

The Senate

Environment and Communications
References Committee

Never waste a crisis: the waste and recycling
industry in Australia

June 2018

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Abbreviations

| | |
|--------------|---|
| ABS | Australian Bureau of Statistics |
| ACCC | Australian Competition and Consumer Commission |
| ACOR | Australian Council of Recycling |
| AHRWMA | Adelaide Hills Regional Waste Management Authority |
| ALGA | Australian Local Government Association |
| ALOA | Australian Landfill Owners Association |
| ASBG | Australian Sustainable Business Group |
| ATRA | Australian Tyre Recyclers Association |
| AWT facility | Advanced waste treatment facility |
| BEPM | Victorian Landfill Best Practice Environmental Management |
| C&D | Construction and demolition |
| C&I | Commercial and industrial |
| CDL | Container deposit legislation |
| CDR | Container deposit refund |
| CDS | Container deposit scheme |
| CEFC | Clean Energy Finance Corporation |
| COAG | Council of Australian Governments |
| CoGC | City of Gold Coast |
| DFAT | Department of Foreign Affairs and Trade |
| DWER | Department of Water and Environmental Regulation (WA) |
| EfW | Energy from Waste |
| EOLTs | End of life tyres |
| EPA | Environment/al Protection Authority |
| EPHC | Environment Protection and Heritage Council |
| EPR | Extended producer responsibility |
| ERF | Emissions Reduction Fund |
| LCA | Law Council of Australia |
| LGAQ | Local Government Association of Queensland |
| LGAT | Local Government Association of Tasmania |
| LGNSW | Local Government New South Wales |

| | |
|------------|--|
| MRF | Material recovery facility |
| MSW | Municipal solid waste |
| NAWMA | Northern Adelaide Waste Management Authority |
| NEPC | National Environment Protection Council |
| NEPM | National Environment Protection Measure |
| NSROC | Northern Sydney Regional Organisation of Councils |
| NWRIC | National Waste and Recycling Industry Council |
| RID Squad | Hunter-Central Coast Regional Illegal Dumping Squad |
| SEQ | South East Queensland |
| TSA | Tyre Stewardship Australia |
| UNSW SMaRT | University of New South Wales Centre for Sustainable Materials Research and Technology |
| UNSW | University of New South Wales |
| VWMA | Victorian Waste Management Association |
| WALGA | Western Australian Local Government Association |
| WARR | Waste Avoidance and Resource Recovery |
| WCRA | Waste Contractors and Recyclers Association of New South Wales |
| WMAA | Waste Management Association of Australia |

List of recommendations

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.

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.

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.

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.

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.

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.

Recommendation 11

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

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.

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.

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.

Chapter 1

Introduction

Referral and terms of reference

1.1 On 17 August 2017 the Senate referred the following matter for inquiry and report by 29 November 2017:

The waste and recycling industry in Australia, with particular reference to:

- (a) the quantity of solid waste generated and the rate of diversion of solid waste for recycling;
- (b) the accreditation and management of landfills;
- (c) the extent of illegal landfilling;
- (d) the role of landfill levies in determining the end destination of material, including the hypothecation of collected levies for enforcement and waste diversion purposes;
- (e) the role of different incentives and collection methods in determining the quality and quantity of material collected for recycling;
- (f) the destination of material collected for recycling, including the extent of material reprocessing and the stockpiling of collected material;
- (g) the current economic conditions in the industry, including the market for material collected for recycling;
- (h) the transportation of solid waste across state boundaries;
- (i) the role of the Australian Government in providing a coherent, efficient and environmentally responsible approach to solid waste management, including by facilitating a federal approach; and
- (j) any other related matters.¹

1.2 On 14 November 2017, the Senate granted an extension of time to report until 13 June 2018.²

1.3 On 12 June 2018, the committee presented a progress report seeking an extension of time to report until 26 June 2018.³

1 *Journals of the Senate*, No. 55, 17 August 2017, p. 1759.

2 *Journals of the Senate*, No. 69, 14 November 2017, p. 2208.

