
Standing Council on Environment and Water

Attachment B: Packaging options report

December 2011



WRIGHT CORPORATE STRATEGY PTY LTD

Focused Innovation

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Acronyms

ACCC	Australian Competition and Consumer Commission
ADF	Advance Disposal Fee
APC	Australian Packaging Covenant (formerly NPC)
AUD	Australian dollar
AWT	Alternative Waste Technology
C&I	Commercial and Industrial
CAD	Canadian dollar
CBA	Cost Benefit Analysis
CDL	Container Deposit Legislation
CDS	Container Deposit Scheme
COAG	Council of Australian Governments
CRF	Container Recycling Fee
CRIS	Consultation Regulatory Impact Statement
DRS	Dansk Retursystem
DSD	Duales System Deutschland
EPHC	Environment Protection and Heritage Council
EPR	Extended producer responsibility
EU	European Union
LGA	Local Government Area
MRF	Material recovery (/reclamation) facility

MS2	Martin Stewardship and Management Strategies
NEPM	National Environment Protection Measure
NGO	Non government organisations
NPC	National Packaging Covenant
OBPR	Office of Best Practice Regulation
PET	Polyethylene terephthalate
PSO	Product Stewardship Organisation
PwC	PricewaterhouseCoopers
RIS	Regulatory Impact Statement
RVM	Reverse vending machine
SA	South Australia
SMEs	Small and Medium Enterprises
SCEW	Standing Council on Environment and Water
SOOG	Senior Oversight Officers Group
TEC	Total Environment Centre
US	United States
WCS	Wright Corporate Strategy
WG	Working Group

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1. Introduction

Purpose of this report

The objective of this report is to present and describe a set of options to manage packaging waste in Australia. This has been prepared by PwC and Wright Corporate Strategy (WCS) based on advice provided by the Standing Council on Environment and Water (SCEW) Working Group (WG) and Packaging Waste Senior Officers Oversighting Group (SOOG).

Packaging plays a vital role in the consumer goods sector by protecting and preserving raw materials and products as they move through supply chains. While consumer packaging delivers environmental benefits – for example, by reducing food waste through spoilage – it also has adverse environmental impacts. Currently, some post-consumer paper/cardboard, glass plastic, steel and aluminium packaging is being disposed of in landfill or littered instead of being recycled. As a result of regulatory failures, information asymmetry and other barriers to increased recycling, costs are being imposed on third parties, often referred to as negative externalities. These costs include:

- The market value of lost resources and non-market value of utility from increased recycling/reduced litter
- The negative environmental and amenity impacts of landfill, and
- The opportunity cost of landfill in infrastructure, maintenance and operation costs and alienation of land.

As a result of the problems associated with used packaging, and in response to community concerns, there has been a long history of consideration of options for better managing packaging waste and litter in Australia.

This report aims to develop a set of options for end of life packaging, by considering the range of options to address the problems of used packaging and the key factors relevant to developing a shortlist of options.

This report identifies and provides descriptions of a set of possible non-regulatory, co-regulatory and mandatory options that could assist in addressing end of life packaging problems. The options identified in this report are planned for further analysis in the consultation regulation impact statement (CRIS) process using cost benefit analysis (CBA).

In order to identify the most feasible options, the following process was undertaken:

- A range of potential options targeted to deal with packaging waste, were identified involving:
 - a. The identification of options previously considered in the Australian context, and
 - b. The identification of international packaging options.
- Six options for further analysis were selected, considering:
 - a. The Minister's requirements, as outlined in the 2010 Communiqué
 - b. The findings of international case study analysis (summarised in Appendix A)
 - c. The problems relating to end of life packaging and the National Waste Policy objectives
 - d. Other requirements of the COAG best practice guidelines, and
 - e. The outcomes of a workshop with stakeholders to scope and refine the options.

High level options were settled and agreed upon by the Working Group. These options were then supplied to PwC and WCS as a basis for further work and development, with the exception of the Boomerang Alliance and Industry options which were drafted based on WCS review of the proponents proposals.

Purpose of option selection in regulatory processes

The Council of Australian Governments (COAG) 2007 *Best Practice Regulation Guide for Ministerial Councils and National Standard Setting Bodies* provides guidance on selecting options for regulatory processes. The Office of Best Practice Regulation (OBPR) assesses the adequacy of Regulation Impact Statements (RIS) against the guidelines agreed by the Government and COAG.

The COAG *Best Practice Regulation Guide for Ministerial Councils and National Standard Setting Bodies* stipulates that an effective regulatory process involves:

- Consideration of a range of feasible policy options
- Not restricting competition unless various criteria are satisfied
- Ensuring that regulation remains relevant and effective over time
- Consulting effectively with affected key stakeholders at all stages of the regulatory cycle, and
- Ensuring that government action is effective and proportional to the issue being addressed.

In addition, OBPR guidelines in *The Australian Government Best Practice Regulation Handbook* require that 'all feasible options, of both a regulatory and non-regulatory nature' be considered.¹ The handbook also identifies a series of regulatory and non-regulatory options that should be considered:

- **Self-regulation** - Industry-formulated rules and codes of conduct, with industry being solely responsible for enforcement
- **Quasi-regulation** - Governments place pressure on business to comply with rules that may not be legally binding (for example, due to an actual or perceived threat by the government to regulate)
- **Co-regulation** - Industry develops and administers its own arrangements and government provides regulatory underpinning to enable the arrangements to be enforced, and
- **Explicit government regulation** - Primary and subordinate legislation.²

The Handbook also identifies a range of alternative instruments, such as:

- No specific action
- Information and education campaigns
- Market-based instruments
- Pre-market assessment schemes (such as listing, certification and licensing)
- Post-market exclusion measures (such as bans, recalls, licence revocation provisions and 'negative' licensing)
- Service charters
- Standards, and
- Other mechanisms such as public information registers, mandatory audits and quality assurance schemes.³

The methodology that has been used considers these guidelines in order to identify and assess used packaging options.

¹ Office of Best Practice Regulation 2010, *Best Practice Regulation Guide*, p. 4.

² *Ibid.*

³ *Ibid.*

2. Approach to identify options

In selecting options to be considered in the CRIS process, the following parameters were considered:

- Minister's requirements, as outlined in the 2010 Communiqué
- Findings of international case study analysis
- Problems relating to end of life packaging and the National Waste Policy objectives
- Other requirements of COAG best practice guidelines, and
- Outcomes of a workshop with stakeholders to scope and refine the options.

Environment Protection and Heritage Council requirements

In July 2010, the Environment Protection and Heritage Council (EPHC) agreed to undertake the development of a CRIS on a limited number of national measures which 'may have a positive cost benefit and a tangible impact on recovery rates and litter reduction'. The July 2010 EPHC Communiqué also stated some preferences for options to be considered:

'Ministers agreed that a RIS will consider not only CDL, but also a limited number of options which may have a positive cost benefit and a tangible impact on recovery rates and litter reduction.'

The November 2010 Communiqué stated:

'Agreed approaches to be considered focus on increasing recycling and/or litter reduction and will include, but are not limited to, a container deposit scheme, advance disposal fee, and workplace, events, hospitality and institutions recovery. The consultation RIS will be conducted in a manner that recognises Council's decision to approve the Australian Packaging Covenant and in the context of other existing measures of recycling and existing litter reduction measures.'

The Working Group (comprising Standing Council on Environment and Water (previously EPHC) representatives) also advised PwC and Wright Corporate Strategy (WCS) that, in line with the 2010 Communiqué, a co-regulatory option developed by the packaging industry and a Container Deposit Scheme (CDS) option developed by the Boomerang Alliance should be assessed in the CBA. PwC and WCS have consulted with industry representatives to obtain an understanding of their option and with Boomerang Alliance and Total Environment Centre (TEC) to understand the Boomerang Alliance CDS.

International analysis

Martin Stewardship and Management Strategies (MS2) explored a range of international case studies to assist in the development of this report. The report compiled by MS2 is summarised in Appendix A and attached in Appendix B. The MS2 report provided greater understanding of the range of possible approaches and highlighted the challenges of applying an overseas scheme in Australia given different circumstances such as the high level of kerbside recycling in most jurisdictions.

Based on these considerations, an Australia-specific CDS was developed drawing on the international case studies. The CDS developed is based largely on that operating in British Columbia which is run by Encorp Pacific. However, it has also been modified in consideration of other learnings from international CDS schemes and makes use of some data from the South Australian (SA) CDS.

The international analysis also highlighted a range of possible initiatives based on co-regulatory approaches involving industry. The findings of this analysis assisted in developing other product stewardship options, which were further refined by considering packaging problems and regulatory frameworks specific to Australia.

National waste policy objectives and packaging problems identified in previous analysis

National Waste Policy Objectives

The National Waste Policy, which was agreed to by all Australian environment ministers in November 2009 and endorsed by COAG in October 2010, sets out a coherent approach to Australia's waste management and resource recovery to 2020.⁴

The objectives of the National Waste Policy are to:

- Avoid the generation of waste and reduce the amount of waste (including hazardous waste) for disposal
- Manage waste as a resource
- Ensure that waste treatment, disposal, recovery and re-use is undertaken in a safe, scientific and environmentally sound manner, and
- Contribute to the reduction in greenhouse gas emissions, energy conservation and production, water efficiency and the productivity of land.

The policy contains sixteen priority strategies, including better packaging management.⁵ Strategy 3 of the National Waste Policy states: 'The Australian Government, in collaboration with State and Territory governments, industry and the community, will better manage packaging to improve the use of resources, reduce the environmental impact of packaging design, enhance away from home recycling and reduce litter.'⁶

Problems identified

In the problem analysis conducted for the Problem Report prepared by PwC and WCS, a number of primary 'problems' or 'market failures' in Australia were identified:^{7,8}

- **Problem 1 – Regulatory failure:** Different jurisdictions have different regulatory and policy frameworks/arrangements for resource recovery and litter management. This broad regulatory failure results in overlapping and duplication of costs as well as regulatory inconsistencies.
- **Problem 2 – Negative externalities:** Individual decisions to landfill or litter packaging impose market and non-market costs on third parties, which are not taken into account by individuals when making their disposal decision. Private costs and benefits are not equivalent to the costs and benefits to society as a whole.
- **Problem 3 – Information asymmetry:** A number of households are unaware of which materials are able to be recycled by their local council, the true value of recycling and/or the impact of contamination of materials on the ability to recycle packaging. This increases packaging landfill and litter relative to recycling and imposes costs on third parties (i.e. a negative externality).
- **Problem 4 – Coordination, transaction costs and free riders:** Households and businesses negotiation of a market based solution with waste service providers and other bodies is impractical due to the difficulties of coordinating large groups of consumers with disparate interests, high transaction costs associated with contract negotiations and the potential for free-riders, who may opt out of the contract

⁴ Department of Sustainability, Environment, Water, Population and Communities, *National waste policy*, available at <<http://www.environment.gov.au/wastepolicy/index.html>>, accessed 5 July 2011.

⁵ Department of Sustainability, Environment, Water, Population and Communities, *About the National Waste Policy*, available at <<http://www.environment.gov.au/wastepolicy/about/index.html#aims>>, accessed 5 July 2011.

⁶ Department of the Environment, Water, Heritage and the Arts, and EPHC (2009) *National Waste Policy: Less Waste, More Resources*, November, p 15.

⁷ PwC and Wright Corporate Strategy (2011) *Problem report for packaging*, prepared for the Environment Protection and Heritage Council.

