

# Chapter 8

## Committee view and recommendations

8.1 Australians love their recycling. Through their use of kerbside collection services, transfer stations, and product stewardships schemes, households and businesses have diverted significant quantities of waste from landfill.

8.2 As a result of this support, the waste management and resource recovery industry is no longer just an essential service; it is now a significant contributor to Australia's economy, with an annual turnover of \$15 billion, and 50,000 full time equivalent employees across the country.

8.3 But the recycling industry is in crisis. This crisis has been bought on by recent decisions of the Chinese Government to restrict the import of waste materials. But it follows years of failure across all levels of government to make the policy decisions required to put the industry on a solid footing. As a result, the future of the industry in Australia is in grave danger.

8.4 Australia's recycling industry has become reliant on the export of large quantities of low quality recycled material to overseas destinations such as China. From collection through to sorting, there has been a focus on quantity rather than quality. The increase in recycling rates, as measured by weight, have masked the underlying problems associated with this approach and the increase in waste generation.

8.5 While the increasing rates of recycling reflect the community's commitment to 'do the right thing', this willingness to participate has not been matched by the implementation of comprehensive waste management policies, a sustainable domestic recycling industry, or a reduction in the generation of waste and consumption of raw materials.

### **An industry in crisis**

8.6 The Council of Australian Governments (COAG) Standing Committee on Environment and Water developed a comprehensive National Waste Policy in 2009. The failure to fully pursue the aims of this policy has left Australia's recycling industry vulnerable to volatility in global markets, and without a diversified and sustainable recycling sector to meet current and future demands for services.

8.7 The underlying problems in the recycling sector can no longer be ignored. With the 2017 announcements by China that the imports of 24 types of waste will be banned, and the introduction of stringent contamination controls on imports, the Australian recycling industry has been thrown into crisis. Enormous quantities of recycled material, particularly materials collected through kerbside recycling, are now

being stockpiled at great risk to the health and safety of local communities. Moreover, quantities of otherwise recyclable material are being sent to landfill.

8.8 This crisis has arisen because Australia has grown complacent. In the early years of kerbside recycling, the need for high quality material, and low levels of contamination, was critical to ensuring that the nascent industry became established. Local government, who bore a lot of the risk for the sale of kerbside material, dedicated significant energy to educating households on how to recycle properly.

8.9 But increases in commodity prices during the 2000s, combined with weight-based diversion targets, landfill levies and reporting at a state level, shifted the focus from quality to quantity, and shifted the risk from local government to contractors whose business plans were predicated on this approach.

8.10 There has also been a failure to adequately invest in recycling infrastructure and technology, develop robust and sustainable domestic markets for recyclates or provide appropriate regulatory frameworks to ensure the future of recycling. It is clear that even without the catalyst of changes in the international market, Australia's recycling industry has been facing difficulties for a number of years.

8.11 Australia is lagging far behind other jurisdictions which have developed policies and made investments in infrastructure and technology to establish circular economies which ensure that materials are used, collected, recovered, and re-used within a country. Circular economies achieve much better social, environmental and economic outcomes than linear economies and it is clear that Australia's failure to invest in the development of such an economic model is a significant policy error.

### **National Waste Policy and the circular economy**

8.12 The committee is of the view that the Australian Government must act urgently to transition away from a linear economy to a circular economy which prioritises the collection, recovery and re-use of products, including within Australia. This transition must include a suite of regulatory and policy changes aimed at influencing behaviour, as well as investments in infrastructure and technology.

8.13 The committee accepts the evidence that there is a need for the Australian Government to demonstrate leadership through the implementation of a National Waste Policy, which includes strategies for the establishment of a circular economy. The committee notes the commitment made by the Meeting of Environment Ministers on 27 April 2018 to update the National Waste Policy to include circular economy principles.

8.14 However, the committee notes that the 2009 *National Waste Policy: Less Waste, More Resources* (National Waste Policy) is a comprehensive document that established 16 key strategies, agreed to by all state and territory governments. Despite this, there has been little action by the Australian Government to implement these strategies.

8.15 The committee is of the view that the failure to progress the implementation of the National Waste Policy has exacerbated the effects of changes in the global market for recycled material. It provides benchmarks for the states and territories and provides an overarching policy framework. The committee accepts the evidence that if strategies established under the National Waste Policy had been implemented then the Australian recycling industry would not be in the depth of crisis that it currently is in as it would not be as reliant on global trading markets, and would have an established an approach that more closely resembles a circular economy.