3 *Journals of the Senate*, No. 98, 18 June 2018, p. 3121.

Conduct of the inquiry

1.4 In accordance with its usual practice, the committee advertised the inquiry on its website and wrote to relevant individuals and organisations inviting submissions. The date for receipt of submissions was 20 October 2017. The committee received 63 submissions, which are listed at Appendix 1.

1.5 The committee held public hearings in:

- Melbourne on 20 November 2017;
- Sydney on 14 March 2018;
- Canberra on 21 March 2018; and
- Brisbane on 30 April 2018.

1.6 Following the public hearing in Brisbane on 30 April 2018, the committee also conducted a site visit to the REMONDIS Swanbank Renewable Energy and Waste Management Facility.

1.7 The list of witnesses who participated in public hearings is at Appendix 2.

1.8 The public submissions, additional information received and *Hansard* transcript are available on the committee's website at: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/WasteandRecycling.

Acknowledgment

1.9 The committee would like to thank the organisations and individuals who provided evidence to the inquiry.

Structure of the report

1.10 This report comprises eight chapters, as follows:

- Chapter 1 outlines introductory matters regarding the referral and conduct of the inquiry.
- Chapter 2 summarises the waste management and recycling sectors in Australia; considers the generation and fate of waste; the deficiencies in waste data; and the regulation of waste.
- Chapter 3 discusses issues related to the management of landfill.
- Chapter 4 canvasses evidence received regarding landfill levies.
- Chapter 5 examines the current state of Australia's recycling industry including the impact of market volatility and demand, and recent changes in international markets.
- Chapter 6 outlines other issues affecting the recycling sector related to the collection, sorting, and processing of materials.

- Chapter 7 explores opportunities for national leadership in improving the management of waste and recycling.
- Chapter 8 contains the committee's views and recommendations.

Chapter 2

Waste management and recycling in Australia

2.1 Waste is defined as materials or products that are unwanted or have been discarded, rejected or abandoned. Waste includes materials or products that are recycled, converted to energy, or disposed. Materials and products that are reused (for their original purpose and without reprocessing) are not waste because they remain in use.¹ Waste typically arises from three streams:

- domestic and municipal—includes all household waste and waste collected in public places;
- commercial and industrial waste from all business and industrial activities and public institutions; and
- construction and demolition—includes all waste from the building and construction industry.

2.2 Waste can be classified by composition such as glass, paper, organic, metal and plastic. This report discusses solid waste rather than liquid or gaseous waste. Given the limitations of the committee, and the recent decisions by China relating to the import of recycled material, the inquiry and the report also generally focused on the flow of materials; rather than organics. As such there is only a summary examination of food waste and methane avoidance or collection. This is not to diminish this as an issue.

2.3 This chapter outlines: the waste management and recycling sector in Australia; and considers waste generation and the fate of waste; deficiencies in waste data; and the regulation of waste.

Waste hierarchy

2.4 The key framework underpinning waste management policy and practice in Australia is the waste management hierarchy, which ranks the ways of dealing with waste in order of preferences.²

2.5 The waste management hierarchy ranks strategies in order of preference from avoiding the creation of waste as the most desired outcome, and disposal as the least desired outcome.³

1 *National Waste Report 2013 – Frequently asked questions*, <http://www.environment.gov.au/protection/national-waste-policy/national-waste-reports/national-waste-report-2013/faqs>.

2 Waste Management Association of Australia, *Submission 52*, p. 2.

3 Waste Management Association of Australia, *Submission 52*, p. 2.

Figure 2.1—Waste hierarchy

Source: Waste Management Association of Australia, *Submission 52*, p. 2.