⁸ Note: For more detail on the difference between a market failure (the 'cause') and the impact/value (the 'effect') see the Problem Report.

negotiation but receive the benefits. This increases packaging landfill and litter relative to recycling and imposes costs on third parties (i.e. a negative externality).

It should be noted that there is distinction between a market failure (i.e. a cause) and the impact or value of that market failure (i.e. an effect). In general, there is a market failure because costs are imposed on third parties in the decision of individuals to dispose of or discard packaging in the environment instead of recycling. For example the following are manifestations of market failures (or impacts arising from these market failures):⁹

- Packaging contains embedded resources, some of which are non-renewable, but which are lost under current disposal methods. As a result:
 - Reprocessors (and society as a whole through the multiplier effect) are not able to capture the financial market value of these resources, and
 - Households and businesses lose the non-market value of the utility that they would otherwise receive, for example, from knowing that they are living in a less wasteful society or preserving resources and the environment for future generations.
- Landfill of some packaging imposes external costs on third parties, such as greenhouse gases (which impact the entire planet) and leachate (which imposes health costs on adjacent communities and habitats) generated from the breakdown of paper and cardboard, and amenity impacts (which decreases the utility of adjacent communities) across all packaging types.
- Landfill of packaging results in the alienation of land and results in direct costs for landfill infrastructure, maintenance and operation. There is an opportunity cost because this land and funds could potentially be used for other purposes that are valued more highly by the community.
- Disposal of packaging in the mixed waste stream increases the processing costs for Alternative Waste Technology (AWT) facilities and other infrastructure, which must invest in infrastructure to remove contaminants such as glass, rigid plastics and film plastics so that the organic soil conditioning resources that they produce meet standards to be acceptable for land application.
- Packaging that is discarded as litter accumulates and has a range of negative impacts on society, particularly its negative visual amenity impact. There are also significant clean up and other (e.g. education and enforcement) costs incurred by government, and these funds could be potentially applied to other uses valued more highly by society.

Analysis undertaken on each material as part of the problem development also suggests:¹⁰

- Recycling of paper/cardboard (mostly in the form of grouped packaging containers) is at a high level in away-from-home settings (essentially as a result of material demand, and resultant recycling initiatives at business premises). At-home recycling of paper/cardboard appears to be moderate, but scope for improvement does exist.
- Recycling of glass is moderate overall, but low in away-from-home settings, particularly for beverage containers which comprise a majority of glass packaging.
- Recycling of plastics is low to moderate overall, but at-home recycling of plastic beverage containers is high.
- Recycling of steel cans is low to moderate overall. Steel is reasonably valuable and has reasonably high demand as a processing feedstock. However, steel cans are costly to recover and consolidate in comparison to other sources of steel cans for recycling.
- Recycling of aluminium is moderately high and the material is valuable and inexpensive to transport.

⁹ PwC and Wright Corporate Strategy (2011) *Problem report for packaging*, prepared for the Environment Protection and Heritage Council

¹⁰ PwC and Wright Corporate Strategy (2011) *Problem report for packaging*, prepared for the Environment Protection and Heritage Council,

In line with best practice regulation and the National Waste Policy objectives, a range of options have been considered that can address these regulatory and market failures (with some options addressing one and others addressing multiple problems as described in Chapter 4).

Other requirements of COAG best practice guidelines

COAG's best practice regulation guidelines specify that a 'range of feasible policy options must be considered, including self-regulation, co-regulatory and non-regulatory approaches'.¹¹

The process of the selection of options has considered a range of voluntary, co-regulatory and mandatory initiatives. A low cost, non-regulatory option proposed to improve the use of current infrastructure through increased consumer knowledge and education will be explored in the CBA. There are also two proposed co-regulatory product stewardship options (one of which has three sub-options), and the two mandatory options, one of which is an Advance Disposal Fee (ADF) and the other is a CDS (which has two sub-options).

A voluntary industry product stewardship scheme has not been considered as stakeholders/industry have not proposed such an option. This appears to be principally due to concerns about the free-rider issue. A free rider is someone who benefits from a good or a service without paying for it.

Workshop with stakeholders to scope and refine options

The Working Group (WG) managing the CRIS development had already undertaken engagement with key stakeholders on the scope and approach for the CRIS, and on possible options, prior to the engagement of PwC and WCS.

In addition to this initial consultation, PwC and WCS held a workshop with stakeholders in Melbourne on 18 July 2011. The purpose of the workshop was to:

- Scope and refine the six options that will be analysed in detail in the Packaging Impacts CRIS
- Test key assumptions around these six options, and
- Inform stakeholders of progress on the CRIS, in particular
 - The research on the problem statement and supply chain analysis, and
 - The process for selection and short listing of options.

¹¹ Council of Australian Government, 2007. *Best Practice Regulation*, p. 4.

3. Range of options previously considered in Australia

Historical context

Actions undertaken to date to address end of life packaging have involved the implementation of three Packaging Covenants (in 1999, 2005 and 2010 respectively), which have committed governments and relevant companies to work together to mitigate the negative environmental and other impacts of packaging. In addition, packaging waste and litter are targeted by a number of existing arrangements at all levels of government.

In 2008, in the mid-term review of the second National Packaging Covenant (NPC), the EPHC commissioned the BDA Group and WCS to undertake an investigation into the merits of various mechanisms for addressing packaging waste impacts. A range of beverage container waste policy options were considered in the resulting *Beverage Container Investigation* report. While the focus of that report was on beverage containers, it considered options in addition to the Packaging Covenant, including:

- National CDS
- ADF
- Voluntary industry glass levy
- Extended coverage of kerbside recycling/drop-off
- Improved recycling at core consumption centres including hospitality/retail/institutions sector, public places and events
- Improved recycling at workplaces, and
- Residual waste processing systems.¹²

Base case

In defining a set of options for regulatory analysis, it is important to define a business as usual scenario or base case, against which all other options will be compared (in order to estimate the incremental costs and benefits of each option). The Base case will be described in detail in the CBA Report prepared as part of this project. For packaging, the base case would involve a scenario in which the current regulatory framework does not change. This would assume that the APC continues under the National Environment Protection Measure (NEPM) arrangement and jurisdictions/industry introduce their own litter and recycling policies and initiatives under current regulatory settings. As a part of the CBA and summarised in the CBA report, WCS will forecast the litter and recycling rates of the base case. These forecasts will be based on the current trends of improvements in recycling and litter from the current waste policy setting. Examples of existing arrangements included in the base case are:

- Australian Packaging Covenant (APC)
- SA's existing CDS
- NT's recently legislated container deposit scheme
- Existing recycling and litter reduction measures across jurisdictions, and
- Voluntary arrangements such as the Packaging Stewardship Forum.

¹² BDA/WCS 2010, *Beverage container investigation*, 'Revised Final Report', 28 April 2010, prepared for the EPHC.

Range of possible options

There are a number of policy initiatives that have been identified by previous studies, stakeholders and government over a number of decades. All these policy initiatives could be considered by government to address the market failures identified in the problem report. For the purposes of this report, the options have been narrowed down to a specific suite which allows for a CBA to be conducted and for the options to be differentiated. For completeness sake, the following sets out a broader suite of options that have been considered as a part of this exercise. The options that were selected are those that are most likely to address the problem and those identified for the CBA by the WG and Packaging Waste SOOG on the basis of stakeholder feedback (outlined in Section 4).

Each option could be instituted through a range of regulatory mechanisms and include a range of initiatives, which could be described as programs and activities and are funded through a funding mechanism. For example, design and labelling standards for packaging items (the program) could be mandatory (the regulatory mechanism) and funded through an ADF (the funding mechanism).

Possible initiatives/instruments

- **Design and labelling standards of packaging items** - Standards for the design of packaging could be developed to minimise excessive packaging. Additionally, guidelines, national standards or requirements for clearly labelling products in regards to their recyclability could be introduced.
- **Education initiatives** - Education initiatives could be implemented by government and/or industry aimed at increasing recycling, decreasing of litter and/or reducing consumption of excessive packaging. This could be supplemented by initiatives such as litter clean up events.
- **Collaboration and information sharing** - Feedback from stakeholders indicates that many Local, State and Territory governments are running very effective and innovative recycling and litter programs. One option would be for greater information sharing between local governments on 'best practice'.
- **Greater collaboration between governments, environmental groups and industry** - There could be scope for greater collaboration between these groups to share learnings on the range of initiatives available and how they have/have not been successful in the past.
- **Improved collection of packaging at away from home locations** - Recycling of away from home packaging could be improved by consistent provision of recycling bins at mass consumption areas or assisting with the funding of such infrastructure. Locations could include shopping centres, airports and organised events.
- **Improved collection of packaging at workplaces** - There is scope for improvement of recycling at workplaces. This could be achieved by, for example, providing grants or funding to workplaces that introduce recycling programs.
- **Increased recycling of packaging from the commercial and industrial waste stream** - Recycling rates in the commercial and industrial (C&I) sector could be improved by the provision of material recovery /reclamation facility MRFs dedicated to recycling dry recyclable materials from the C&I waste stream.
- **Improved collection of packaging across 'at home' and at 'away-from-home' locations** - There could be potential to target improvements in collection of some types of packaging both 'at home' and 'away from home' by consumers. This could be achieved by incentives to collect and deliver their packaging waste to consolidation points. The implementation of such an option in Australia would likely be affected by the level of kerbside recycling already available.
- **Extended coverage of kerbside recycling/drop off facilities** - Most Australians have access to kerbside recycling collections and this scheme has been successful. However, kerbside recycling could potentially be improved by:
 - Extension of kerbside recycling to small and medium enterprises (SMEs) on a commercial basis and greater coverage in rural areas with reasonable proximity to recycling end markets
 - Additional and improved recycling drop off facilities in rural/remote areas

- Adoption of consistent material collection standards and additional education programs to improve the recovery rates and reduce contamination rates of kerbside recycling, and
- Consistency of bin labelling in relation to recyclable items.
- **Recycling collection precincts** – Collection costs in the C&I sector represent a significant element of the total cost to recover used packaging. This is due to a lack of efficiency caused by low utilisation of collection vehicles and the over-servicing of geographical areas by multiple providers. The concept of licensed collection precincts have been considered in a number of jurisdictions in Australia and introduced in some cities overseas. A licensed collection precinct restricts the number of collection service providers that can operate within the precinct, thereby increasing collection efficiency and reducing collections costs.
- **Assist with recycler costs for collection/recycling** – Subsidies could be provided to recyclers for collection/recycling of packaging. This would increase the recycling of material streams that are currently not financially viable.
- **Incentives for energy production from residual waste derived fuels** - One policy option could be to fund programs aimed at accelerating the manufacture of moderately high-energy fuels from recycling residues.
- **Assist end markets or provide funding to support the generation of end markets** - This could include education programs or initiatives such as the development of standards for recycled product prior to its end use.
- **Landfill ban** - Many countries, particularly in Europe, have introduced landfill bans (detailed in Hyder's *Landfill Ban Investigation Report*).¹³ SA also has landfill bans which have been recently implemented through the Environment Protection (Waste to Resources) Policy 2010.
- **Litter enforcement and increased fines** – Funding could be provided for greater enforcement of litter bans. This could be coupled with deterrent level fines and penalties. This may also include a National Litter Strategy.