8.16 The committee is also concerned that, instead of seeking to address policy failures in relation to recycling, state and federal governments are now signalling their support for waste-to-energy as a primary solution to the current crisis. Energy from waste is an ambiguous term that refers to a number of quite different processes, some of which are inherently more environmentally beneficial than others (for example, methane capture from organic waste). Nonetheless, energy-from-waste is next to last on the weight hierarchy. And the particular form of energy-from-waste which is being touted as a solution—incineration—is particularly problematic.

8.17 Burning recyclable material is not a solution; it is surrender. Incinerators only make use of materials for their calorific value. They are not compatible with the objectives of a circular economy. Further, as an energy source, burning waste is not renewable and it is carbon intensive. Having spent decades rolling out infrastructure and educating communities about recycling, and having earned the public's support for recycling, government needs to ensure that recycling is maintained as a policy priority.

### **Recommendation 1**

**8.18 The committee recommends that the Australian Government prioritise the establishment of a circular economy in which materials are used, collected, recovered, and re-used, including within Australia.**

### **Recommendation 2**

**8.19 The committee recommends that the Australian Government show leadership through the urgent implementation of the 16 strategies established under the National Waste Policy.**

### **Recommendation 3**

**8.20 The committee recommends that the Australian Government prioritise waste reduction and recycling above waste-to-energy, and seek a commitment through the Meeting of Environment Ministers of all levels of government to the waste hierarchy.**

### ***Waste reduction***

8.21 As noted above, waste reduction is the most preferable tier of the waste hierarchy and is inherent to a circular economy. It is also the most difficult component of the waste hierarchy in that it directly confronts the use of materials and its role in our economy. The committee did not consider the possibilities regarding waste reduction in detail. However, a consistent theme amongst submitters and witnesses was that the development of a truly circular economy necessitates a reduction in the generation of waste. By extension, this is about reducing the consumption of materials.

8.22 The Senate Environment and Communications References Committee's recent inquiry into the threat of marine plastic pollution highlighted the particular problems associated with the proliferation of plastic and the impact that this is having on the marine environment. This inquiry also heard evidence of the difficulties that persist with plastic in the waste stream, particularly in relation to the absence of uniform labelling and the physical difficulties with collecting and sorting thin film plastics.

8.23 The enormity of problems created by plastics requires a holistic approach, one that a commitment to a circular economy would help bring about. However, the committee is of the view that more direct measures are needed to help tackle this problem more immediately, and to respond to community concern about plastic in our environment.

### **Recommendation 4**

**8.24 The committee recommends that the Australian and state and territory governments agree to a phase out of petroleum-based single-use plastics by 2023. The scope of this commitment would require careful consideration and should be developed through the Meeting of Environment Ministers.**

### **Recommendation 5**

**8.25 The committee recommends that the Australian Government establish a Plastics Co-Operative Research Centre (CRC) to lead Australia's research efforts into reducing plastic waste, cleaning up our oceans and finding end-markets for recovered plastic.**

### **Recommendation 6**

**8.26 The committee recommends that the Australian Government commit to implementing the recommendations of the Senate Environment and Communications References Committee inquiry into the threat of marine plastic pollution in Australia, particularly in light of the need to improve plastic resource recovery.**

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### *Investment by the Australian Government*

8.27 The recycling industry directly employs over 20,000 people and indirectly employs almost 35,000 people. There are significant economic and employment opportunities to be realised in expanding the industry. For every 10,000 tonnes of waste recycled, 9.2 jobs are created.

8.28 Recycling infrastructure and programs have traditionally been managed and financed by industry, and state and local governments, however it is clear that there is also a role for the Australian Government. The recycling industry is too important to fail and as such, investment in innovative technology and improved infrastructure is critical to improving environmental and economic outcomes for Australia's recycling industry.

8.29 The committee was interested to note the work being undertaken by the University of New South Wales in developing microfactories capable of creating 'reforming' waste into new products. The committee is of the view that such innovative technological solutions will be crucial to the future of waste management and recycling in Australia.

8.30 The committee also considers that recycling could provide significant economic opportunities for regional Australia. Not only would this lead to employment benefits, it would allow regional communities to access recycling facilities and thus address environmental problems such as excessive landfill and illegal dumping.

### **Recommendation 7**

**8.31 The committee recommends that the Australian Government work with state and territory and local governments to assist recyclers to increase the diversion of material from landfill; improve the quality of materials recovered through collection programs; improve the sorting of materials at recycling facilities; and assist manufacturers to increase the amount of recycled material used in production.**

### *Procurement policies*

8.32 Saving the recycling industry from its current state of crisis requires increasing the demand for recycled products. It is not enough to simply improve the quality of material being collected and sorted so that it can be exported; domestic markets for recycled material must also be developed.

