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Response to the Productivity Commission Draft Report into Waste Generation and Resource Efficiency

PACIA is pleased to respond to the Productivity Commission's draft report into Waste Generation and Resource Efficiency and acknowledges the opportunity to contribute to the development of the final report.

PACIA is the peak body representing the plastics and chemicals sectors in Australia. These industries represent Australia's fourth largest manufacturing sector, with an annual turnover of $24.6 billion and directly employ more than 81,000 Australians. The products and activities of these sectors have a further indirect bearing on the employment of most Australians. PACIA companies are involved in direct supply to the automotive, mining, agriculture, construction, furnishings, packaging, paper, forestry and information technology industries.

PACIA member companies are committed to achieving the highest standards of health, safety and environmental performance by its Industries. Adherence to Responsible Care® is a condition of PACIA membership for chemical companies in Australia and is extended to third party supply chain operators who are also PACIA members. This program aims to improve health, safety and environmental performance through the application of an integrated management system approach aligned with the ISO Management Systems, including the ISO14001 environmental series. PACIA operates a highly regarded Carrier Accreditation Scheme aimed at best practice in supply chain safety.

PACIA and it's members have considerable experience with resource efficiency and waste management and significant interest in improving product and process efficiencies and reducing waste levels. Producing waste is recognized as incurring costs through its disposal, and regarded as lost product and therefore lost profit. PACIA and it's members are also conscious of the community license to operate and acknowledges the concerns within communities from time to time regarding how resource efficiency, waste generation and waste management are viewed and understood. PACIA's values, vision and purpose are influenced by the belief that if members are to remain successful they need to operate in an environmentally, socially and economically sustainable manner. This triple bottom line context was highlighted by the themes of PACIA's recent National Conferences in *2005: Water Sustainability for Industry* and *2006: Sustainability – A Leadership Challenge.* Both considered and delivered a challenge to industry, government and communities that to ensure our continued prosperity we need to rethink our attitudes to resources, energy and waste.

To assist industry planning in these areas, PACIA has strategic partnerships with a range of government agencies and other groups. These include a Sustainability Covenant with EPA Victoria, partnership projects with Sustainability Victoria, a product stewardship agreement with the Department of Environment and Heritage and the National Packaging Covenant – all of which assist in achieving resource efficiency and waste management improvements within our sectors and supply chains. We trust our responses will contribute to a final report which progresses Environmentally Sustainable Development and would be pleased to provide any further information or clarification the Commission requires.

Yours Sincerely,

Unsigned for Electronic Transmission

Peter Bury
Director Industry Development - Plastics

OVERVIEW

PACIA commends the Productivity Commission (PC) on producing this draft report. We recognise the challenging mandate to examine all aspects of non-hazardous waste generation and resource efficiency throughout the product lifecycle in Australia. The benefit of a factual and science based approach towards what are complex and compelling issues, and the views and inputs from a wide range of stakeholders are welcomed by industry.

We support core messages of the report and agree that to achieve the best overall outcome, policy and decision making must be based around a net benefits approach. The value of the debate however, is reduced when a full assessment of waste generation and resource efficiency is constrained to a waste management component looking at the collection, disposal (to landfill) or recycling of waste materials, and associated externalities. Within this narrowed scope, downstream externalities are indeed simply reduced to the consideration of amenity issues and landfill emissions, and upstream externalities are difficult to assess and quantify.

We also recognise the importance of the current and ongoing integration of sustainability thinking and themes into community, business and government decision making. There remains a need to increase our understanding of the efficiency with which we use resources and energy.

In this full context, traditional waste management policy takes on broader considerations including the valuation and management of remaining resource and energy resource stocks. Factors which are then important in a net benefits approach include lowered cost of production through the minimisation of raw material requirements, optimising energy cycles, environmental break even points, and the opportunity cost when resources are landfilled at end of life (even with minimum externalities). It is PACIA's view that waste management policy must be considered within the context of resource and energy use and value, and it is in this framing which we provide our comments on the draft PC report.