Funding mechanisms

A range of funding mechanisms could be used to finance the initiatives listed above, including the below:

- **ADF** – A mandatory ADF is a government excise imposed on industry to fund initiatives aimed at increasing packaging recycling and reducing packaging litter.
- **Product stewardship scheme** – A product stewardship scheme is designed around the idea that manufacturers of products and packaging should bear responsibility for the management of packaging waste. This could involve industry establishing an organisation to operate the scheme which charges membership fees (similar to an ADF arrangement). The fees collected are used to fund initiatives aimed at increasing packaging recovery and recycling and reducing packaging litter.
- **Government revenue** – Existing revenue from all tiers of government could be considered for funding of packaging initiatives.

Regulatory mechanisms

The initiatives and funding mechanisms detailed above could be encouraged and/or enforced under a range of regulatory mechanisms, detailed below:

- **Voluntary** – Voluntary schemes do not require changes in the regulatory settings. For example, a voluntary industry product stewardship scheme can be effective if industry is willing to participate and if

¹³ Hyder Consulting 2010, *Landfill Ban Investigation: Final Report*.

the threat of free-riders does not diminish the potential that participation will be spread across industry. Other voluntary options could include education campaigns and information sharing initiatives.

- **Co-regulatory** –Initiatives such as product stewardship, CDS and labelling/recycling standards could be implemented under a co-regulatory framework. For example, a co-regulatory approach to product stewardship could involve a combination of government regulation and industry action. Under such an approach government would set minimum outcomes and operational requirements, while industry would have some discretion about how those requirements and outcomes are achieved.
- **Mandatory regulatory options** –Mandatory options involve government legislation mandating the response to packaging impacts and could include a mandatory product stewardship scheme, a mandatory landfill ban or a government excise to fund initiatives.
- **CDS** - Under a CDS, a deposit is levied on the sale of a product sold in a container. The deposit is refunded to the consumer after the product has been used and the container is returned to a designated public redemption point. CDSs are most often confined to beverage containers, and some CDSs, such as that operating in SA, exclude milk and wine containers.

4. Description of options

There are a broad range of options that could be considered, as outlined in Section 3.3. To allow a manageable suite of options to be considered for quantitative analysis in the CBA, the process set out in Section 2 was followed to arrive at the following list of options.

Option 1: National Packaging Waste Strategy

Option 2: Co-regulatory Packaging Stewardship

- a) APC replaced by co-regulatory arrangement under the Product Stewardship Act
- b) Industry Packaging Stewardship Scheme
- c) Extended Packaging Stewardship Scheme

Option 3: Mandatory ADF

Option 4: Mandatory CDS

- a) Boomerang Alliance CDS
- b) Hybrid CDS

These options were selected as being most likely to address the problems identified (and this can include addressing multiple problems with one policy option), reflect the requirements of Ministers as outlined in the 2010 Communiqués and reflect feedback and input from stakeholders. The options also reflect a desire to ensure that the CBA is manageable and accessible to the community and stakeholders.

Options were settled and agreed upon by the Working Group (WG) and provided to PwC and WCS as a basis for further work and development, with the exception of the Industry and Boomerang Alliance options which were reviewed by WCS as proposed by their proponents.

The below descriptions of the options provide a range of potential initiatives and programs that could be introduced under each option. These initiatives and programs are indicative and would be expected to be reviewed for the Decision RIS and once an option was selected.

Option 1: National Packaging Waste Strategy

This non-regulatory option would entail the development of a national packaging waste strategy funded from additional resources.¹⁴ The strategy would coordinate jurisdictional action that increases recovery of packaging waste and reduces litter with minimal additional resources or funding. The objective of this option is to improve recycling and reduce litter by ensuring that the current infrastructure is being used as effectively as possible. It seeks to improve the use of current infrastructure through increased knowledge, education and information sharing and therefore is a low cost, non-regulatory option.

The initiatives run as a part of the Strategy would be funded by State and Commonwealth governments and would be facilitated by a national body made up of representatives from Commonwealth, State, Territory and local governments.

Coverage

This option would cover packaging materials, but some initiatives undertaken as a part of the option (such as the national recycling education initiative) may have spill over benefits for non-packaging litter and recycling.

¹⁴ Initial details communicated to PwC and WCS by the WG.

Operation

Broadly this option would be focused on the dissemination of information and advice to consumers and across governments to ensure that current infrastructure is being used optimally. It could involve the following:¹⁵

- **A national recycling education/advertisement initiative** - This initiative is aimed at reducing the amount of recyclables going to land fill by increasing awareness and knowledge about recycling. Currently there is an information gap in the community that limits the optimal use of current recycling infrastructure and services. This initiative would provide the community with information on 'best practice' recycling at home and away from home. The initiative would include the development of consistent iconography, imagery and messages and provide free national resources such as downloadable images, fact sheets, videos and training. It would also disseminate information in a number of languages to ensure that all groups in society have access to information regarding recycling. The initiative would aim to optimise work already undertaken by organisations who are active in promoting better recycling.
- **A national education initiative aimed at litter prevention** - To date there has not been a national education initiative aimed at litter prevention run by governments. All activity relating to litter prevention has been at a state or local government level or by non government organisations (NGOs) with some funded through the APC. A national litter education initiative, potentially involving advertising, could be provided under this option. The initiative would seek to reduce litter by drawing on the experiences of successful litter prevention campaigns run by local and state governments and both here and overseas.
- **The development of a national litter methodology** - Currently there is no comprehensive national estimate of the volume, count or weight of litter in Australia. This makes it difficult to measure the success of litter policies and strategies. As part of this option, a standardised methodology could be developed to more accurately record the number of littered items, volume and weight in Australia. The methodology would be developed in collaboration with stakeholders already active in this space such as the APC and Keep Australia Beautiful.
- **National programs to increase away from home recycling at core consumption areas through improved bin labelling** - Away from home recycling levels are persistently low due to, for example, the diffused provision of recycling infrastructure in public places. This could be improved by better labelled recycling bins. This initiative would aim to improve the consistency of recycle bin labelling at all core consumption areas operated by the public and private sectors. Improved labelling may include using standardised signage, colour schemes and imagery to avoid confusion over text. This would align with actions already undertaken by governments and industry to improve recycling away from home.
- **Information sharing between state and local governments** - This initiative would provide a platform for jurisdictions to exchange ideas and information regarding 'best practice' management of packaging waste. A number of State and Local governments are running highly effective and innovative programs relating to the management of packaging waste with regards to litter and recycling. Disseminating information on such programs may also benefit other states or local governments. Information shared could be used to either value-add to current programs or see the introduction of programs that have proven successful in other jurisdictions.
- **Consistent labelling of recycling bins** - Already some jurisdictions, such as NSW, have implemented guidelines for the labelling of recycling bin and there are also guidelines for the colour of bins. However, there are no guidelines for the labelling of what is allowed in recycling bins. The national body could oversee nationally consistent guidelines for the labelling of recycling bins and assist local governments and industry in implementing the standards. This could improve the value of the contents of recycling bins and reduce the levels of contamination. This initiative would be aligned with the national recycling education/advertisement initiative and the bin labelling at core consumption areas initiative.

¹⁵ Note: These initiatives and programs are indicative and would be expected to be reviewed once an option was selected.

- **Development of voluntary standards for end products and recycling labelling for packaging** - In order to reduce the impacts of packaging, voluntary standards could be developed in collaboration with industry. Standards could aim to reduce unnecessary packaging by, for example, outlining the optimal packaging weight to product weight ratio. Additionally, packaging labelling standards could be developed so that labelling clearly, and in a consistent manner, identifies if an item is recyclable. In addition, standards for end market products could assist for packaging materials not used in their original form again (e.g. glass and plastic).

Governance

In order to provide a coordinated approach across jurisdictions, a national body would be established which would be made up of representatives from Commonwealth, State, Territory and local governments. The national body would oversee the strategy and facilitate the information sharing required for coordinated action.

There are a range of governance arrangements that could be used to implement this non-regulatory option. For example, the national body could be established as a statutory authority (requiring legislation) or could be established as a committee of COAG. For the purposes of the CBA, it is sufficient to focus on the entity and its costs, with specific mechanisms for establishing the body to be considered at a later date.

There would also be opportunities within this option for strong collaboration between government, industry (packaging manufacturers, grocery and beverage industries and retailers), environment groups and local government. This could be achieved by allowing key stakeholders to have non-voting membership of the national body. Alternatively, stakeholders could be invited to form an advisory group which would provide input to the national body through meetings and workshops. Again, there are a number of ways that stakeholder involvement could be facilitated and it is sufficient to establish the broad governance arrangements of the entity and its costs.

Outcomes

The quantitative packaging outcomes of this option will be forecasted by WCS for the CBA. However, based on the qualitative description of this option it is reasonable to say there would be four primary outcomes targeted by this option:

- **Reduction in litter** - The national waste strategy would be aimed at reducing the incidence of litter in a range of public spaces. The education initiative regarding recycling would also potentially reduce litter by impressing on consumers the commercial and resource conservation value of used materials. Furthermore, the information sharing between state and local governments could lead to the widespread implementation of 'best practice'.
- **Increase in packaging recycling** - Though the education campaign and consistent labelling of recycling bins would cover all recyclable materials, the industry standards would be limited to packaging products. Therefore, it is reasonable to suggest that an outcome of this option would be an increase in packaging recycling, though there would also presumably be an increase in recycling more broadly.
- **Reduction in current information asymmetry** - This option would attempt to reduce consumer confusion about recycling arrangements, particularly regarding what items can be placed in recycling bins and if food residue needs to be removed from recyclable items.
- **More effective use of current infrastructure and resources** - Overall this option aims to increase recycling and reduce litter without additional infrastructure and limited additional resources and funding.

Problems and barriers targeted by option

This option is intended to address the information asymmetry that currently exists and was identified in the problem statement. Currently, many households do not know the best way to recycle, how to access recycling and the processes to follow to enhance recycling and reduce litter.

To the extent that an approach focused on better informed and optimal decision making processes can address this market failure, this option seeks to redress the following manifestations of the information asymmetry:

- *Packaging contains embedded resources, some of which are non-renewable but which are lost under current disposal methods:* In increasing the recycling rate, this option would assist in addressing the problem of lost resources.
- *Packaging that is discarded as litter has a range of negative impacts on society:* By reducing litter this option would mitigate some of the negative impacts on society.

Option 2: Co-regulatory Packaging Stewardship

This option involves developing co-regulatory packaging stewardship arrangements for packaging under the recently passed *Product Stewardship Act 2011* (the Act).¹⁶

Under the Act it is possible to establish nationally uniform co-regulatory product stewardship arrangements by making regulations with respect to classes of products. Before regulations can be made the Commonwealth Environment Minister has to be satisfied that the regulations would further the objects of the Act, and meet two or more of the 'product stewardship criteria' specified in section 5 of the Act. Packaging is considered to satisfy three of the criteria because: it is in a national market, there is potential to significantly increase the recovery of resources from used packaging, and there is potential to significantly reduce the impact used packaging has on the environment e.g. through litter.

Three sub-options are proposed under Option 2, representing increasing levels of industry action to achieving outcomes that drive more sustainable packaging, increase packaging resource recovery and decrease packaging litter:

- Current APC replaced by co-regulation under the Act
- Industry Packaging Stewardship, and
- Extended Packaging Stewardship.