2.6 Waste avoidance includes actions to reduce the amount of waste generated by households, industry and government. This strategy is intended to maximise efficiency and avoid unnecessary use of virgin materials through changes in consumer behaviour.⁴

2.7 Where avoiding or reducing waste is not possible, the re-use of products is preferred. This avoids the costs of energy and other resources required for recycling. It includes initiatives such as items being re-sold or donated to charities.⁵

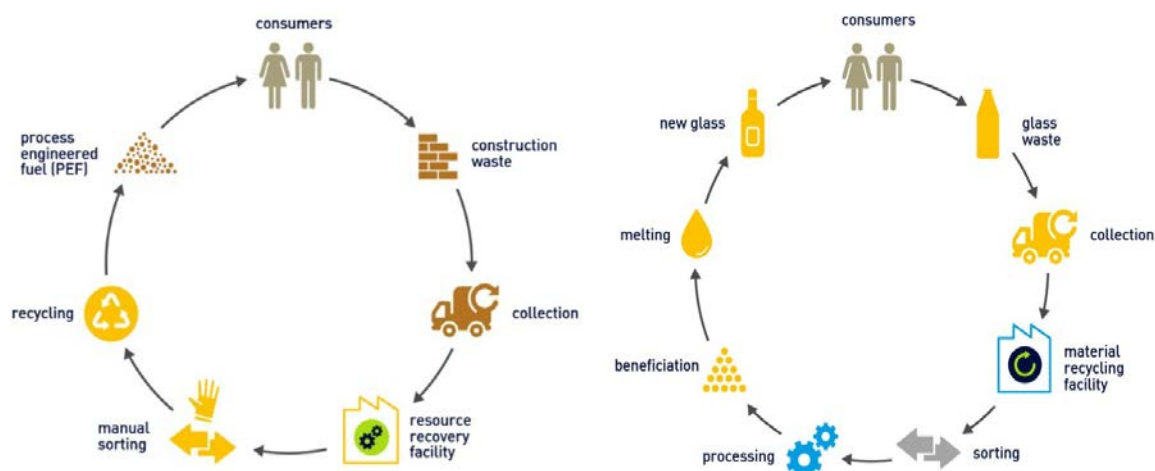
2.8 Recycling of materials to make the same or different products keeps materials in the productive economy and provides beneficial environmental outcomes through reducing the need for virgin materials and waste disposal such as landfill. Recycling includes re-processing where items are processed and used to produce new items of the same material (e.g. glass bottles being used to create new bottles) and processes where items are used to create new products (e.g. glass bottles being crushed and used as road-base). Not all recyclable materials are able to be reprocessed (e.g. construction and demolition material).⁶ Where recycling or reprocessing is not feasible, it is sometimes possible to recover the energy from the material and utilise that energy in other initiatives.

4 New South Wales Environment Protection Authority, *The Waste Hierarchy*, <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/the-waste-hierarchy>.

5 New South Wales Environment Protection Authority, *The Waste Hierarchy*, <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/the-waste-hierarchy>.

6 It should be noted that though all reprocessing is classified as recycling, not all recycling is reprocessing, however the terms are sometimes used interchangeably in the evidence received by the committee.

Figure 2.2—Construction waste recycling and glass reprocessing



Source: Suez Australia and New Zealand⁷

2.9 Material which is unable to be re-used, recycled, reprocessed or recovered for energy should instead be treated to minimise environmental and health and safety impacts. The waste hierarchy also recognises that some types of waste such as hazardous chemicals or asbestos cannot be safely recycled or re-used and instead, direct treatment or disposal is the most appropriate management option.⁸

The waste management and recycling sector

2.10 The four key areas of activity in the industry are:

- waste collection and transfer;
- sorting of waste;
- recycling (turning into new product) and reuse; and
- the final disposal of waste that cannot be recycled or reused into landfill.

2.11 The industry is comprised of private firms and government enterprises. Local government, for example, typically manages waste collection and transfer, and may provide landfill facilities. However, in many locations, local government has outsourced these activities to the private sector.

2.12 Recycling is dominated by the private sector. Some of the major companies undertaking recycling in Australia include Visy, ResourceCo, Cleanaway, and Suez.

7 <http://www.sita.com.au/commercial-solutions/resource-recovery-recycling/glass-recycling/> and <http://www.sita.com.au/commercial-solutions/resource-recovery-recycling/construction-demolition/>.

