and Heritage
EPHC	Environment Protection and Heritage Council
EPR	extended producer responsibility
NEPM	National Environment Protection Measure
OECD	Organisation for Economic Co-operation and Development
PS	product stewardship

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