As co-regulatory approaches to product stewardship, each sub-option involves a combination of Commonwealth regulation and industry action. The Commonwealth Government would make regulations under the Act specifying the liable parties that are required to join an approved co-regulatory arrangement, and setting the minimum outcomes and operational requirements for approved arrangements. Approved arrangements would be implemented by administrators, which may be Product Stewardship Organisations created specifically for the purpose of administering an arrangement. The administrators of approved arrangements would have flexibility as to how requirements and outcomes are achieved. Approved arrangements may charge membership fees to their members. These provisions are set out in Part 3 of the Act.

The regulations would specify companies in the packaging supply chain as liable parties and set outcomes relating to packaging design, recovery, recycling and litter reduction. In setting outcomes the current actions of State, Territory and Local governments who are predominantly responsible for household packaging recovery

¹⁶ Initial details communicated to PwC and WCS by the WG.

and litter management, imposing strict national outcome targets on industry in percentage terms (such as the 80% recycling target for the television and computer industry) would be recognised. Consequently, the sub-options have been designed to facilitate the achievement of packaging recycling and litter reduction outcomes that are appropriate, realistic and will assist community and would lead to improvements in the national packaging recycling rate and reductions in litter nationally.

Coverage

These sub-options would cover all packaging items and adopt the same definitions of consumer and distribution packaging as the current APC. The scope is equivalent to that of the National Environment Protection (Used Packaging Materials) Measure (NEPM).

Liable parties under these sub-options would be constitutional corporations involved in the packaging supply chain. It is intended that the sub-options would primarily target packaging 'brand owners' as ordinarily understood (the company whose brand appears on consumer packaging). The NEPM definition of 'brand owners' is broad, and may need to be more narrowly defined for greater certainty and in order to meet the requirements of the Act. The current NEPM definition of a brand owner is:

- A person who is the owner or licensee in Australia of a trade mark under which a product is sold or otherwise distributed in Australia, whether the trade mark is registered or not, or
- A person who is the franchisee in Australia of a business arrangement which allows an individual, partnership or company to operate under the name of an already established business, or
- In the case of a product which has been imported, the first person to sell that product in Australia, or
- In respect of in-store packaging, the supplier of the packaging to the retailer, or
- In respect of plastic bags, the importer or manufacturer of the plastic bags or the retailer who provides the plastic bag to the consumer for the transportation of products purchased by the consumer at the point of sale.¹⁷

The Act provides that a person can only be a liable party if the person has:

- Manufactured a product in Australia
- Imported a product into Australia
- Distributed a product in Australia, or
- Used a product in Australia.

It is intended to target those parties in the packaging supply chain that exercise the greatest influence over the environmental impacts of packaging. Consideration will also be given to including distributors of packaging to ensure a similar coverage to the APC.

Liable parties may also be identified with consideration for relevant threshold, such as the \$5 million minimum turnover threshold of the current NEPM. The purpose of the threshold is to reduce the regulatory burden on small business. Current APC signatories that are not packaging brand owners or distributors of packaging (including State, Territory and Local governments and non-government organisations) would not include liable parties and would therefore not be able to join an approved arrangement under the Act.

Governance

The Commonwealth Government would be responsible for developing and administering the regulations, including compliance and enforcement activities.

¹⁷ *National Environmental Protection (Packaging Materials) Measure 2011, Clause 3.1.*

For each sub-option liable parties (which must be either manufacturers, importers, distributors or users of packaging as defined in section 19(2) of the Act) would be obliged to establish or join an approved co-regulatory arrangement.

There would be financial penalties for liable parties that do not join an approved arrangement. This could mitigate the issue of free-riding that could otherwise arise under a voluntary product stewardship scheme. Penalties for liable parties that are not members of an approved arrangement are set out in sections 18 and 43 of the Act.

An arrangement administrator must be a body corporate and is required to take all reasonable steps to ensure the outcomes set out in the regulations are achieved. The administrator is responsible for implementing and directing activities to meet the specified outcomes designed to achieve ends such as:

- Sustainable packaging design
- Increased recycling of packaging materials, and
- Reduced litter from packaging materials.

If an approved arrangement does not achieve an outcome specified in the regulations, this will provide the basis for an improvement notice, audit notice, or even cancellation of the arrangement's approval under sections 28-30 of the Act.

Australian Competition and Consumer Commission (ACCC) approval may be required for an approved arrangement. Generally a person may apply for authorisation to the ACCC where the conduct proposed may constitute prohibited conduct under Part IV of the *Competition and Consumer Act 2010*, and parties should consider whether a potential co-regulatory arrangement raises competition concerns.

The class of products, liable parties and the WG's proposed outcomes for co-regulatory arrangements for each of the sub-options is set out in the table below:

Table 1 – Proposed 2020 industry recycling targets for Option 2

Option	Class of product	Liable parties	Outcomes by 2020
2 (a)	Consumer packaging (as defined in the NEPM)	Consumer packaging brand owners	Sustainable packaging design and production Packaging recycling target: 515,729 tonnes per annum (set to achieve 75% packaging recycling) Litter reduction target
	Beverage packaging	Beverage packaging brand owners	Beverage container recycling target: 222,752 tonnes per annum (set to achieve 70% beverage container recycling)
2 (b)	Consumer packaging	Consumer packaging brand owners	As for 2 (a), with higher recycling and litter targets Packaging recycling target: 386,162 tonnes per annum (608,914 tonnes including beverage containers)
	Beverage packaging	Beverage packaging brand owners	Beverage container recycling target: 222,752 tonnes per annum (set to achieve 70% beverage container recycling)
2 (c)	Consumer packaging	Consumer packaging brand owners	As for 2 (b), with higher recycling target Packaging recycling target 515,237 tonnes per annum (737,989 tonnes including beverage containers) (set to achieve 80% packaging recycling)
	Beverage packaging	Beverage packaging brand owners	As for 2 (b)

Source: SCEW Working Group (2011).

Option 2 (a) APC replaced by co-regulatory arrangement under the Act

When the EPHC agreed in June 2010 to implement the new APC, it also agreed that there should be a review within its first five years to consider whether the APC and its underpinning ‘free rider’ regulation (the NEPM) should be brought under the Act. With the recent passing of this legislation, this can now be assessed.

Operation

This sub-option of the co-regulatory packaging stewardship option would involve transitioning the current APC and NEPM arrangements under the co-regulatory provisions of the Act.¹⁸ Thus, it has been developed to achieve similar outcome levels to those committed to in the Strategic Plan (2010-2015) for the current APC.

The class of products targeted for this sub-option would be consumer packaging (including distribution packaging) as defined in the NEPM. Liable parties under this sub-option would be consumer packaging ‘brand owners’ (consistent with the requirements of the Act).

Consideration will also be given to including packaging distributors as liable parties, to achieve a similar coverage to the APC, providing outcomes can be designed so as to not have overlapping obligations.

State, Territory and Local governments would not be liable parties and would not be able to join an approved arrangement (section 20 of the Act). However, these parties would continue to contribute to the national packaging recycling and litter rates.

Suggested outcomes

Outcome targets set for packaging would be additional to the packaging resource recovery and litter cleanup that is currently undertaken through existing waste and litter management services undertaken by local governments and commercial operators.

The approved arrangement(s) could achieve resource recovery outcomes by:

- Directly recovering and recycling used packaging materials, or
- Supporting infrastructure and market development projects that deliver a tangible and measurable recycling outcome (measured in tonnes of recycled material).

Similarly, the approved arrangement(s) could achieve litter reduction outcomes by:

- Directly collecting used packaging litter, or
- Providing support for litter cleanup activities that achieves a tangible and measurable reduction in packaging litter levels.

Outcomes that the approved arrangement(s) would be required to achieve could include:

For consumer and distribution packaging recycling:

- Demonstrated commitment to sustainable packaging design and production. This could be demonstrated by reporting that its members have implemented: (a) the Sustainable Packaging Guidelines for all packaging lines, (b) on-site recovery systems for used packaging, (c) corporate policies to buy products made from recycled packaging, and (d) corporate policies to require suppliers to take-back and recycle packaging (Note: these are current requirements of Covenant signatories).

¹⁸ Initial details communicated to PwC and WCS by the WG.

- Supporting improvements in the national packaging recycling rate through additional recovery and recycling used packaging materials. Recycling targets would be expressed in tonnes of recycled packaging materials.
- The target for this sub-option is based on projections from the outcomes committed to in the APC Strategic Plan 2010-2015. The target in Table 1 above is set at the contribution (in tonnes) required from the packaging industry ('brand owners') to achieve an overall 75% national recycling rate in 2020, recognising that non-industry parties also contribute to national recycling rates. Thus the target for option 2 (a) reflects the additional 2.5% recycling rate which this option delivers above the base case projections and the proportion of the base case recycling effort attributable to industry's actions.
- In addition, there would be minimum recycling targets by material type to ensure that recycling is not achieved by targeting one material type (such as cardboard).
- The method for determining the relative liability of approved arrangements would be developed during the implementation phase. Potential methods include apportioning liability based on the weight of packaging materials that members of an approved arrangement have put onto the market – this could either be self-reported, audited or deemed.
- Recycling targets would be recalibrated at 5-yearly intervals to account for changing market dynamics.

For litter reduction:

- Supporting improvements in the national litter rate through additional litter cleanup. There will need to be litter targets or outcomes set under the Act.

It is anticipated that this co-regulatory sub-option could achieve:

- **Greater regulatory efficiency** - Currently each jurisdiction has to implement the NEPM, meaning that there are multiple regulatory frameworks for businesses operating across jurisdictions. Having the APC under the Act would mean that there is one regulatory framework which would lead to greater regulatory efficiency.
- **A stronger compliance regime** - Anecdotal evidence suggests that the current NEPM and associated State and Territory laws do not provide a strong regulatory underpinning for the APC. Regulating packaging under the Act would strengthen compliance, as the Act provides for substantial penalties and fines for non-compliance. It also provides a single point of compliance, which would be more efficient and consistent than multiple State and Territory regulators.
- **Improvement in packaging recycling rates in line with current APC targets (the APC Strategic Plan (July 2010 to June 2015))** - The current APC proposes a target of 70% packaging recycling by June 2015.¹⁹ Indicative outcome targets for this sub-option have been developed based on an assumption that this target is met, and are calibrated to achieve a 75% recycling target by 2020. To the extent that this sub-option has a stronger compliance regime, greater regulatory efficiency and better accountability of companies, this option would be more likely than the current APC to reach this target.

¹⁹ Australian Packaging Covenant 2010, Strategic Plan: July 2010 to June 2015, p 4.

Problems and barriers targeted by option

The primary objective of this sub-option is to address the regulatory failure that has been identified in the problem statement. Currently different jurisdictions have different waste policy settings, resulting in overlapping and duplication of costs as well as regulatory inconsistencies.

To the extent that this option addresses the regulatory failure, it is expected that it will result in higher recycling rates and lower levels of litter. If this option did involve greater regulatory efficiency and stronger compliance it would also be more likely to meet targets than the current APC.

Option 2 (b) Industry Packaging Stewardship Scheme

This sub-option is based on the industry's proposed National Bin Network scheme (see attachment). It is based on a proposal that a group of companies active in the consumer products industry have put forward as an option to expand the existing APC to focus on key problem areas ('problem areas' refer to materials/goods where recycling rates are relatively low).

This sub-option builds on Option 2 (a) but also includes additional specific outcomes related to away-from-home recycling and litter reduction. It deals with all packaging materials, but with targeted initiatives on beverage containers and glass market development.