8 New South Wales Environment Protection Authority, *The Waste Hierarchy*, <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/the-waste-hierarchy>.

The materials recycled and reused are extensive and range from organics, paper and glass to metals, electrical waste and building materials.

2.13 The Waste Management Association of Australia submitted that the waste and resource recovery industry employs 50,000 (full time equivalent) people and contributes over \$50 billion per annum to the Australian economy.⁹ The size of the sector varies across the jurisdictions. The South Australian Government noted that the waste industry in South Australia has an annual turnover of about \$1 billion, contributing around \$500 million to Gross State Product and employs approximately 5,000 people.¹⁰

2.14 The Australian Council of Recycling stated that the recycling industry directly employs over 20,000 people and indirectly almost 35,000 people.¹¹ Employment rates vary with the type of materials being recycled; organics recycling and composting businesses directly employ over 3,500 people¹², while tyre recycling businesses employ around 250 people.¹³

2.15 The information provided above gives a very broad outline of the waste management and recycling industry in Australia. However, some submitters commented that it is not a cohesive single industry 'but rather a range of industries with multiple sectors'. This characteristic was seen as being important in policy development. Equilibrium, for example, commented that 'previous national reviews have at times simplified the opportunities for policy intervention and reform, or non-intervention'. Equilibrium explained:

...[it] should be noted, the waste industry is a market primarily interested in the collection and transport of waste. Those companies in this market that own and operate disposal facilities remain focused in the main on landfill and not resource recovery.

Within the waste industry there are sectors that focus on the collection and transport of waste from particular sources (household, commercial and industrial and construction and demolition), particular waste streams (putrescible, solid inert, liquid waste) and through particular methods (collection trucks and receptacles of different types).

The recycling industry is primarily interested in the capturing materials that have a further economic value or for which a fee can be charged in order to process the material and avoid landfill. Players in the recycling industry are not commonly collectors and transporters, they are mainly receivers of the material that specialise in handling and processing.

9 Waste Management Association of Australia, *Submission 52*, p. 1.

10 South Australian Government, *Submission 36*, p. 4.

11 <http://www.acor.org.au/about-acor.html>.

12 Australian Organics Recycling Association, *Submission 46, Attachment 1*, p. 6.

13 Australian Tyre Recyclers Association *Submission 23*, p. 2.

Like the waste industry, in the recycling industry there are sectors that focus on the collection and transport of waste from particular sources (household, commercial and industrial and construction and demolition) and particular waste streams (for example paper, plastics, organics, e-waste, mattresses, tyres and paint and chemicals).¹⁴

2.16 Equilibrium concluded that the 'distinctions are important because the different industries have fundamentally different drivers and require different policy responses'. Without accounting for these different operations and objectives, policy may lead to negative or unintended consequences for waste management and recycling industries.¹⁵

Quantity of waste generated and the fate of waste in Australia

2.17 Waste generation is closely linked to population size, household income and economic activity. It is therefore unsurprising that waste generated in Australia has increased significantly over the last decade: in 2006–07, 57 million tonnes of waste was generated; in 2014–15 this had increased to 64 million tonnes.¹⁶

2.18 The following discussion provides an overview of waste generation and the fate of waste for 2014–15 and is drawn from the Australian National Waste Report 2016.¹⁷ Discussion on the development of the National Waste Report and the adequacy of data on waste generation and recycling is provided at paras 2.36 to 2.61 below.

Waste generation

2.19 In 2014–15, about 64 million tonnes of waste (including fly ash¹⁸ and hazardous waste) were generated, which is equivalent to 2.7 tonnes of waste per capita. If fly ash is excluded, 53 million tonnes of waste were generated, which is the equivalent of 2.25 tonnes of waste per capita. The amount of waste generated falls to 46 million tonnes with the exclusion of hazardous waste.¹⁹

14 Equilibrium, *Submission 35*, pp. 1–2.

15 Equilibrium, *Submission 35*, p. 2.

16 *Australian National Waste Report 2016*, p. vii.