PACIA's response to the report will focus on several areas of specific interest rather than seeking to address all of the topics dealt with. The responses covered are:

PACIA Response	**Draft Report Chapter**
Policy context	Chapters1, 14.4
Net benefits approach	Chapter 4
The waste hierarchy	Chapter 7
Target setting	Chapter 7.2
Energy from waste, landfill and other treatment options	Chapter 8.4 and 8.5,
Tools and information	Chapter 2 and 13
Plastic bags	Chapter 8.2
Extended Producer Responsibility, Product Stewardship and the National Packaging Covenant	Chapter 10
Market based instruments – Levies	Chapter 9
Putting the report to use	Chapter 14, Concluding comments

PACIA RESPONSE TO THE DRAFT REPORT

Policy Context

Policy instruments should be appropriately aligned and matched to address identified market failure and externalities in waste management. Waste management objectives and policy should be considered within a broader context of total resource and energy value.

PACIA supports the PC's view that policy instruments should be appropriately aligned and matched to address identified market failure and externalities in waste management. In the assessment of the current application of waste management instruments, the Commission has effectively identified the absence of an integrated waste management objective for Australia.

In PACIA's view, waste management objectives and policy should be considered within the full context of total resource and energy value. In part, the ongoing research and discussion regarding finite reserves of resources and energy have set this context. There appears then to be merit in encompassing these broader elements when considering waste generation and resource efficiencies. This leads to a broad and challenging debate in which waste management, as investigated by the Commission, forms an important component.

Within a full resource and energy context, an integrated waste objective could provide a valid mechanism to consistently identify important, and currently unavailable, elements such as environmental break-even points which identify the whole of system peak benefit beyond which further effort derives no gain. These will require increased amounts of locally relevant data and suitable models, both of which are discussed later in this report. This context and additional data will assist in improved decision making and policies including setting goals and targets consistent with local opportunity and capability.

The Net Benefits approach and its' application to energy and resource efficiency

PACIA supports a net benefits approach to Ecologically Sustainable Development. Net benefits have greatest value when they are commonly recognised by all stakeholders within communities, industry and governments. Improved data and its communication are keys to progress

PACIA supports the application of a net benefits approach. Applied as an integral part of the decision making process, net benefits analysis will help progress Australia's transition to the government's stated goal of Ecologically Sustainable Development.

The greatest yield is derived from this approach when all stakeholders within communities, industry and governments are able to commonly value the information used and models applied. It is apparent that various stakeholders have a range of understandings as to the causes and remedies for waste generation and management. This has lead to divergent and at times opposing views as to the optimal way forward.

Waste hierarchy

The waste hierarchy provides ongoing value as a framework to guide resource efficiency and waste management.

PACIA supports the PC's view that the Waste Hierarchy provides a valuable tool for guiding general decision making. The hierarchy remains important to inform governments, business and the community as to the preferred sequence of actions which minimise negative environmental impact. This also reflects a total energy and resource efficiency context. PACIA sees a continuing role for the hierarchy's principles supporting policy development and industry programs. The hierarchy provides a valid and consistent framework for PACIA to support companies improving process efficiencies as well as avoiding and reducing

waste generation, which leads to both lowered costs of production and reduced environmental burden. It similarly provides a framework for progressing policy with all levels of governments and community representatives.

It is critical to note that problems can arise when these guiding principles are literally and inflexibly applied to specific issues, without consideration of the resultant costs. Outcomes from this rigid approach could result in net deficits rather than net benefits. The PC has included examples from many respondents where this has been the case and perverse outcomes have resulted (pp126-128). The Commission's Draft Recommendation 7.1- that the principles of the waste hierarchy should not override sound policy evaluation principles based on a net social benefits approach has PACIA's support.

Target setting

Goals are beneficial to resource efficiency and waste management progress when they provide direction, focus and motivation. There is a need to differentiate between these aspirational goals and achievable targets.

There is a need to differentiate between aspirational goals and achievable targets. Aspirational goals have great value in providing direction, focus and motivation, without the drawback of being prescriptive in how the goal is to be achieved. However, perverse outcomes could result if these targets are taken literally, necessitating that for each overarching aspirational, including "zero", targets there are subordinate goals set at appropriate levels.