This sub-option would involve transitioning the current APC and NEPM arrangements under the co-regulatory provisions of the Act, as per sub-option 2 (a) above. However, part of the industry would undertake additional action than required by the current APC. The liable parties for the broader packaging outcomes would remain packaging 'brand owners', as with Option 2 (a). However, particular class of products, beverage packaging, would be subject to higher outcome targets to reflect the focus on problem areas.

The below description of the Industry Packaging Stewardship Scheme is based on information provided to WCS on the option and WCS assessment of the practical design of the option.

Coverage

As the scheme would focus on improving the recycling performance of packaging where there are currently low recycling rates or 'problems', the coverage for specific outcomes would differ to Option 2 (a) above. The product class that would be subject to higher outcome targets would be beverage packaging. In addition, the litter reduction outcomes would be strengthened.

Suggested outcomes

In addition to the outcomes for packaging brand owners and distributors specified in Option 2 (a) above, approved arrangement(s) would be required to achieve additional outcomes.

For beverage packaging:

- Support improvements in the recycling rates for glass, PET and aluminium packaging through recovering and recycling additional used beverage containers consumed both at home (for glass) and away from home. Recycling targets would be expressed in tonnes of recycled packaging materials.
- The beverage container recycling target in Table 1 above has been developed based on the industry's National Bin Network proposal. The target represents the additional tonnes of beverage packaging that would need to be recycled to achieve a 70% beverage container recycling rate in 2020 from the current rate of recycling of beverage containers of 48.7%.
- There would be minimum recycling targets by material type to ensure that recycling is not achieved by targeting one material type (such as glass).
- As with option 2 (a), the method for determining the relative liability of approved arrangements would be developed during the implementation phase. Potential methods include apportioning liability based on

the weight of packaging materials that members of an approved arrangement have put onto the market – this could either be self-reported, audited or deemed.

- Recycling targets would be recalibrated at 5-yearly intervals to account for changing market dynamics.

For branded packaging litter:

- As for option 2 (a) above, there will need to be litter targets or outcomes set under the Act.

Operation

Based on the proposal put forward by industry, it is possible that projects supported could include the following:²⁰

- Infrastructure and systems to recover containers where beverages are consumed in commercial settings such as airports, shopping centres, entertainment centres, educational institutions and at workplaces. This would focus on increasing the availability of facilities for consumers to discard packaging in conveniently positioned recycling bins at the point of consumption.
- Improvements to kerbside recycling to ensure that what is collected is actually usable. This could include the funding of education initiatives regarding best practice recycling and funding programs to address the barriers to the recycling of glass and other packaging materials.
- Improved remote and regional recovery through backloading arrangements using beverage industry distribution networks.

Litter projects could include:

- Provision of incentives for cleanup. This could involve the approved arrangement funding community organisations to run clean up days or events such as Clean Up Australia Day. Community organisations and local governments could also be funded to identify litter hot spots and put in place the necessary infrastructure (e.g. bins and signage) to decrease litter in these areas.
- Campaigns and education programs.
- Funding for improved litter enforcement.

This could include facilitating information sharing for local government regarding best practice litter enforcement. The industry proponents of this option have estimated that industry would require an additional \$20 million per annum fund these initiatives on top of current APC contributions. To fund the programs, the approved arrangement(s) could potentially charge higher membership fees for those companies that have a greater responsibility for the problem areas (e.g. beverage, fast food, confectionary and tobacco companies).

²⁰ Note: These initiatives and programs are indicative and would be expected to be reviewed once an option was selected.

Problems and barriers targeted by option

This sub-option seeks to address the information asymmetry identified in the problem statement and outlined in Option 1. However, it goes further to address the problem of coordination, transaction costs and free-riding. Currently, it is impractical for the market to improve kerbside or away-from-home recycling infrastructure because there is difficulty in coordinating a large group of consumers and businesses, there are high transaction costs associated with waste service providers and there is potential for free riding.

There is also a negative externality present, whereby, the current returns from recycling are not sufficiently high for some material types and there is no commercial incentive to invest as a result.

To the extent that this option can mitigate the coordination, transaction costs and free-riding problem (and to a lesser extent the negative externality and information asymmetry), it will address the following manifestations of the market failure:

- *Packaging contains embedded resources, some of which are non-renewable but which are lost under current disposal methods:* In increasing the recycling rate, this option would assist in addressing the problem of lost resources.
- *Disposal of packaging in the mixed waste stream increases the processing costs for Alternative Waste Technology (AWT) facilities:* By reducing contamination through the improved kerbside this option would reduce the costs for AWT facilities.
- *Packaging that is discarded as litter has a range of negative impacts on society:* By reducing litter this option would mitigate some of the negative impacts on society.

This option may also have some additional benefits in reducing landfill and therefore the opportunity costs of landfill. It could also address some of the barriers to recycling identified in the problem statement, such as the low levels of recycling infrastructure in public spaces which contributed to the relatively low away-from-home recycling rate.

Option 2 (c) Extended Packaging Stewardship Scheme

This sub-option, like sub-options 2(a) and (b), is based on the APC arrangement being transitioned under the Act.²¹ It deals with all packaging material. It would differ in that it would involve substantially increased industry action relative to sub-options 2(a) and (b), to achieve a significant improvement in packaging recycling and litter reduction.

The scheme would focus on improving the recycling performance of all packaging, with a focus on recycling and litter where there are identified problems areas such as lagging recycling rates. Like sub-options 2 (a) and (b), the outcomes of the scheme would be reviewed every five years. The significant difference between this sub-option and sub-option 2 (b) is that it would involve more ambitious recycling outcome targets for the broader packaging industry.

While the approved arrangement(s) would have flexibility in meeting specified outcomes, it is likely that this sub-option would involve the arrangement(s) providing a significant amount of additional support for local government kerbside collection and litter cleanup activities.

²¹ Initial details communicated to PwC and WCS by the WG.

Suggested Outcomes

The outcomes, set in the regulations, would focus on broader packaging recycling outcomes than sub-options 2 (a) and 2 (b) and therefore is implicitly based on target commitments identified in the APC Strategic Plan 2010-2015 and the National Bin Network. It is expected that this sub-option would involve greater support for the development of alternative end markets.

The additional packaging recycling target in Table 1 above represents the additional tonnes of packaging that would need to be recycled to achieve an 80% national recycling rate in 2020, based on an assumption that the base case will achieve a national packaging recycling rate of 67.5% by 2015.

As with sub-options 2 (a) and (b), minimum targets would be set for materials and targets would be recalibrated at 5-yearly intervals.

The beverage container recovery and packaging litter reduction outcomes would remain the same as in sub-option 2 (b).

Operation

A wide variety of interventions and projects could potentially be undertaken by the approved arrangement(s) under this sub-option including support for:²²

- Improvements to kerbside recycling to provide for national uniformity of bin types, bin colours, increased clarity of material types (particularly plastics) accepted for recycling and education initiatives in areas with low recycling productivity.
- National extension of local council operated kerbside recycling opportunities to SMEs. This could be coupled with education programs to target packaging that is not well recycled by the SME sector (such as film plastics and commercial non-beverage containers) and to encourage further improvements in cardboard and beverage container recycling.
- The development of licensed recycling collection points servicing defined geographical areas. This could assist to address current collection costs in the C&I sector by restricting the number of collection service providers that can operate within a precinct, thereby increasing collection efficiency and reducing collections costs.
- National extension of business recycling programs, such as the SA Harvest Program and the Queensland Government program to allow businesses to seek funding for their recycling schemes.
- Special education and advice programs to increase the rate of at-home recycling of non-beverage packaging such as pet food containers and dishwashing liquid containers.
- Extension and improvement of the coverage of recycling opportunities throughout Local Government Areas (LGAs). This could be achieved by seed-funding for new or upgraded drop-off depots in remote LGAs. This may need to include development of innovative handling and transport arrangements to ensure that used packaging can be efficiently reported to reprocessing markets.
- End market development support for materials types that are not necessarily reprocessed into their original product type, for example glass that is used in road construction and playgrounds. This is especially important to facilitate recycling in remote areas.
- Standard setting for end products.
- Reduction, prevention and collection of packaging litter through funding campaigns, education and supporting enforcement.

²² Note: These initiatives and programs are indicative and would be expected to be reviewed once an option was selected.

The option could be supported by national policies implemented by government such as:

- Waste-to-energy policies, and
- Extended kerbside policy (which could provide kerbside recycling to SMEs and in rural areas that currently do not have access to kerbside recycling).

The initiatives described above could supplement the programs proposed for the initial five year cycle in the industry proposed scheme (sub-option 2 (b) above), including:

- Infrastructure and systems to recover containers where beverages are consumed in commercial settings.
- Improvements to kerbside recycling to ensure that what is collected is actually usable.
- Improved remote and regional recovery through backloading arrangements using beverage industry distribution networks, and
- Litter management through incentives for cleanup, campaigns and education programs and improved anti-litter enforcement.

Given the important role that local government plays in the management of domestic waste management, it is assumed that local government would continue to be responsible for collection of packaging waste and litter, in line with the Acts of State or Territory parliaments such as the Local Government Acts.²³ The industry approved arrangement(s) would be responsible for supporting improvements in recycling levels and litter levels of packaging.

Problems and barriers targeted by option

This sub-option seeks to address all the market failures identified.

Through education initiatives, like Option 1, it will seek to mitigate the information asymmetry that currently exists and improve the recycling and litter practices of the community. Like Option 2 (a) it also seeks to address negative externalities that currently exist by providing incentives for businesses to invest in recycling infrastructure and support for end market development. The coordination, transaction costs and free rider problem would also be targeted through the kerbside initiatives and the provision of public place infrastructure.

Similar to Option 2 (a), it would involve the APC coming under the Act and therefore, would seek to mitigate the current regulatory failure.

As this option seeks to mitigate all the market and regulatory failures identified, to the extent that it is successful, it would also address all the manifestations of the market failures.

It has the potential to address a number of the barriers to recycling identified in the problem statement such as the lack of recycling infrastructure in public places and the absence of viable end-markets for some recycle.

Option 3: Mandatory ADF

This option would involve the government placing a mandatory ADF on all packaging materials.²⁴

²³ ACTNOW (2011), Federal, state, local—who's in charge of what?, available at: http://www.actnow.com.au/Tool/Federal_state_localwhos_in_charge_of_what.aspx.

²⁴ Initial details communicated to PwC and WCS by the WG.

An ADF is intended to influence producer choices toward particular policy objectives. There are a number of ways that an ADF may reduce packaging waste being sent to landfill:

- Source reduction by packaging manufacturers and brand owners
- Reduction in consumption of packaging, and
- Increased recovery of used packaging.

An ADF also provide a source of revenue for the end-of-life management of packaging or for other environmental initiatives. There is great flexibility in the initiatives it could fund, for example these could be broadly similar to those covered in option 2 (c) or option 1 (see below).

The ADF would be designed as a weight based fee per tonne of packaging materials. The fee would vary depending on material type, the cost of recycling the material or the end of life disposal of that material.

Australian examples of ADFs include programs for used agricultural and veterinary chemical containers, mobile phones, newsprint and used refrigerants.

ADFs are commonly used in Europe and the United States (US) and cover a broad range of products such as beverage containers. Two examples of successful overseas ADFs involving beverage containers include the Florida ADF and the Swiss ADF on Glass (Ordinance on Beverage Containers).

ADFs are considered to be extended producer responsibility if there is a shift of financial or physical responsibility to the producer.²⁵

As the ADF would involve placing a levy on all packaging materials it would require a separate levy bill and consequential amendments to the Product Stewardship Act related to administration of levy funds.