17 *Australian National Waste Report 2016*, June 2017, <http://www.environment.gov.au/system/files/resources/d075c9bc-45b3-4ac0-a8f2-6494c7d1fa0d/files/national-waste-report-2016.pdf>. The report covers waste generated in Australia, including solid non-hazardous materials and all hazardous wastes including liquids. The report excludes waste from primary production activities, waste that is reused, pre-consumer waste that is recycled as part of a production process, and clean fill/soil (whether or not it is sent to landfill).

18 Ash produced by burning coal or other materials that is driven out of the boiler with the flue gases and captured by pollution control equipment.

19 *Australian National Waste Report 2016*, p. vi.

Trends in waste generation between 2006–07 and 2014–15

2.20 Over the period 2006–07 to 2014–15, waste generation (including fly ash) increased by 11 per cent (from 57 megatonnes to 64 megatonnes). This is an average increase of 1.2 per cent per year. However, given the growth in population during this period, waste generation per capita declined by 3 per cent.²⁰

2.21 The trend in waste generation changes if fly ash is excluded: waste generation increased by 23 per cent over nine years (from about 43 megatonnes to 53 megatonnes). This is an average of 2.3 per cent per year. With population growth, this represents a waste generation per capita increase of 7 per cent over the period, or an average of 0.8 per cent per year.²¹

2.22 The National Waste Report 2016 also provides data on waste generation by state and territory. As would be expected, overall waste quantities correlate with population and gross state product: New South Wales, Victoria and Queensland produce the most waste. Per capita, when fly ash is included, Queensland generated the most waste per capita (3.3 tonnes). When fly ash is excluded, Western Australia and South Australia were the highest generators in 2014–15, producing over 2.5 tonnes per capita and Tasmania the lowest with 1.8 tonnes.²²

Generation by waste stream

2.23 The National Waste Report 2016 provides data on three main waste streams: municipal solid waste, other commercial and industrial waste, and construction and demolition waste. Fly ash is generally counted as commercial and industrial waste. Table 2.1 provides data on waste generation by stream.

Table 2.1: Waste generation by stream, 2014–15

| Waste stream | Megatonnes generated | Kg per capita |
|---|-----------------------------|----------------------|
| Municipal solid waste | 13.3 | 565 |
| Other commercial and industrial (excluding fly ash) | 20 | 849 |
| Fly ash | 11 | 459 |
| Construction and demolition waste | 20 | 831 |

Source: Australian National Waste Report 2016, p. 15.

20 *Australian National Waste Report 2016, p. 11.*

21 *Australian National Waste Report 2016, p. 11.*

22 *Australian National Waste Report 2016, pp. 11–12.*

2.24 Analysis of the trends in waste generation indicates that less municipal solid waste per capita is being generated, while more commercial and industrial waste and construction and demolition waste are being generated. The National Waste Report 2016 commented that the decline in municipal solid waste is linked to the decline in printed paper and glass packaging, and the expansion of recycling systems.²³

Generation by material type

2.25 The report also provides an analysis of waste materials. This indicates that the three major waste materials in Australia are masonry²⁴ (17 megatonnes), organics²⁵ (13 megatonnes), and fly ash (11 megatonnes). Other waste materials generated include hazardous waste (7 megatonnes), paper and cardboard (5.3 megatonnes), metal (5.2 megatonnes), plastic (2.5 megatonnes), and glass (1.1 megatonnes).²⁶

2.26 The report went on to note that the composition of waste is changing. Some significant waste streams—paper, cardboard, glass and fly ash—are diminishing. Metals, organics and plastics also appear to be declining, at least on a per capita basis. Masonry materials from demolitions are increasing.²⁷

The fate of waste in Australia

2.27 The National Waste Report 2016 provides data on the fate of waste: disposal²⁸; and through energy recovery and recycling.