8.33 Increased Australian demand for recycled content in new products would reduce the reliance of the industry on export markets. The development of domestic markets will result in better environmental and social outcomes (local jobs, and reduced transport impacts), as well as reducing the risk associated with exposure to international commodity markets. The increased local manufacture of products with significant recycled content is an important goal for Australia.

8.34 Governments at every level must lead by example through a commitment to sustainable procurement processes and policies. The Australian Government's role as the largest office employer in the country, and its funding of large-scale infrastructure projects, provides it with considerable influence in relation to the procurement of recycled content materials. This includes government procurement of paper and other office equipment, hospitality and cleaning contracts, and civil engineering.

8.35 The committee also notes that state and territory, and local governments are able to provide a significant domestic market for recycled material. The committee notes and commends state and territory, and local governments which have demonstrated a commitment to sustainable procurement practices and encourages the expansion of such programs.

### **Recommendation 8**

**8.36 The committee recommends the Australian Government set mandatory targets for all government departments in relation to the recycled content of materials bought directly or provided by private contractors.**

**8.37 The committee recommends that state and territory and local governments also pursue sustainable procurement policies to ensure strong domestic markets for recycled material.**

### ***Data collection***

8.38 One of the strategies of the 2009 National Waste Policy was to publish a three yearly waste and resource recovery report (the National Waste Report), underpinned by a system that provides access to integrated national core data on waste and resource recovery. In implementing this strategy, the states and territories are responsible for collecting data on the generation of solid waste and the rate of diversion for recycling within their jurisdiction.

8.39 Accurate data on waste and recycling in Australia is crucial in establishing appropriate policy and regulatory settings, and to allow industry to make well-informed investment and business decisions.

8.40 The committee notes the concerns of submitters that the data around waste generation and diversion remains notoriously poor. It particularly notes that there is a lack of standardisation in data collection, a lack of uniformity in definitions of waste, and *ad hoc* data collection practices.

8.41 Further, the lack of granularity around data collected exacerbates the tendency to measure the success of the recycling industry on the basis of weight collected. A tonne of aluminium that is recovered for reprocessing into new materials is usually measured equal to a tonne of concrete that is crushed up for use in as aggregate in civil construction. Yet the benefits from a material recovery perspective are considerably different, with the reprocessing of a tonne of aluminium almost fully offsetting the greenhouse emissions associated with the processing of a tonne of virgin aluminium.

8.42 The problems with waste data have been acknowledged and the committee notes that work is continuing to improve the collection, standardisation and comprehensiveness of waste data. The committee welcomes this development but agrees with submitters that data must be published in a more timely way; businesses cannot be expected to make investment decisions worth many millions of dollars on data that is five years old.

8.43 The committee has also given consideration to suggestions that oversight of data collection should be moved to an independent agency—the Australian Bureau of Statistics—as the sector not only covers matters within the oversight of the Department of the Environment and Energy but also the Department of Industry, Innovation and Science. While there is merit in this suggestion, the committee considers that it is appropriate that the National Waste Report be produced under the auspices of the Department of the Environment and Energy.

### **Recommendation 9**

**8.44 The committee recommends that the Australian Government implement the 65 agreed improvements to the National Waste Report, and the data collection and analysis practices, as established by Blue Environment's *Improving national waste data and reporting* report.**

**8.45 Further, the committee recommends that the National Waste Report be published at least biennially.**

### **Collection methods**

8.46 The collection method utilised is a major determinant of the quality of recycled material and in ensuring viable markets for this material. In particular, the quality and quantity of material collected and diverted to recycling is affected by differing collection methodologies utilised in recycling programs, both within and between states, and policy settings.

#### ***Kerbside collection and education***

8.47 The provision of multiple kerbside bins by local government to provide for basic source separation of waste, organics and comingled recycling at the household level has been at the heart of the increase in recycling rates in Australia. Householders have enthusiastically embraced kerbside recycling programs as the large quantities of recyclable material collected demonstrate.

8.48 However, the exact nature of kerbside collection varies between municipalities, reflecting the preferences of the local community, and the operation of materials recovery facilities and organic recyclers. As kerbside programs have developed and evolved, confusion has remained as to what materials can be recycled.

8.49 As a result, the contamination of recycled material collected through kerbside has become a serious problem. This problem has been brought into stark relief as a result of China's decision to dramatically tighten restrictions on contamination rates.