Suggested outcomes

The outcomes would focus on broader packaging recycling outcomes than options 1 and sub options 2 (a) and (b), but possibly similar to those for option 2 (c). It is expected that this option would involve greater support for the development of alternative end markets and result in increased packaging recycling and reduction in litter.

These outcomes would be set out in regulation in a similar manner to option 2(c).

Operation

There is great flexibility in the initiatives that may be implemented under this option. Initiatives could include those under option 1, 2(a) or 2(b). For the purposes of estimating the costs and recycling and litter rates of this option (see CBA contained in Attachment C), it will be assumed that the initiatives would reflect those included under sub-option 2(c):²⁶

- Improvements to kerbside recycling to provide for national uniformity of bin types, bin colours, increased clarity of material types (particularly plastics) accepted for recycling and education initiatives in areas with low recycling productivity
- National extension of local council operated kerbside recycling opportunities to SMEs. This could be coupled with education programs to target packaging that is not well recycled by the SME sector (such as film plastics and commercial non-beverage containers) and to encourage further improvements in cardboard and beverage container recycling

²⁵ Organisation for Economic and Cooperative Development (OECD 2005), Analytical framework for evaluating the costs and benefits of extended producer responsibility programmes, Paris.

²⁶ Note: These initiatives and programs are indicative and would be expected to be reviewed once an option was selected.

Description of options

- The development of licensed recycling collection points servicing defined geographical areas. This could assist to address current collection costs in the C&I sector by restricting the number of collection service providers that can operate within a precinct, thereby increasing collection efficiency and reducing collections costs
- National extension of business recycling programs, such as the SA Harvest Program and the Queensland Government program to allow businesses to seek funding for their recycling schemes
- Special education and advice programs to increase the rate of at-home recycling of non-beverage packaging such as pet food containers and dishwashing liquid containers
- Extension and improvement of the coverage of recycling opportunities throughout LGAs. This could be achieved by seed-funding for new or upgraded drop-off depots in remote LGAs. This may need to include development of innovative handling and transport arrangements to ensure that used packaging can be efficiently reported to reprocessing markets
- End market development support for materials types that are not necessarily reprocessed into their original product type, for example glass that is used in road construction and playgrounds. This is especially important to facilitate recycling in remote areas
- Standard setting for end products, and
- Reduction, prevention and collection of packaging litter through funding campaigns, education and supporting enforcement.

The initiatives described above could supplement the programs proposed for the initial five year cycle in the industry proposed scheme (sub-option 2 (b)), including:

- Infrastructure and systems to recover containers where beverages are consumed in commercial settings
- Improvements to kerbside recycling to ensure that what is collected is actually usable
- Improved remote and regional recovery through backloading arrangements using beverage industry distribution networks, and
- Litter management through incentives for cleanup, campaigns and education programs and improved anti-litter enforcement.

Governance

The key difference between this option and sub-option 2 (c) is that the funds created by the ADF would be collected and managed by the Commonwealth Government.

Problems and barriers targeted by option

As this option may have broadly similar initiatives to those of sub-option 2(c), it would address the same market failures, problems and barriers.

This option seeks to address all the market failures identified.

Through education initiatives, like Option 1, it will seek to mitigate the information asymmetry that currently exists and improve the recycling and litter practices of the community. Like Option 2 (a) it also seeks to address negative externalities that currently exist by providing incentives for businesses to invest in recycling infrastructure and support for end market development. The coordination, transaction costs and free rider problem would also be targeted through the kerbside initiatives and the provision of public place infrastructure.

Similar to Option 2 (a), it would involve the APC coming under the Act and therefore, would seek to mitigate the current regulatory failure.

As this option seeks to mitigate all the market and regulatory failures identified, to the extent that it is successful, it would also address all the manifestations of the market failures.

It has the potential to address a number of the barriers to recycling identified in the problem statement such as the lack of recycling infrastructure in public places and the absence of viable end-markets for some recycle.

Option 4: Mandatory CDS

This option would involve establishing a mandatory CDS. It would be a deposit-refund arrangement under the co-regulatory or mandatory provisions of the Act. Depending upon the design of the scheme, it may also require a separate levy bill and consequently would require amendments to the Product Stewardship Act related to administration of levy funds. Under this option consideration could also be given to prohibiting the sale and import and manufacture of non-recyclable beverage containers.

Two sub-options are proposed for this option:

- a) Boomerang Alliance CDS, and
- b) Hybrid CDS.

The two sub-options both cover beverage containers and have a deposit of \$0.10. However, they each have different levels and types of infrastructure. The Boomerang Alliance CDS is based on a hub-and-spoke model of 560 collection centres (approximately half of which are also 'hubs'), 640 reverse vending machines (RVMs) and a range of other convenient collection point locations such as large shopping centres. Whereas the Hybrid CDS would be based around store-front-style depots (similar to those used in the British Columbian CDS), which would be complemented by RVMs.

Problems and barriers targeted by option

This option would seek to address the market failure of coordination, transaction costs and free riders. As a mandatory option, all beverage companies would have to impose the deposit, meaning there would be no scope for free-riding.

This option would also, to a certain extent, target the problem of negative externalities. By providing incentives to consumers to recycle their beverage containers, some of the benefits to society would be captured in the transaction and the externality would be, to some extent, mitigated.

To the extent that it was successful in addressing these market failures, this option would particularly target land filling of beverage containers and littering of beverage containers. Removing large amounts of glass from kerbside recycling can also improve rates of recycling through the kerbside system, by reducing contamination of other materials (e.g. when broken glass becomes imbedded in cardboard and therefore cannot be recycled). Reduced contamination also results in an improved recycled product, particularly for glass. Therefore, it would seek to target the following manifestations of the market failures:

- Packaging contains embedded resources, some of which are non-renewable but which are lost under current disposal methods: In increasing the recycling rate, this option would assist in addressing the problem of lost resources.
- Landfill of packaging imposes external costs on third parties: By increasing recycling rates, this option would reduce landfill and therefore, reduce the external costs of landfill.
- Landfill of packaging results in the alienation of land and results in direct cost: By increasing recycling rates, this option would reduce landfill and therefore, reduce the direct costs of landfill,.
- Packaging that is discarded as litter has a range of negative impacts on society: By reducing litter this option would mitigate some of the negative impacts on society.

It was identified in the problem statement that there are a range of barriers to recycling in public places. The introduction of a CDS would provide an incentive that may mitigate some of these barriers to public place recycling.

Option 4 (a) Boomerang Alliance CDS

The Boomerang Alliance has proposed a CDS sub-option which covers a broad range of beverage containers. The product range contemplated would typically be used in household and business settings, and for away-from-home personal consumption. The container scale would be up to and including 3 litres.

This option is based on a hub and spoke container redemption/collection model operated through a mandatory product stewardship scheme.

The below description of the Boomerang Alliance CDS is based on information provided to WCS on the option and WCS assessment of the practical design of the option.

Coverage

The CDS would cover all beverage containers up to 3 litres and liable parties would be all constitutional corporations that manufacture any ready to drink product beverage containers covered by the scheme.

Operations

The CDS would be available to any business or individual. A refund of \$0.10 per container would be available at a diverse range of collection points that would be centred on a regional basis (a requirement would be to distribute collection centres geographically to ensure coverage and consumer convenience, in order to achieve the recycling and litter targets):

- **200-250 hubs (subject to verification after population/geographic analysis)** - Each hub would establish a set of container redemption/collection points within a designated region. Hubs would manage receipt of containers from high volume collection points such as kerbside recovery, large public events food courts hotels and clubs, while also acting as a consolidation point for collection point operators (reverse vending machines). Hubs would be established at a ratio of 1 hub per 200,000 homes in metropolitan areas and 1 hub for about 50,000 homes in rural and remote areas (e.g. for clusters of townships). Around 700 rural and remote hubs would service smaller townships, rural and remote locations reducing transportation costs. They could take other products.
- **High volume redeemers such as kerbside collectors, food courts and waste services operators** would be given permission to redeem containers based on a weight based formulae to reduce sorting costs both for the collector and the redemption point.
- **Collection point operators would accept designated containers, refund deposits and collate containers by material type** - Containers would preferably be crushed or destroyed at the collection point. Unitised, destroyed containers would be transferred to the relevant hub in accordance with adopted operating procedures. Hub operators would then transfer unitised container loads to downstream material reprocessors.
- **Approximately 640 reverse vending machines (likely to be more subject to verification after population/geographic analysis)** - RVMs would be installed at core consumption centres servicing a population base of at least 4,000 homes so that they deliver a financial benefit.
- **Up to 560 collection centres of which about half are also the hubs noted above (subject to verification after population/geographic analysis)** - Thus up to 230 additional collection centres would be established to collect containers and may include RVMs where appropriate. There may be opportunities to make these available to a range of other recyclables such as cardboard and e-waste. Part time collection centres would typically be found in smaller townships and suburbs of less than 4,000 homes and more than 20 kilometres from a larger centre. Rural and remote areas would be serviced through arrangements with outback stores and other similar retail outlets.
- **Convenient collection points** - Retailers would generally have the option to provide container collection services and refund deposits. Large shopping centres however (say 1,000 m²) would be encouraged or required to provide a container collection point within their parking facilities (unless within 500 metres from an established collection point).

This CDS would likely require significant investment in infrastructure purchase, installation and operation over the regulatory analysis period (though it is recognised that the use of existing infrastructure, such as transfer stations, would be maximised to control infrastructure development costs). Investment would be made by private operators not government or the scheme operators.

A CDS not-for-profit organisation would be established to manage the scheme and oversee the payment of receipts in and out of a government operated fund. The organisation would advance deposit redemption payments through the hubs to container collection points and reverse vending machines.

Each rural and remote hub would operate the scheme in their territory; consolidate all deposits collected at point of sale; and collect revenue gained from sale of redeemed recyclate. Collection fees would be paid net of the value of recyclate sales, i.e. a fee of 3.6¢ per container less recyclate value was previously modelled by Boomerang Alliance. System operating costs would be significantly reduced by:

- No requirement to sort containers by brand
- Allowing destruction and compaction of containers to be undertaken at the hub reducing transportation costs to reprocessors.

The CDS will have an impact on volumes being managed by council kerbside collections and hence their collection costs and current contracting arrangements. The removal of a significant quantity of glass from kerbside recycling would reduce contamination and increase compaction rates.

This option would require consideration of transitional issues in SA and the Northern Territory (NT).

Governance

The scheme would be administered by an independent not-for-profit corporation which would control the funding pool and take responsibility for overall governance of the scheme. The scheme administrator would appoint hub operators on a competitive basis. Unredeemed deposits and recyclate sales returns would be controlled by the scheme administrator and would be used as a first priority to offset handling fees; with remaining funds allocated to other programs to improve recycling of materials collected. Local hub operators would be responsible for running the system in their local region and tender local collection points on a viable financial basis. The scheme administrator would pay the hub operator a handling fee net of material sales revenue and would pass deposit refunds through the hub. The hub would pay handling fees to collection point operators, as well as deposit redemption funds.

The scheme would be regulated under the Product Stewardship Act and regulatory provision would be needed to require larger supermarkets to install RVMs in outdoor parking spaces, if there is not a public facility within a specified distance.

Suggested outcomes

Performance indicators would include improvement in container recycling, a reduction in container litter and any associated benefits to kerbside recycling. WCS will forecast quantitative outcomes for the CBA.