PACIA's policy of "Eliminating Plastic Waste to Landfill using Supply Chain Stewardship" provides an example of an aspirational goal. This has been helpful in focusing thinking, support, programs and projects to work towards this generally useful outcome, given that plastics have beneficial recycling and energy retrieval potential and yield none of this potential locked up in landfills.

The pathway to progress towards an aspirational goal can be assisted by the development of achievable targets. These subordinate targets should not be arbitrary, but be set considering net benefits, stakeholder expectations, appropriate metrics, local conditions and current capabilities.

This method of establishing aspirational goals underpinned by achievable targets, should be expected to result in improved outcomes such as lower costs, flexible implementation and increased ownership and commitment to the goal.

This approach is common in industry, where in response to an aspirational corporate goal, business units or operating sites develop, in turn, specific targets with consideration of their own operating environment and capabilities.

Energy from Waste, landfill & other waste options

Energy from waste, landfill and other waste management options need to be evaluated on a case by case basis within a context of overall resource efficiency and energy value. Community engagement is vital in selecting and changing technology which delivers net benefits.

PACIA supports the Commission's position that waste management options need to be evaluated using a net benefits approach on a case by case basis. This is best done from the full perspective of resource and energy use and value. From this perspective, priority is then given to process efficiency and the minimisation of resource losses which generates a higher return per unit level of resource and energy input.

Once maximum practical process efficiency is attained, internal and external recycling of by-products further enhances system efficiency and reduces wastage. Examples of this approach can be seen in the industrial ecology principle adopted at the Kwinana Industrial Area in Western Australia where, for example, hydrogen

generated as a by-product in the BP oil refinery is piped to BOC Gases (an industrial gas producer) to be purified and bottled for use in Perth's 3 hydrogen fuel-cell busses. A further example is BASF's Verbund principle plant in Ludwigshafen, Germany where recycling 'waste' process heat has resulted in an approximate 50% reduction in fossil fuel usage while increasing production by 45%.

No matter how efficient the system and process, some level of by-product requiring management, such as treatment and/or disposal, is inevitable. The remaining, or embodied, energy can be re-used or retrieved for subsequent applications, displacing the need for new inputs. As with resources, a shift in focus encourages the view that many by-products, especially those with a high residual calorific value, are a valuable source of energy. In these terms, and consistent with the guidance of the waste hierarchy, our current practice of landfilling these wastes can be seen to be wasteful and inefficient, even though, as the Commission notes, the externalities at this point are low.

It is important in informing the debate regarding energy from waste that countries within Europe, Asia and North America manage a range of by-products and waste, which Australia currently landfills, through highly efficient Energy from Waste (EfW) plants. It is understood that these modern plants have negligible environmental impacts, comparable with those created by best practice landfills. It is acknowledged that much of the initial impetus for these choices has arisen from the shortage of landfill space and this is not such a pressing problem for most locations in Australia. Given the additional benefits of energy recovery over energy loss to landfilling, it is reasonable to consider how currently available energy from waste technology options could complement waste management outcomes.

It is also helpful to note that this evolving technology has not only improved process efficiency, reduced the amounts and impacts of by-products, but also manages residuals more effectively, including the retrieval of otherwise dormant energy. The ongoing application of the waste hierarchy as a guide allows the adoption of relevant technology to deliver improvement.

A thorough process of community engagement is vital in selecting and changing technologies which deliver net benefits. It is understandable that communities will be concerned for their welfare and that government policies would reflect this concern. It will be valuable for Australian communities, companies and governments to understand where this same concern has been acknowledged and allayed overseas in locations where communities use energy from waste as part of their waste management options. These lessons need to be understood and adapted so that relevant technologies can be considered as part of Australia's future energy needs analysis.

Tools & Information

Reliable data needs to underpin a net benefits approach. EPHC coordination of a nationally consistent data set would be welcomed. Nationally consistent data needs to be appropriate for comparative reporting as well as be suited to local communities and environments.

The development of tools such as Life Cycle Inventories and Analyses needs to be completed to feed into more sophisticated models capable of guiding improved decisions.