8.50 The shift towards a volume-based business model has been a significant market force behind the creation of this problem. This has lessened the need for operators of sorting facilities to ensure low levels of contamination through kerbside collection, including the sorting of materials by households and the rate of compaction in waste trucks.

8.51 While many jurisdictions provide extensive education programs to inform the community on at-home recyclable segregation, the committee heard evidence that there has been a reduction in education to householders of how to use kerbside collection programs

8.52 Critical to the ongoing viability of Australia's recycling industry is that householders understand the impact that contamination can have on recycling schemes. The committee notes the importance of education programs and encourages state and territory, and local governments continuing to implement such schemes.

### **Recommendation 10**

**8.53 The committee recommends that the Australian Government support state and territory, and local governments in ensuring effective education programs are available to assist the public in understanding how best to undertake recycling.**

#### *National container deposit scheme*

8.54 Throughout the inquiry, the committee received evidence that glass poses a particular challenge to the current recycling industry. Kerbside collections systems result in a significant level of small glass fragments and contaminants that cannot be used in recycled glass manufacturing. Co-mingled recycling collection combined with high compaction rates breaks glass into small fragments that cannot be extracted, and contaminates other recyclable materials.

8.55 A range of solutions were offered including the introduction of kerbside glass-only collection bins, and the introduction of container deposit schemes (CDS). CDS is now in place, or coming into place, in all states except for Victoria and Tasmania.

8.56 The benefits of CDS have been further highlighted in the wake of the crisis the recycling industry is currently facing. The committee heard that CDS inherently improves the quality of the material collected with glass collected in South Australia, where CDS has been in place for decades, fetching three times more than glass collected elsewhere through kerbside collection schemes. The committee also heard that the diversion of a large amount of glass out of kerbside reduces the contamination of remaining materials, which also improves the quality of other types of recycling.

8.57 The committee heard a range of views on the introduction of CDS, including concerns that current recycling infrastructure and investment has been based on the presence of glass in kerbside collection schemes and that the removal of glass would have a financial impact on operators and local councils. The committee also heard that

the South Australian CDS cannot simply be replicated by states seeking to introduce new schemes and that there are differing views on the most appropriate model for implementation.

8.58 The committee notes that COAG has conducted a regulatory impact assessment of a national container deposit scheme and that the states could not reach agreement on such a scheme. The committee is of the view that a national container deposit scheme would ensure a uniform approach to glass recycling, with a reduction in contaminated kerbside recycling, and certainty to industry and the community.

### **Recommendation 11**

**8.59 The committee recommends that the Australian Government implement a national container deposit scheme.**

#### ***Mandatory product stewardship***

8.60 Product stewardship is an important policy tool used to improve waste and recycling outcomes. Australia's *Product Stewardship Act 2011* was developed as a result of the National Waste Policy, and is largely focused on the end-of-life solution of products. Commonwealth product stewardship schemes set material recovery levels for those areas it directly regulates.

8.61 Product stewardship acknowledges that those involved in producing, selling, using and disposing of products have a shared responsibility to ensuring that throughout the lifecycle of a product, environmental, human health and safety risks are mitigated.

8.62 A common component of successful product stewardship schemes is the inclusion of some of the cost of the disposal of a product into the purchase price of a product, including refundable deposits that are redeemed upon disposal for recycling. The most widely used and understood form of product stewardship in Australia is CDS. The effect of these economic incentives is usually a high level of source separation of the products or materials covered by the product stewardship scheme.

8.63 The committee is of the view that mandatory product stewardship schemes should be established to cover a range of items which pose challenges to the appropriate management of end-of-life products, including mattresses, tyres and the entire range of e-waste including batteries.

8.64 The committee notes that schemes established under the *Product Stewardship Act 2011* have largely been voluntary. The committee accepts the evidence that voluntary schemes are not as effective as compulsory schemes, and is of the view that product stewardship schemes developed under the *Product Stewardship Act 2011* should be mandatory.

8.65 Though product stewardship in Australia has largely focused on end-of-life processes, the committee is of the view that a more holistic approach is required. The committee notes the evidence that up-stream material recovery and efficiency, and

improved product design result in better environmental outcomes. Assigning responsibility for the disposal and treatment of post-consumer products to producers has been recognised as incentivising the prevention of waste at the source. As such, the Australian Government should ensure that extended producer responsibility is implemented for a range of products.

