

A NATIONAL WASTE POLICY

Response to the Consultation Paper released by the
Department of Environment, Water, Heritage & Arts

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ENGINEERS
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1. Introduction

Engineers Australia is the peak body for engineering practitioners in Australia, representing all disciplines and branches of engineering. Membership is now approximately 89,000 Australia wide and Engineers Australia is the largest and most diverse professional engineering association in Australia. All Engineers Australia members are bound by a common commitment to promote engineering and to facilitate its practice for the common good.

Engineers Australia has supported sustainable development principles to guide members in the conduct of their professional practice for over 20 years. Sustainable development is an integral component of Engineers Australia's code of ethics which are agreed by all members. Engineers Australia has also formally endorsed a Sustainability Charter which underpins its policy positions on specific environmental and resource management issues. Engineers Australia also provides members with practical guidance on sustainable development policies, standards and methods.

Australian attitudes to waste management have changed dramatically over the past two decades and this is reflected in the changes that have flowed from new legislation and regulations promulgated by Australian Governments. The key lessons from this experience are that public support for waste minimisation and recycling remains very high, solid improvements have occurred in most jurisdictions, but some are considerably more advanced than others and there is an unacceptably high degree of variation in waste generation and disposal outcomes across jurisdictions. In per capita terms, the quantity of waste created in Australia continues to grow and there has been little policy success in reducing this growth. There has been very slow progress towards product stewardship arrangements and the one important arrangement, the packaging convention, has been raised to icon status, and obscures almost negligible progress elsewhere. Undue attention has been given to arguments for local differences to the detriment of overall progress.

Given these circumstances, Engineers Australia strongly supports the establishment of a national waste management policy to consolidate and building on past gains. National consistency is essential for Australia to discharge its obligations under existing international agreements and conventions. Extending national consistency to include definitions of different classes of waste, national consistency in the principles that underpin waste management practice and nationally consistent waste data collections geared to a research and development program aimed at waste minimisation and recycling issues, is essential for Australia to fully reap the economic and environmental potential of waste management. There is considerable potential for synergy between waste policy and climate change policy and a national policy framework is the most effective way to take advantage of this opportunity. There is room for local flexibility, but at an operational level and not in the form of different principles and policy objectives.