The Boomerang Alliance, the proponents of this option, suggest that it could achieve a recycling rate of 82% and a reduction in the volume of litter of 19% after 3 years of operation.

Option 4 (b) Hybrid CDS

This sub-option is a national CDS model based on learning's from international case studies and from elements of the existing SA scheme.²⁷ It draws on MS2 analysis of a potential Australian-specific CDS, particularly considering British Columbia's Encorp Pacific CDS (see Appendix A). It has been tailored to Australian conditions and draws on some data from the existing scheme in SA, as a working example of CDS in Australia.

Based on international case study analysis, MS2 established that aspects of the British Columbian CDS can be considered 'best practice'. These elements of the scheme include:

- The industry consortium being responsible for central management of the scheme, ensuring that industry has reasonable flexibility in running the program
- The transparency of financial flows and visibility to consumers
- Having all collection and logistics contracted out by the non-profit Product Stewardship Organisation (PSO) to third parties, and
- Having the scheme operated as a cost-based system in which each product type pays its own expenses with no cross-subsidisation from other products or companies.

Drawing on the British Columbian CDS and SA CDS, the scheme would cover all containers up to and including 3 litres. It would include wine bottles and milk containers, which are not included in the existing SA CDS. The CDS also differs from the current SA scheme in that it involves a modern mix of collection infrastructure such as store front depots and RVMs. It assumes a deposit of \$0.10 per beverage container, as in SA, but increased in \$0.10 increments over time to keep pace with inflation.

The option initially proposed by MS2 involved a \$0.20 refund for all beverage containers in order to address the diminished deposit value over time that affects CDS programs. However, it was determined that using a \$0.10

²⁷ Initial details communicated to PwC and WCS by the WG (based on MS2 work and elements of the SA CDS).

deposit would reduce potential for fraud and allow for a more meaningful analysis of the option as data from the SA scheme can be used.

Coverage

This scheme would cover all containers for beverages in liquid or ready to drink form intended for human consumption up to and including 3 litres.

Liable parties would be all constitutional corporations that manufacture and sell beverages, and products sold in beverage containers.

Operation

Key features of this CDS include:

- A \$0.10 deposit for all beverage containers for beverages in liquid or 'ready to drink' form intended for human consumption, increased by the national inflation rate over time
- A principally depot-based approach. Approximately 850 depots would be provided nationally (based on the amount of depots per capita provided in British Columbia). These would principally be store-front-style depots which would be complemented by RVMs. In less densely populated areas, where RVMs are less viable, collection centres would be provided. Using these modern facilities would have a range of advantages such as lower transportation costs and greater convenience for consumers. However, RVMs would not be able to collect all the beverage containers included in the scheme
- The depots would be operated by independent owners/operators who would be contracted by the program administrator and distributed geographically to ensure coverage and consumer convenience
- Interested retailers, recyclers and other organisations, such as sporting venues and entertainment venues, could become approved to be collection centres
- The handling fees paid to collection facilities would be between \$0.04 to \$0.05 per container. The handling fee has been determined considering the handling fees on overseas CDSs including that in British Columbia.

The CDS may have an impact on volumes being managed by council kerbside collections and thus, local government collection costs and current contracting arrangements. The removal of a significant quantity of glass from kerbside recycling would reduce contamination and increase compaction rates.

This option would require consideration of transitional issues in SA and the NT.

Governance

This option is proposed as an industry-driven scheme based on the Product Stewardship Act. Industry would establish a PSO(s) to operate the scheme and meet specified performance targets. This means that industry would be responsible for meeting the full costs of the scheme and provide incentive for the consumer to return beverage containers for recycling.

Liable parties would be manufacturers and importers of beverages. The ability for multiple PSO(s) to operate could introduce some competition in the provision of operations. It is assumed that the PSO(s) would need to seek approval from the Australian Government to participate.

It is assumed to be a requirement of the PSO(s) to distribute collection centres geographically to ensure coverage and consumer convenience, in order to achieve the recycling and litter targets.

The depots could be operated by independent owners/operators contracted by the PSO(s). Such tendering could help minimise impacts on existing systems, as existing operators would seek to compete based on available infrastructure and services. Creative approaches would be encouraged, such as recyclers teaming with community groups to collect and recycle a larger amount of materials (this also occurs in SA). Encorp Pacific requires owner/operators to invest up to CAD \$120,000 (~AUD\$122,000) to cover leasehold improvements and various fees (depending on the size and location of the site) and invest working capital of up to CAD

\$60,000 (~AUD\$61,000) for each depot. Retailers, recyclers and other organisations such as entertainment venues and sporting clubs could also become approved collection centres.

The PSO(s) would collect deposits and handling fees from liable parties and be responsible for managing funds consistent with achievement of the program's objectives (recycling, consumer convenience, etc.). The PSO(s) would be provided latitude in the use of unredeemed deposits, so long as an audited financial overview is undertaken.

Retailers and distributors would be responsible for passing the deposits on to consumers. Consumers would need to return eligible containers to depots or RVMs in order to redeem their deposits.

This option would also require:

- Security initiatives to minimise fraud from deposit collectors due to the higher deposit rates
- Enforcement (correct labelling, correct deposit charged/refunded), and
- Resourcing (SA employs two full time equivalent to 'scrutinise' stores).

It is envisioned that many items would be sorted by the RVMs (avoiding some hand sorting). Additionally, the store-fronts could sort items and crush them prior to transportation.

In order to retain approval as a PSO, all PSOs would be required to submit business plans to the Commonwealth Government for approval, ensuring that PSOs are all implementing appropriate initiatives to meet the specified targets.

PSOs would be required to submit independently audited reports to the Commonwealth that would report their performance against the specified targets on an annual basis. Any PSO that did not meet its target outcomes would face penalties and sanctions, therefore, providing incentive to PSOs to have a tangible impact on recycling and litter.

Suggested outcomes

This scheme would result in an increase in the beverage container recycling rate, a reduction in beverage container litter and have associated benefits to kerbside recycling through reduced contamination and increased compaction rates. WCS will forecast these outcomes for the CBA.

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Appendix A Summary of international case studies

This appendix provides summaries of range of overseas models for the management of end of life packaging. These summaries have been compiled by PwC based on a report developed by MS2 which details international practices and experiences (attached in Appendix B).

The complete list of international case studies explored by MS2 are listed below in Table 2. For each case study MS2 considered the suitability to Australia and potential success in Australia of each policy. This included considering the impact of the relatively widespread access to kerbside in Australia on the successful introduction of international ADFs and CDSs in Australia.

Table 2 – International case studies considered

Option	Case studies	
CDS	Norway	Denmark
	California	Sweden
	British Columbia	
Advance Disposal Fee	Florida ADF	Swiss ADF on glass
Industry driven producer responsibility schemes	Fost Plus Belgian Green Dot Scheme	Swiss Packaging Programs
Alternative approaches	New Zealand Glass Packaging Forum	

The primary reference documents that were examined for European schemes included the Perchards Packaging Information Service (Perchards) and publicly available reports about the individual programs in question.²⁸ Perchards assisted with independent review and technical support of European models, and Fost Plus provided MS2 with an English translation of their recent annual report prior to its public release. Encorp Pacific also provided assistance in reviewing program details.²⁹

When comparing European and Australian recycling rates for packaging, it is important to understand the different definitions used. In Europe the tonnage delivered to a reprocessor is counted as the recycling rate. Whereas, in Australia the output from the reprocessor is counted as the recycling rate. Depending on the quality of the collection and sorting system, discards at the reprocessor maybe as high as 20%-30% (for example, in France some 15% of the plastic bottles delivered to recyclers are subsequently landfilled) and there may be stockpiling to take advantage of a more advantageous market price. Thus, in Australian terms, European recycling rates are not as high as they might appear.

Below is a brief outline of the international case studies, described in more detail in Appendix A.

Container deposit schemes

Under a CDS, a deposit is placed on certain non-refillable containers which consumers can collect if they return their used containers to a collection facility. Alternatively, where consumers forego the deposit by leaving the containers in council recycling programs or littering the containers, councils can redeem the deposit through kerbside collections and individuals can pick up littered beverage containers to return them for the deposit.

²⁸ Environmental Resources Management (ERM 2008), *Review of Packaging Deposits System for the UK*, report for Defra, available at http://randd.defra.gov.uk/Document.aspx?Document=WR1203_8019_FRP.pdf, accessed June 2011.

²⁹ The following exchange rates (current as of June 2011) have been used: Canadian Dollar (CAD) 1 = A\$1.02; Swiss Franc (CHF) 1 = \$1.19; Danish Krone (DKK) 1 = \$0.19; Euro (EUR) 1 = \$1.42; Norwegian Krone (NOK) 1 = \$0.18; New Zealand Dollar (NZD) 1 = \$0.80; Swedish Krona (SEK) 1 = \$0.16; United States Dollar (US) \$ 1 = \$0.98.

Placing a value on certain containers means that CDSs can result in increased beverage container recovery and decreased beverage container litter. Although recovery rates are regularly monitored and reported, most CDS programs do not monitor and report on litter impacts.

An important implication when considering these approaches in the Australian context is that there is no precedent for successfully introducing an initiative such as a CDS, in addition to comprehensive recycling and litter management programs. With the exception of Germany, all CDS programs in existence, including SA, predated comprehensive recycling programs. Germany's CDS program, which was intended more as a regulatory threat than as a workable model, resulted in a wide variety of unique distortions that severely limited its usefulness as a model.

CDSs can involve a range of collection facilities such as depots and retail return. Another approach for collecting beverage containers for recycling is the use of RVMs. European CDSs primarily use RVMs, into which packaging is inserted, scanned, sorted by material type and processed (glass bottles and aluminium cans are crushed, plastic bottles are shredded) into separate bins to minimise storage requirements. After the packaging has been inserted into the RVM, consumers receive refund slips to redeem inside the store for their deposit amounts. A variety of RVM systems are also in place to help collect similar packaging types that are not subject to deposits, whilst usually providing some sort of loyalty benefit or similar reward.

It should be noted that SA's CDS program is one of the earliest mandatory deposit programs ever introduced. A much broader range of containers types, material types and recovery systems are available now compared to the limited options available when SA's CDS was first introduced.

There are some features common across the three European CDS models examined (Denmark, Sweden and Norway) that impact on program operation and affect the potential applicability of these approaches in Australia. These common features include:

- A highly concentrated grocery retail trade, with a small number of chains representing over 90% of the market in each country
- Alcoholic drinks can only be sold through a state-owned retailer in each country, and
- The CDS operator in each country now organises transport of deposit containers from the retailers. Each has one or more processing centres where containers are counted, baled and transported for recycling.

Norway CDS

Under the CDS implemented in Norway, a 'material tax' is levied on all beverage containers (including refillables) with a discount for containers depending on the return rates achieved each year. This discount is intended to encourage producers to achieve high return rates.³⁰ There are three primary elements to Norway's scheme:

- A metal beverage can and PET bottle deposit scheme run by Norsk Resirk
- A deposit system for refillable beverage containers run by brewers and some other small producers, and
- A 'Green Dot' system which handles glass, milk and juice containers.

In 2009, there were 10,000 deposit redemption points and 3,400 RVMs.³¹ In 2010, 90% of glass, 70% of plastics and 85% of other beverage containers were recycled.³²

³⁰ Norsk Resirk, *About Norsk Resirk*, available at: <<http://www.resirk.no/engelsk/introduction.aspx>>, accessed June 2011.