### **Recommendation 12**

**8.66 The committee recommends that product stewardship schemes established under the *Product Stewardship Act 2011* be mandatory schemes.**

### **Recommendation 13**

**8.67 The committee recommends that mandatory product stewardship schemes be established for tyres, mattresses, e-waste, and photovoltaic panels.**

### **Recommendation 14**

**8.68 The committee recommends that the Australian Government extend producer responsibility under product stewardship schemes to ensure better environmental and social outcomes through improved design.**

### **Recommendation 15**

**8.69 The committee recommends that the Product Stewardship Advisory Committee be re-established and that they be tasked with recommending products for listing under the Product Stewardship Act.**

### **Landfill levies**

8.70 Waste levies are a financial contribution required to be paid by licensed waste facilities for each tonne of waste received at the facility. Waste levies are intended to encourage the diversion of waste from landfill to recycling. Most states and territories have implemented waste levies, with the exception of Tasmania, Queensland and the Northern Territory. The levy amounts vary between states and within jurisdictions according to the type of material being sent to landfill.

8.71 The committee heard that landfill levies have been successful in achieving significant diversion rates, and provide important revenue which can be used to fund sustainable waste management practices. The committee also heard however that there is a point of diminishing returns with landfill levies, and that they can lead to perverse outcomes such as the inter-jurisdictional transport of waste to avoid levies, illegal landfilling and dumping, and the placing of financial pressure on recyclers.

8.72 Of particular note was the movement of waste from New South Wales to Queensland to avoid the New South Wales landfill levy. The committee accepts that the lack of a landfill levy in Queensland, and the relatively high landfill levy applied to Sydney Metropolitan Area waste has been responsible for this significant movement of waste. The committee notes that the Queensland Government has

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recently announced that it will be introducing a landfill levy, and it is hoped that such an introduction will reduce the incentive to move waste between the states.

8.73 The committee is of the view that state and territory governments are best placed to manage the implementation of landfill levies, however it notes that co-operation between jurisdictions is important to manage any negative consequences which may arise.

8.74 The committee is also of the view that state and territory governments should fully hypothecate landfill levies towards measures that are designed to reduce the amount of material going to landfill. The use of landfill levies by state and territory governments to increase general revenue creates a perverse incentive for state and territory governments to maintain landfilling at current levels.

### **Recommendation 16**

**8.75 The committee recommends that the Australian Government assist state and territory governments to ensure that landfill levies in proximate jurisdictions are such that there is a no incentive to transport waste for levy avoidance purposes.**

### **Recommendation 17**

**8.76 The committee recommends that the Australian Government support state and territory governments fully hypothecating landfill levies towards measures that reduce the creation of consumption and waste, and that increase the recycling of waste materials.**

### **Landfill standards**

8.77 Environment agencies and Environment Protection Agencies (EPAs) in state and territory jurisdictions have established policies and regulatory requirements for the sustainable management of waste and on landfill performance.

8.78 Landfill poses a range of environmental and social risks and it is essential that it is appropriately managed. The committee particularly notes with concern the evidence that landfills which are not adequately provisioned to be managed beyond closure pose significant economic, environmental and social risks in the future. Landfill standards must require operators to identify and appropriately manage all risks, both short-term and long-term.

8.79 The committee notes that there are significant differences between jurisdictions in the way that waste is classified and the classes of landfill that are permitted. The committee accepts the evidence that landfill standards should be best-practice, risk-based and nationally harmonised to ensure that all environmental risks are appropriately mitigated.

8.80 The committee also notes the risks to sustainable landfill management posed by a lack of infrastructure planning and encroachment by urban development. The

committee is of the view that state and territory governments are best placed to provide waste management infrastructure with certainty and protection through appropriate planning controls.

### **Recommendation 18**

**8.81 The committee recommends that the Australian Government work with state and territory governments to ensure the implementation of harmonised, best-practice landfill standards.**

#### **An opportunity too important to be missed**

8.82 Waste is a fact of life; the evidence indicates that the quantity is only going to increase; yet there cannot continue to be an expectation that 'just putting it in the bin' will work as an adequate waste management system.

8.83 While China's decision to restrict the import of certain categories of waste has triggered the current crisis in the Australian waste management sector, in fact, there have been underlying problems in the sector for some time.

8.84 Stakeholders—governments, the industry and the community—are now focused on recycling. The committee welcomes the commitment to addressing the current problems. However, the committee considers that solutions must look to the long-term and must incorporate moves to a circular economy.

8.85 There are great benefits for Australia in adopting a circular economy. As well as reducing our ecological footprint, reducing the generation of waste and developing a viable recycling sector would improve material productivity, increase employment opportunities in both recycling and manufacturing, stimulate innovation in the use of materials, and meet community expectation about how our waste is dealt with. The committee considers that this is an opportunity too important to be missed.

**Senator Peter Whish-Wilson**  
**Chair**