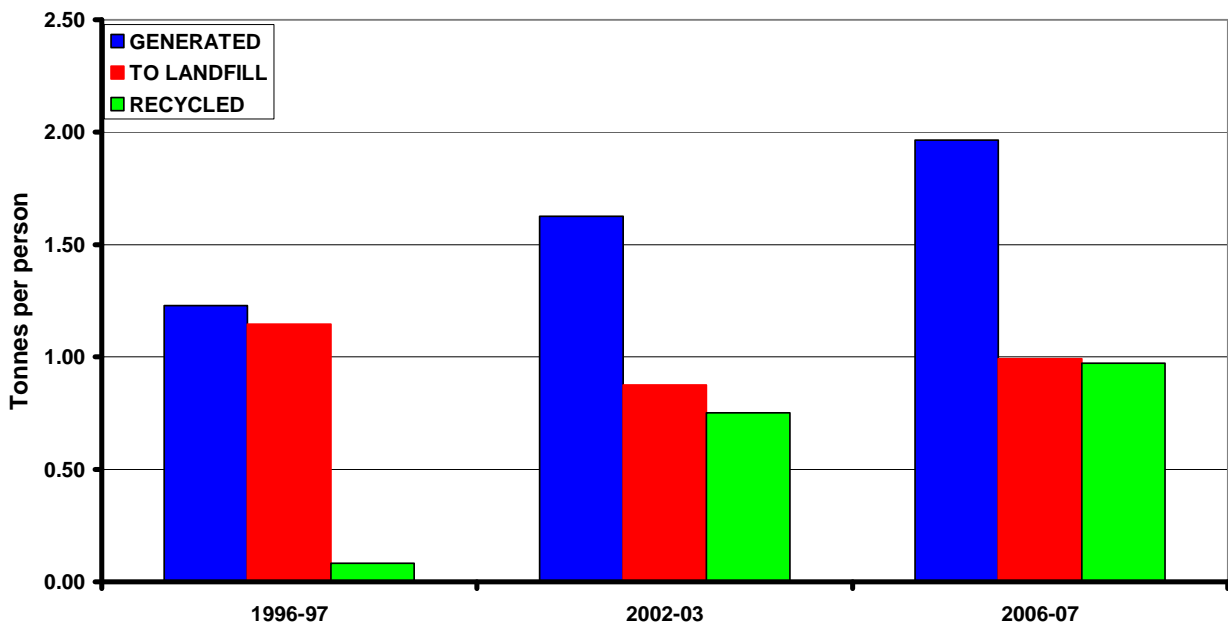
2. Waste Management Outcomes

In its 2006 Report, the Productivity Commission¹ noted that data on waste are inconsistent, incomplete and strongly influenced by jurisdictional regulatory requirements. Although there has been no progress towards a national agreement on waste data, additional data is now available,

¹ Productivity Commission Inquiry Report, Waste Management, 20 October 2006, Ch 2, www.pc.gov.au

primarily in several background papers produced by the Department². The consultation paper briefly considers the changes in the major categories of waste between 2002-03 and 2006-07 and uses them to construct illustrative waste scenarios to 2020-21. Although there must be some reservations about data quality differences between jurisdictions, this information is also useful in highlighting policy opportunities.

FIGURE 1 : WASTE GENERATED, RECYCLING AND DISPOSAL TO LANDFILL PER CAPITA IN AUSTRALIA



Waste generated in Australia has been increasing faster than population growth and faster than economic growth. Figures 1 and 2³ illustrate this point for Australia. Figure 1 shows that waste generated per person in Australia increased from 1.23 tonnes per person in 1996-97 to 1.96 tonnes per person in 2006-07, an increase of 59.3%. Improvements in waste management practices which began in the early 1990's are reflected in the rapid and large increase in waste material recycled. By 2006-07, just under half of all waste generated in Australia was being recycled. However, although the waste disposed to landfill decreased by 23.5% between 1996-97 and 2002-03 (from 1.15 to 0.88 tonnes per person), the rate of growth of waste generated exceed

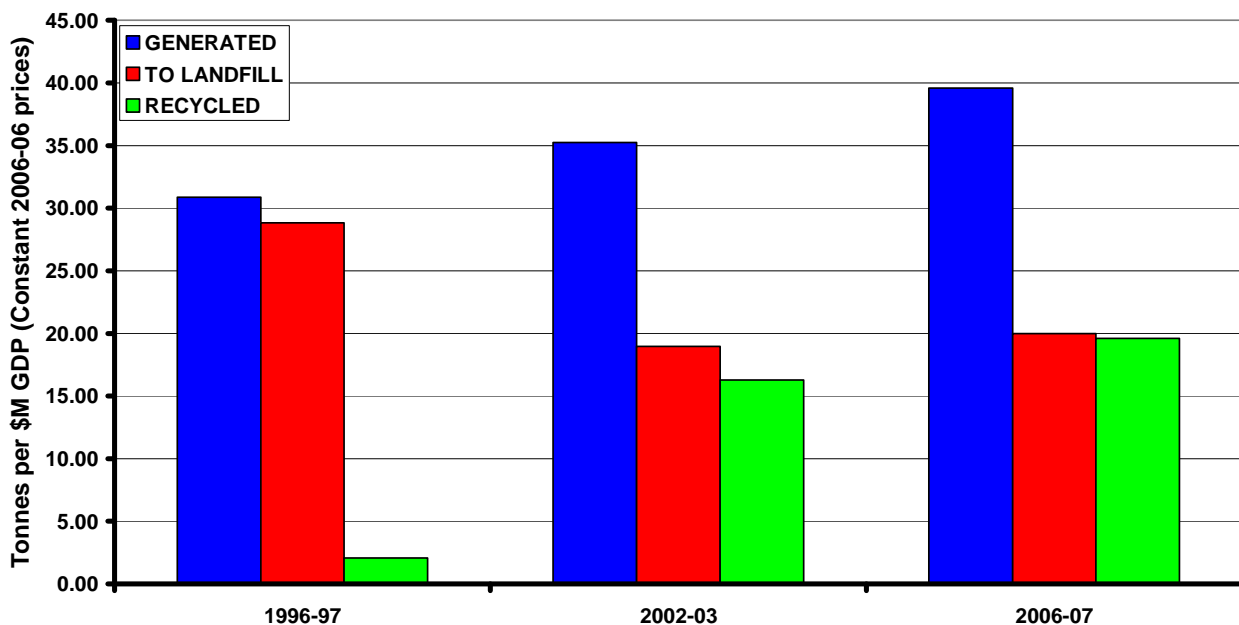
² Department of Environment and Heritage, Waste and Recycling in Australia, Report No 4, prepared by Hyder Consulting, 6 February 2006; Department of Heritage and Environment, Submission to the Productivity Commission Inquiry into Waste Generation and Resource Efficiency, February 2006; and Department of the Environment, Water, Heritage and the Arts, Waste and Recycling in Australia, Final Report, 3 November 2008, Hyder Consulting, www.environment.gov.au