In PACIA's view, the use of net benefits analyses in policy setting and decision making, is restricted by the lack of reliable data. PACIA agrees with the Commission's recommendation 13.1, that the EPHC coordinate the development of a nationally consistent data set. Many companies operate within multiple jurisdictions and national consistency is vital for business planning and certainty.

The Commission noted the paucity and inconsistencies of data collected both within Australia and internationally. It is important to select information which is not only appropriate to resource and energy efficiency, but appropriate to local conditions given the size and diversity of Australian communities and environments. This will not only enable accurate comparisons across jurisdictions, but is fundamental to developing an integrated waste management objective.

To support this objective, mechanisms are required which consistently identify important, and currently unavailable, elements such as Environmental Break-Even Points. Environmental Break-Even Points recognise and identify the whole-of-system peak benefit beyond which further effort derives no gain. Concern exists that arbitrary targets, developed in the absence of adequate data, may create a deficit without these types of indicators and tools.

Examples of other data sets and enhanced information currently being developed by PACIA and strategic partners include:

- PACIA, EPA Victoria and Sustainability Victoria are developing and applying Life Cycle Analysis tools which support companies to improve operational efficiency and performance.
- PACIA is developing a pilot Plastics Resource Map in partnership with EPA Victoria and other stakeholders. The objective of the Map is to improve business and policy planning by making available data on the location, type and amount of used plastics products in Victoria.
- PACIA working with the CSIRO, the Building Products Innovation Council and others in the development of Life Cycle Inventory and Life Cycle Analysis databases for Australian plastics and chemicals. This foundation data is applied to research, studies and debate which informs decision and policy making.

Internationally, the Canadian Integrated Solid Waste Management Model (ISWM) developed by the Canadian Plastics Industry Association guides the application of various waste management technologies for a given location and waste profile. This model is understood to be helpful in guiding decisions by local authorities in Canada. For such tools to reliably guide decisions, they require life cycle inventory inputs.

Australia will be well served in considering an integrated waste management objective for resource and energy efficiency. The development of both data and tools is needed to support this.

Plastic Bags

PACIA agrees with the proposition that any action to de-select plastic bags would need to be supported by a robust and transparent cost-benefit analysis which clarifies: the problem; the community response to decisions taken and whether alternatives including improved litter actions would achieve better community outcomes.

The single use plastic bag debate has become an iconic issue for many parts of the community, industry and government. Some of the responses observed reflect the importance people attach to acting on environmental issues – choices made about plastic bags provide personal action where they may otherwise feel they have less control. This is set against the backdrop of the unworkable notion that complex problems such as litter can have simplistic solutions with no down-stream effect on other aspects of society, the economy or the environment.

It is important to note that the National Packaging Covenant (NPC) provided a fundamental and useful network and context for managing the plastic bag issue. The NPC's cooperative and inclusive structure and networks complemented the broader work by governments, communities and industry to identify the specifics of concern and a reasoned basis for response. Australia, very early on, commissioned work to identify and report on the facts regarding plastic bag usage and impacts as well as options for management based on knowledge and data. This foundation has provided the basis to guide future decision making.

We support the process of a transparent net benefits analysis of the issue and note the importance of considering if greater net benefits could result from options including litter minimisation programs.

Extended Producer Responsibility, Product Stewardship and the National Packaging Covenant

PACIA recognises the value of product stewardship and, to a lesser degree, extended producer responsibility programs to improve resource efficiency and waste management outcomes. By applying the expertise of companies within product chains, in consultation with the community and with appropriate support from governments, properly established programs are capable of delivering net benefits.

COAG guidelines currently exist for this purpose and should be consistently applied by all levels of government. The co-regulatory approach of the National Packaging Covenant is one example of a cooperative scheme supported by PACIA.

PACIA notes the Commission's recommendations that the rationale for Extended Producer Responsibility (EPR) and Product Stewardship (PS) schemes be thoroughly evaluated (draft recommendations 10.1 and 10.2). The COAG "Principles and Guidelines for National Standard Setting and Regulatory Action by Ministerial Councils and Standard-Setting Bodies" provide a suitable framework for this process. Application of these existing guidelines by all levels of Federal, State and Local governments would be helpful. It is important to companies at State and National levels, as well as the community, that trigger points for regulatory action, and responses, be considered and consistent.