³¹ *Ibid.*

³² *Ibid.*

California CDS

The Californian CDS is unique in that it is operated by the State Government rather than by industry. Refunds of between US \$0.05 - \$0.10 are offered for aluminium, glass, plastic and bi-metal beverage containers that are eligible (juice, milk and alcohol containers are excluded).³³ California distributes redemption points based on 'convenience zones' to ensure they are geographically dispersed. The scheme has a target of 80% and in 2010 achieved a recycling rate of 84%.³⁴

British Columbia's CDS

The CDS in British Columbia is operated by Encorp Pacific which is a not-for-profit product stewardship corporation.³⁵ The scheme includes all 'ready to drink' beverage containers including milk and milk substitutes. As well as deposits of between CAD \$0.05-0.20, a Container Recycling Fee (CRF) may also be charged to ensure full costs of recycling each type of container are recovered. All collection facilities are owned and operated by contractors. In 2010 a recycling rate of 80.4% across all beverage containers was achieved.³⁶

Denmark CDS

Denmark has a unique history of packaging policy, with a 'can ban' for soft drinks and beer operating for a number of years as well as mandatory refillable containers for some drinks until 2002.³⁷ In 2002, an exclusive licence for operating the deposit system was granted to Dansk Retursystem (DRS). The legislation contained detailed requirements for operating the system, so any operational changes require a legislative amendment.

The CDS applied to all glass, metal and plastic beverage containers and excludes beverage cartons, wine bottles, spirit bottles and large plastic containers for water dispensers. Deposits range from AUS \$0.19– 0.56 and are redeemed primarily at the 2,000 RVMs located at retail outlets.³⁸ A target of 95% recovery was introduced in 2004, however this has been postponed until 2013. In 2008, the overall recycling rate was 88%.³⁹

Sweden CDS

From 1982 until 2006, Sweden had an industry run scheme for aluminium cans. Since 2006, all producers and importers of beverage products in eligible containers have been required to register with an approved deposit scheme. The largest and longest established deposit system is run by AB Svenska Returnpack and there are also a number of smaller operators.

The scheme includes all plastic and metal ready-to-drink beverage containers, excluding those with 50% or greater milk content and juice. Deposit amounts range from AUS \$0.08 - \$0.31 and the scheme focuses on the use of RVMs at retail outlets.⁴⁰

The scheme has a target recycling rates of 90% for metal and plastic beverage containers and 70% for glass packaging.⁴¹

³³ CalRecycle, *Beverage Container Recycling*, available at: <<http://www.calrecycle.ca.gov/bevcontainer/>>, accessed June 2011

³⁴ CalRecycle, *Biannual Report*, available at: <<http://www.calrecycle.ca.gov/bevcontainer/Rates/BiannualRpt/12MonPeriod.htm>>, accessed June 2011

³⁵ From communications between MS2 and Encorp Pacific, June 2011

³⁶ *Ibid.*

³⁷ Perchards, *Packaging Information Services*, available at <http://www.perchards.com/database/view_section.php?lsdID=4> , accessed June 2011.

³⁸ *Ibid.*

³⁹ *Ibid.*

⁴⁰ *Ibid.*

⁴¹ *Ibid.*

Advance disposal fee

ADFs are intended to influence producer choices toward particular policy objectives and to provide a source of revenue for end-of-life management of products or for other environmental projects. ADFs are considered to be extended producer responsibility (EPR) if there is a significant shift of financial or physical responsibility to the producer.

Products subject to ADFs range from beverage containers to tyres and lead acid batteries. Australian examples of ADFs include programs for used agricultural and veterinary chemical containers, mobile phones, newsprint, used oil and used refrigerants.

The section below considers ADF options such as Florida's ADF on packaging and the industry-driven Swiss ADF on glass containers.

Florida ADF

The ADF in Florida was originally intended to include a CDS. However, due to concern regarding the potential conflicts between a CDS and kerbside recycling, the CDS elements of the ADF were repealed.⁴² The ADF was introduced in 1993 with targets and coverage which increased over time. The program was allowed to sunset in 1995. The ADF was operated by the Department of Environmental Protection (which was responsible for program development) and the Department of Revenue (which collected the fees consistent with sales tax collection). Most beverage containers, cans, bottles and jars were covered by the scheme and fee amounts ranged from AUS \$0.01/container to \$0.02/container.

The fees collected by the ADF, totalling \$62.5 million over two years, funded various environmental programs including small country landfill closures, stormwater and sewage treatment loans and recycling market development.

Swiss ADF on glass

In Switzerland, legislation was introduced which imposed an ADF on glass, PET or aluminium beverage containers that fail to meet recycling targets. Most producers were able to individually or collectively meet the target recycling rates. However, glass beverage containers did not meet the specified targets and there were significant concerns about free-riding in the glass beverage container industry. This led to a mandatory ADF being applied to glass beverage containers.⁴³

VetroSwiss was established in 2002 to operate the ADF and contract out collection. The fee amount is, on average, AUD\$0.05 per bottle and the fee generated AUD\$35.9 million in 2009.⁴⁴ The recycling rate for glass containers was 95% in 2009.⁴⁵

Industry-driven product stewardship schemes

Packaging was the first sector to be covered by producer responsibility rules in Europe, beginning with *Italy's Law no. 475* of November 1988 which required separate collection of containers for liquids. Packaging manufacturers and importers had to join material-specific 'consortia' set up to collaborate with local authorities on recycling collections. Consortium members had to contribute a levy to cover the consortium's operating costs. The German Packaging Ordinance of June 1991 took a similar approach – producer responsibility,

⁴² MS2 Director Russ Martin developed and implemented the Florida ADF. Primary reference documents for the Florida ADF are original documents from this tenure.

⁴³ From communications between Russ Martin of MS2 and Marco Buletti and Isabelle Baudin of the Swiss Ministry of Environment, BAFU, in Bern, October 2010.

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

collective funding of recycling by industry and material-specific targets – but covered all packaging, and its impact extended far beyond Germany.

Some neighbouring countries decided that the best means of defence against market distortions resulting from the German Packaging Ordinance was to adopt legislation setting their own national targets to ensure that local packaging waste was still collected and that local reproducers were not driven out of business by subsidised German competitors. As a result, in December 1994 the European Union (EU) adopted a Directive on Packaging and Packaging Waste to restore some order by ensuring that all member states took steps to ensure that recycling systems were set up and developed. Each member state was required to transpose the Directive's provisions into national law by July 1996. Only Denmark, the Netherlands and the UK chose to deviate fundamentally from the original German model. However, differences in the detailed design have resulted in major differences in the outcomes and in the resulting PSOs.

In conjunction with Perchards Ltd, MS2 evaluated both the Encorp Pacific CDS program and the industry-driven Swiss packaging programs in detail for the Australian Government in an analysis of product stewardship in North America and Europe.⁴⁶ In the same report, MS2 and Perchards critically examined the German and UK packaging schemes to advise the Australian Government on how and why these schemes became costly and less effective than others, so that their lessons can be learnt for Australia. Germany's Green Dot and impacts resulting from Germany's introduction of container deposits on top of comprehensive recycling were specifically addressed. Belgium's Fost Plus program is considered here as a more practical, effective example of Green Dot implementation than Germany.

Green Dot scheme

In many countries throughout the EU, a 'Green Dot' scheme operates based on the Duales System Deutschland (DSD) scheme initially established to run the product responsibility scheme in Germany. All members of the scheme were able to put on their packaging a trademarked DSD Green Dot that indicated financial contribution to the packaging recovery program. This was intended to mitigate the issues of free riding. This approach and the Green Dot symbol have been licensed to 33 countries.⁴⁷

Fost Plus Belgian scheme

Fost Plus is a private, non-for-profit organisation that is responsible for the coordination and funding of collection, sorting and recycling of household packaging waste in Belgium.⁴⁸ Fost Plus operate the Green Dot scheme in Belgium and is also responsible for ensuring its members meet the requirements of the Belgian Directive on Packaging and Packaging Waste.

The scheme covers plastic bottle, flasks, drink cartons, paper, carton board and glass. The fee amounts are incorporated into product prices and therefore, not visible to consumers.⁴⁹

The targets in Belgium are a 80% recycling rate and a 90% recovery rate. Fost Plus reported a recovery rate of 94.9% in 2010 and a recycling rate of 91.5% in the same year.⁵⁰

Swiss packaging programs

As already described, in Switzerland, under the 2000 Beverage Containers Ordinance, a mandatory deposit was imposed on glass, PET or aluminium beverage containers if they did not meet material-specific recycling

⁴⁷ Fost Plus, *Green Dot tariffs 2010*, available at <http://www.fostplus.be/SiteCollectionDocuments/Leden/GP%20tarieven/GreenDot_UK.PDF>, accessed June 2011.

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*

⁵⁰ *Ibid.*

targets.⁵¹ The glass beverage container industry's failure to get broad industry involvement resulted in the Swiss ADF on glass. There is also a PSO for each material type; PRS (PET Bottles), FERRO Recycling (steel cans) and IGORA (aluminium cans). PRS and IGORA are both funded by a small mandatory fee on beverage containers. The fees charged by FERRO are voluntary.

Each organisation funds a range of activities with its revenue, such as:

- Collection of containers by local authorities
- Paying for the scrap value of containers, and
- Contributing to transport costs of containers to preparation plants (where items are sorted).

In 2009, the following recycling rates were achieved:

- 81% for PET
- 95% for glass, and
- 91% for aluminium cans.⁵²

Alternative approach

Alternative approaches refer to programs that increase beverage container recycling and decrease beverage container litter without a formal deposit, ADF or license fee. Alternative approaches may incorporate various features of some of the previously outlined options, especially with regard to funding collections.

New Zealand Glass Packaging Forum

The Glass Packaging Forum in New Zealand was established to address the problem of growing stockpiles of glass.⁵³ In 2004, the amount of glass being recycled in New Zealand was more than New Zealand's only glass manufacturer, O-I New Zealand, could reprocess. The Forum started as the Glass Users Group in 2005 and provided AUS\$800,000 to assist recycling operators with glass recovery. As part of the initiatives implemented by the Forum, O-I has added a new furnace, which has helped stabilise and increase market demand.

In 2010, the Forum became the first packaging sector to receive Product Stewardship Scheme accreditation in New Zealand.

The management of the Forum is comprised of 4 part time contractors and the Forum places a levy of A\$1.04 per tonne of glass.⁵⁴ The Forum limits administrative costs to 50% of expenditure and uses the other 50% for funding of programs that fall within three broad categories:

- Assistance in the provision of infrastructure to enhance the volumes and quality of glass collected
- Research into alternative uses for glass which is either not of a quality suitable for remanufacture into new containers or is at a location requiring excessive transport costs to forward it to the glass market, and
- Education programs that enhance the community's awareness of recycling and how it can be undertaken.

⁵¹ From communications between Russ Martin of MS2 and Marco Buletti and Isabelle Baudin of the Swiss Ministry of Environment, BAFU, in Bern, October 2010.

⁵² *Ibid.*

⁵³ Glass Packaging Forum, *About the Glass Packaging Forum*, available at: <<http://www.glassforum.org.nz/about.html>>, accessed June 2011.

⁵⁴ From communications between Russ Martin of MS2 and John Webber of the Glass Packaging Forum, June 2010.

Appendix B MS2 Report

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