³ The data used in these illustrations were sourced from the DEH submission to the Productivity Commission p11 and DEWHA (2008) p17. National Accounts data was from ABS, Australian National Accounts: National Income, Expenditure and Product, Cat No 5206.0, December 2008, 3 April 2009. Population data are from ABS, Australian Demographic Statistics, September 2008, Cat No 3101.0, 18 March 2009.

growth in materials recycled between 2002-03 and 2006-07 with the result that waste disposed to landfill increased by 12.5%.

The same pattern is evident in Figure 2 which relates waste data to gross domestic product in 2006-07 prices. Unlike an earlier comparison⁴, Figure 2 shows that when deflated economic data is considered, waste generated per million of gross domestic product increased by 28.2% between 1996-97 and 2006-07.

FIGURE 2 : WASTE GENERATED, RECYCLED AND DISPOSAL TO LANDFILL PER \$MILLION GDP



Figures 1 and 2 show that Australian waste management policies have been very successful in increasing the volume of waste material recycled and, initially, in reducing the volume of waste being disposed in landfill sites. However, these policies have not achieved the same measure of success in reducing, or even stabilizing the amount of waste generated, counteracting the success in recycling.

Waste generated per person increased in all jurisdictions for which data are available between 2002-03 and 2006-07. Figure 3⁵ shows that in some cases the increases were comparatively large (Victoria 12.6%; Queensland 76%; Western Australia 37.8%). The data for Queensland in 2002-03

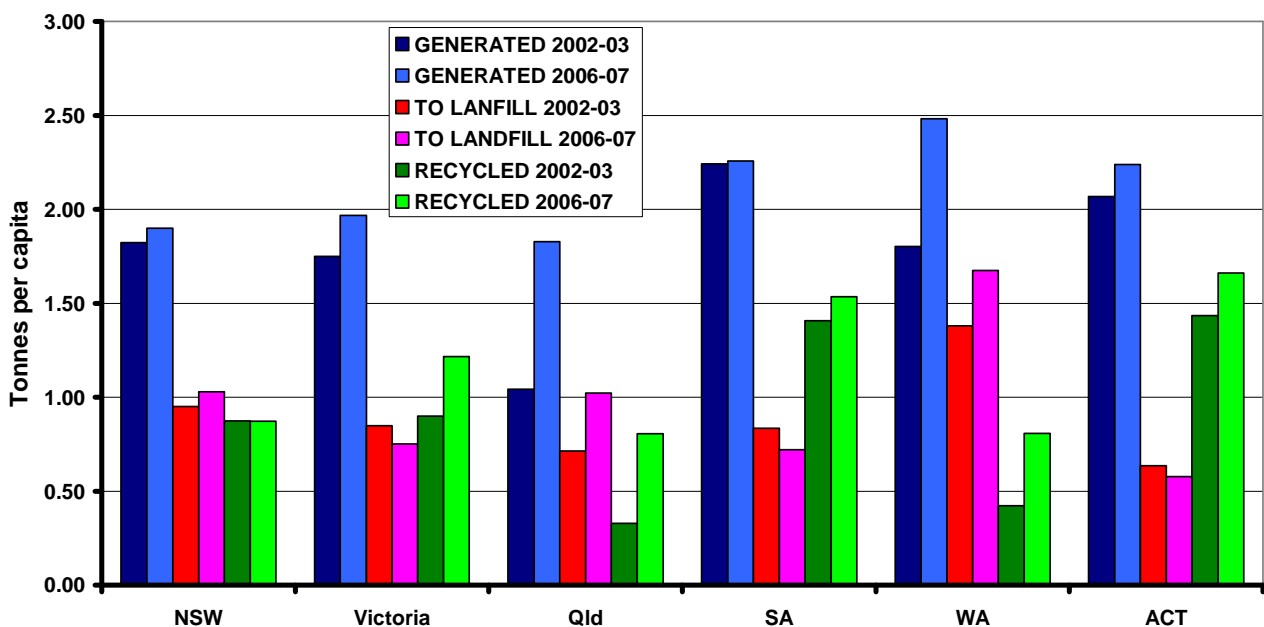
⁴ Department of Environment and Heritage, Submission to the Productivity Commission inquiry into Waste Generation and Resource Efficiency, February 2006, p11, www.environment.gov.au