When regulatory responses are required, it is important to involve companies and communities in improvement activity and change. There is considerable knowledge and expertise within the companies in product chains which is vital for improvement. The combined impact of a product stewardship commitment across the whole supply chain is able to produce a greater net benefit than the single point approach of extended producer responsibility. If the decision-making to correct market failures is left only to one part of the product chain, such as the final consumers, specialist knowledge and expertise may be left out of the process, potentially resulting in a poorer outcome.

In addition, the significant investment by companies needs to be acknowledged and valued in any regulatory intervention. Suitable schemes can provide the opportunity for engagement and support for companies as they adapt and improve. Having agreed to respond to a market failure, the alternative to a collective and cooperative approach is disparate and uncoordinated activity.

The National Packaging Covenant (NPC) is one example of a suitable scheme which engages companies, communities and government to create improvement. Whilst PACIA and member companies have concerns about the targets which were set in the second Covenant term, we are no less committed to the mechanism and process which uses coordinated actions underpinned by co-regulatory support from jurisdictions.

One example of how this approach assists progress is in the NPC funded project investigating the collection of a broader range of plastics packaging. Currently, there are some packaging and polymer types which have traditionally ended up in landfill at the end of their initial life. From a broader resource and energy efficiency context, this material represents a lost opportunity. By encouraging and supporting NPC signatories, companies along product chains have combined their expertise to investigate how greater amounts of packaging can be recovered and new recyclates and secondary markets developed.

An additional exercise which the NPC is involved with is away-from-home packaging. There are a range of packaging types used in non-domestic settings such as hotels and clubs, commercial, government and institutional premises which have no current route to commercially viable recycling schemes and end-markets. Having this project nationally coordinated recognises the importance of the NPC mechanism.

The NPC provides a valuable framework in which companies can work with communities and governments to respond to environmental concerns regarding packaging waste. The Productivity Commission (recommendation 10.1) has proposed that the 2008 NPC review be expanded beyond an assessment of effectiveness to net community benefit. The 2008 review provides an opportunity to consider how a net

benefits approach, including the support of suitable aspirational goals and achievable targets, assists the signatories improving environmental performance of packaging over whole-of-life.

Market-based Instruments - Levies

Levies, in the broader resources and energy context, offer a mechanism to achieve improved net benefits through lowered costs of production and reduced environmental burden. This can occur when levies are hypothecated and applied transparently to activities which are aligned with "achievable" improvement goals, and are supported by other programs including education, innovation and technology development.

Levies, in the broader resources and energy context, offer a mechanism to achieve improved net benefits by reducing waste, resource use and environmental burden. Levies applied to industrial waste disposal should be used to assist companies transitioning to improved outcomes, including reducing the cost of production.

The model applied in Victoria, where landfill levies are appropriated and used directly to implement cleaner production and resource efficiency programs, has enabled PACIA and member companies to access targeted resources for this purpose. This occurs when levies are hypothecated and applied transparently in support of programs and activities which are aligned with "achievable" waste targets. Where levies are applied, there is a need to ensure these are proportionate, and applied in a triple bottom line framework.

Examples of this include Sustainability Victoria's partnership with PACIA to improve resource efficiency and end-of-life waste management outcomes for durable industrial and automotive plastic products. Funding support for a full-time project manager has created a focal point, generated new information and brought together strategic decision makers from key groups to create net improvement.

Where change is required, levies in themselves are not the sole catalyst. Change also requires education, innovation and technology development which deliver options, knowledge and direction.

Putting the report to use

PACIA recognises the value of a full energy and resources context to guide integrated waste management objectives and policies for Australia. Ecologically Sustainable Development requires responding to the ongoing concerns of a resource and energy constrained future and the impacts of this for waste generation and resource efficiency.

PACIA acknowledges the value of the Commission's themes of a net benefits approach to waste management, the need for improved information and a valid basis for responding to market failures.

We trust that our responses provide useful viewpoints and examples of how applying industry expertise, investment and knowledge with community consultation and government support can progress ecological sustainable development. We hope that the Commission is able to incorporate these responses into a final report which will provide direction, guidance and strategies to meet these challenges.