⁵ Per capita estimates for the aggregate of the jurisdictions included in Figure 3 are slightly different to those in Figure 1 reflecting exclusion of Tasmania and the NT for which jurisdictional waste data were not available.

was very low, suggesting the possibility that it was incomplete. The generality of this conclusion still applies when Queensland is excluded. The highest level of waste generated per person in 2002-3 was in South Australia (2.24 tonnes per person), closely followed by the ACT (2.07 tonnes per person). The South Australian figure grew only slightly in the years to 2006-07 (to 2.26 tonnes per person) but waste generated in the ACT and Western Australia increased sharply (to 2.24 tonnes per person and 2.48 tonnes per person respectively).

Waste material recycled per person increased strongly in all jurisdictions except NSW where it was unchanged. Waste material disposed to landfill per person fell in Victoria, South Australia and the ACT, but increased in NSW, Queensland and Western Australia.

FIGURE 3: WASTE GENERATED, RECYCLED AND DISPOSED TO LANDFILL IN STATES & TERRITORIES AND POPULATION



Another important message in Figure 3 is the high degree of variability of waste per person between jurisdictions. The range in waste generated is from a low of 1.83 tonnes per person in Queensland and is 22% higher at the other extreme in Western Australia. The lowest disposal of waste to landfill is in the ACT at 0.58 tonnes per person which is less than one third of the highest which is 1.67 tonnes per person in Western Australia. Western Australia also has the lowest recycling rate at 0.81 tonnes per person which is less than half the highest recycling rate of 1.66 tonnes per person in the ACT. While these comparisons accept current data for what it is, those who dispute the validity of the differences shown in the diagram need to provide better data or provide valid arguments to defend legitimate differences. Neither is in the public domain at present.

3. A National Waste Management Policy Framework

Engineers Australia believes that waste management should be part of a set of national policies encouraging sustainable development principles. Accordingly, a National Waste Management Policy Framework should address:

- The issues relating to actual waste disposal, including minimization of the waste disposal stream and the externalities associated with landfill waste disposal (greenhouse gases; health costs from air pollution and air borne toxic substances; costs associated with leachate to soil and water; costs associated with visual, noise, smell and litter disamenity, offset by the benefits of energy recovery).
- Issues related to upstream externalities in the production and distribution of goods and services, including energy and water content embodied in potential waste. As well the role of these issues in minimizing the waste stream and the behavioural programs to achieve this should be explored.

Engineers Australia supports using benefit-cost analyses to underpin the design of waste management policies, providing that all direct and externality costs and benefits are included. It may well be more economically efficient to address upstream externalities using direct policies, as recommended by the Productivity Commission⁶, and to focus waste policies only on those direct and externality costs associated with downstream waste disposal. However, in the absence of a comprehensive suite of policies aimed at upstream externalities, it is not appropriate to disregard the costs of these externalities because the failure to deal with them shifts them downstream to waste disposal arrangements. The Commission's Report did not make this distinction and so did not include upstream externality costs when it discussed landfill disposal and recycling policies. This narrow viewpoint is reflected in some of its recommendations.

Improvements in Australia's waste management arrangements are demonstrably linked to the 1992 COAG agreement to the National Strategy for Ecologically Sustainable Development which sets out broad principles for sustainable development. The essential elements of this Strategy are just as relevant today. Most of the issues raised in the Consultation paper are encapsulated in the Strategy's objectives for waste management. Although a case could be made to update the Strategy in the light of experience, Engineers Australia believes that few facets of national waste management were actually addressed and a better use for scarce resources would be to devise a fresh approach which deals with this failure.

Engineers Australia believes that the statistics discussed in Section 2 show that there have been significant improvements in the way Australia deals with waste management. However, they also suggest there is significant scope for further improvement. Engineers Australia believes that the priorities to achieve such improvement should include:

- Stabilising the growth of waste generated per person and waste generated per million dollars of real gross domestic product in the short term with a view to reducing them in the longer term. Upstream measures and Australia wide waste reduction targets will be essential to reduce growth in waste below growth in population and economic growth.
- Reducing the high degree of variability between jurisdictions towards the best outcomes in each of the categories of waste discussed. The present degree of difference between jurisdictions is difficult to defend by recourse to arguments on local needs and aspirations.

⁶ Productivity Commission, Recommendations 6.1 and 6.2

The products which are the source of waste generated are part of national markets with strong international linkages and production and sales characteristics rarely conform to State and Territory boundaries. Unless policy responses are organised on the same lines, the potential for further improvements will be compromised. Where there are valid regional reasons to support these, they should be made transparent and alternative strategies to deal with the particular problems encountered should be explored.

- Continuing to grow the proportion of waste material recycled. The growth of recycling has been the success story of the waste management sector and the momentum built up should be reinforced using lessons learnt from the most successful recycling jurisdictions and from research and development to prioritise materials for recycling and to assist the development of national markets for recycled materials.
- Continuing improvement to statistics on waste management, geared to on-going research and development to reduce upstream waste generation and to improve recycling.

These directions require a national approach, with common definitions for all categories of waste and common national principles. Local differences should be recognised through some operational flexibility. Engineers Australia believes that jurisdictions often overstate the case for local differences and that acceptance of common national principles for waste management is long overdue. Furthermore, the future growth of recycled materials is likely to be geared to further development of the markets for the recycled materials. National consistency would help to grow scale in these markets, including those intended for export.

Engineers Australia believes that a national waste management policy framework should include waste of all type, upstream and downstream, and should not be restricted to waste covered by Australia's International Agreements and Conventions. The inconsistencies between the requirements of International Agreements and some local definitions and approaches cannot be defended and simply add to the regulatory burden in Australia. There is a direct parallel between waste management reform and water and energy reform. Water and energy reforms have been characterized by slow progress with progress often impeded by arguments about "special local circumstances" and costs to producers. Corresponding arguments about costs to society in general are typically not raised in this way. However, there is a growing recognition that significant practical and economic benefits are available by reducing the number of regulating authorities and the number of regulations through consistency and clear differentiation between mandatory provisions and where some flexibility is available.

Engineers Australia supports the establishment of National Waste Datasets, comprised of jurisdictional components, which at a minimum meet the requirements of the National Greenhouse and Energy Reporting Measurement Determination 2008 to enable all jurisdictions to report effectively under this legislation and comply with the requirements of the Carbon Pollution Reduction Scheme. Elements of the Datasets should include food, paper and paper board, garden and park, wood and wood waste, textiles, sludge, nappies, rubber and leather and concrete, metal, plastic and glass. The added benefit of data designed along these lines is building synergy between climate change policy and waste policy.

Engineers Australia believes that a National Waste Policy should promote source separated waste streams (green organics, recycled materials and disposal waste) for municipal waste in all locations where it is effective to do so. Source separated waste streams can minimize disposal costs and recycling capital and operating costs, including energy use and costs, as well as improve

the quality of recycled materials recovered. Source separation is also important in respect to commercial and demolition waste. Important aspects of a National Policy for this stream include encouraging reuse of recycled aggregate in road construction and banning disposal of mixed commercial and demolition waste in landfills.

Experience has shown that separation of green organics can lead to important commercial opportunities in reselling resultant compost and mulch products. Compost and mulch have been recognised as the most important ways to improve soil quality, inhibit weed growth and to improve water retention for many years. Increased and more widespread adoption of these techniques is a key element in climate change adaptation to greater climatic extremes and reduced rainfall.

Australia's commitments under International Agreements and Conventions also support national consistency in regulating the hazardous materials content of common appliances, labeling which requires manufacturers and resellers to advise consumers about the hazardous materials content of appliances they purchase and the application of national standards to landfill management products and techniques and to a wide range of chemical substances now regulated under a multitude of therapeutic goods administration, occupational health and safety and transport regulations. The hazardous materials content of many products is comparatively small, for example, mercury in fluorescent light tubes, and realistic recycling options involve organizing larger volumes across jurisdictions. Hazardous materials content labeling should be applied to imports and to domestic production to be effective.

Engineers Australia supports product stewardship approaches to minimizing waste over the full life cycle of products. Although there are several examples of product stewardship arrangements in operation, the development of this approach in Australia has been exceptionally slow. In 2004, the Environment and Heritage Council issued a discussion paper on Co-regulatory Frameworks for Product Stewardship which invited views on a nationally consistent approach. Analysis of submissions received was eventually published in 2008⁷, but there is no word yet on any actual outcome. This reluctance is in stark contrast to the views of Product Stewardship Australia which has had a fully costed proposal to recycle unwanted TVs ready to implement for some years⁸, now especially important in the context of the phasing out of analog TV starting in 2010. The impediment is the unwillingness of the Federal Government to take action on necessary safety net regulations covering non-participants. Besides TVs there is a growing range of so-called e-waste which also calls for similar arrangements. Engineers Australia believes that decisive action by the Federal Government is warranted to overcome this reluctance.

Engineers Australia believes that Germany offers a model for an Australian approach to product stewardship⁹. Germany is an advanced economy with diversified demand and it is a Federation like Australia. The main element in German legislation is an independent producer foundation which acts as a national clearing house and overall authority. Any business intending to sell electrical and/or electronic goods in Germany is obliged to register with the authority and to provide commercial and compliance data for its products. Individual businesses are responsible for the end-of-life treatment of their own products in the form of either a brand return scheme or a

⁷ EPHC, Industry Discussion Paper On Co-regulatory Frameworks for Product Stewardship, December 2004 and Analysis of Submissions, May 2008, www.ephc.gov.au

⁸ Product Stewardship Australia, www.productstewardship.asn.au

⁹ See www.caudit.edu.au/download.phd?doc_id=148&site_id=43

payment based on the previous year's market share. Local authorities finance residual collections from households.

The German model relies on individual producer responsibility and product return at the end of its life. Compliance arrangements improve the quality of waste and recycling data and producer responsibility encourages product and packaging redesign to minimize the product return costs. The German experience is directly relevant to Australia's situation and governance structure.

A particular area in which a national waste policy could further coordinate, harmonize and streamline approaches to recycling policy across jurisdictions is National Container Deposit (NCD) legislation. South Australia has operated CDL for some years and Western Australia and NSW are considering similar programs. However, there is considerable opposition from hospitality and beverage manufacturers which does not suggest a high degree of commitment to stewardship over the containers involved. National legislation would greatly assist the reduction of waste from containers, particularly because it would target away-from-home recycling as well as reducing the burden on Local Government through lower at home recycling.

Over coming decades, climate change will become an increasingly important factor in shaping waste management principles. Although older landfills have been given a temporary reprieve from carbon pricing in the arrangements proposed for the Carbon Pollution Reduction Scheme (CPRS), the scenarios included in the Consultation Paper show that by 2020 waste volumes could more than double. Carbon costs from the CPRS and the increasing costs of landfill site management suggest that disposal costs will increase significantly. As well as illustrating the consequences of the status quo, Engineers Australia believes that there is scope to illustrate the alternative outcomes which could flow from waste minimization and increased recycling scenarios. Although available statistics are rudimentary, the value in such an exercise lies in demonstrating the benefits of improved waste management.

Once the CPRS has been implemented, embodied energy will become an increasingly important issue. Fossil fuel generation will become increasingly expensive as carbon prices rise and renewable energy is typically more expensive. While oil prices have abated in the current global recession, a return to normal economic conditions will see a return to high demand and concerns about peak oil. Australia is already experiencing water shortages and predictions of the future suggest that climate change will seriously accentuate these pressures. Engineers Australia believes that embodied water and energy content should guide Australia's recycling priorities. This is yet another challenge that should be addressed by improved research and development into recycled waste.

Prospective sites for resource recovery facilities and their establishment are currently the responsibilities of local and, in some cases, State or Territory authorities. The associated costs are typically passed through to households in the form of higher rates. Householders strongly support recycling and are generally prepared to accept higher charges to improve recycling rates. However, the CPRS is likely to significantly raise these costs and it is appropriate that a national waste policy investigate the opportunity for economies of scale in resource recovery facilities to reduce the subsequent cost impacts on households.