2.28 Overall, 37.3 megatonnes (58 per cent) of waste generated in Australia in 2014–15 were recycled or recovered for embodied energy. Excluding fly ash and hazardous waste, 28.3 megatonnes (61 per cent) were recycled or recovered for embodied energy. A total of 27 megatonnes (21 megatonnes excluding fly ash) of waste were disposed of. Disposal was principally through landfill—22 megatonnes (excluding fly ash). The report noted that some of this waste is recorded as 'energy recovery' because some landfill gas is used for energy generation.²⁹

2.29 Analysis by jurisdiction indicated that South Australia has the highest resource recovery rate (almost 80 per cent) followed by the Australian Capital Territory (75 per cent), then Victoria (69 per cent) and New South Wales (65 per cent). Western Australia, Tasmania and Queensland (excluding fly ash) recovered

23 *Australian National Waste Report 2016*, pp. 17–18.

24 Masonry materials include concrete, bricks and rubble.

25 Organic waste is generally taken to comprise food, garden organics and timber.

26 *Australian National Waste Report 2016*, p. 19.

27 *Australian National Waste Report 2016*, p. 25.

28 Disposal is the deposit of solid waste in a landfill or incinerator, net of recovery of energy.

29 *Australian National Waste Report 2016*, p. 9.

about 50 per cent. The Northern Territory had the lowest recovery rate at an estimated 28 per cent.³⁰

Trends in the fate of waste

2.30 During the period 2006–07 to 2014–15, the quantity of material recycled in Australia increased significantly:

- from 27 megatonnes to 35 megatonnes (an increase of 30 per cent) or 1.4 per cent capita per year; and
- excluding fly ash, from 23 megatonnes to 30 megatonnes (an increase of 32 per cent) or 1.6 per cent per capita per year.³¹

2.31 Energy recovery also increased markedly from about 1.4 megatonnes to 2.3 megatonnes, or an average of 6 per cent per year. Energy recovery per capita increased by an average of 4.4 per cent per year. However, the 2016 report commented that there appears to have been a significant decline in gas recovery in the last year of the period.³²

2.32 During the period 2006–07 to 2014–15, disposal fell slightly from 29 to 27 megatonnes (8 per cent). Excluding fly ash, disposal increased by 9 per cent from 19 to 21 megatonnes, which represents an average decline per capita of about 0.6 per cent per year.³³

30 *Australian National Waste Report 2016*, p. 11.

31 *Australian National Waste Report 2016*, p. 11.

32 *Australian National Waste Report 2016*, p. 11.

33 *Australian National Waste Report 2016*, p. 13.

Fate of waste by waste stream

2.33 The 2016 report provides an analysis of the fate of waste by waste stream which is outlined in Table 2.2 below.

Table 2.2: Fate of waste by stream, 2014–15

| Waste stream | Total generated | Recycling | | Energy recovery | | % recovered | Disposal | |
|---|-----------------|-------------|---------------|-----------------|---------------|-------------|-------------|---------------|
| | Mega tonnes | Mega tonnes | Kg per capita | Mega tonnes | Kg per capita | | Mega tonnes | Kg per capita |
| Municipal solid waste | 13.3 | 5.6 | 237 | 1.3 | 53 | 51% | 6.5 | 275 |
| Other commercial and industrial (excluding fly ash) | 20 | 12 | 505 | 0.9 | 38 | 64% | 7.2 | 306 |
| Fly ash | 11 | 5 | 208 | 0 | 0 | | 6.8 | 252 |
| Construction and demolition waste | 20 | 12 | 522 | 0.2 | 7 | 64% | 7.1 | 302 |

Source: Australian National Waste Report 2016, p. 15.

2.34 The report provided trends in the fate of waste by waste stream from 2006–07 to 2014–15:

- Municipal solid waste: Recycling and recovery increased and disposal fell for the period.
- Other commercial and industrial (excluding fly ash): While there was an increase in quantity, most of this increase was recycled.
- Construction and demolition waste: While there was an increase in quantity, most of this increase was recycled.³⁴

2.35 Analysis of the recycling of waste materials by type indicates that there is significant recycling (70 per cent) of masonry which is the largest category of waste material generated.³⁵ Plastic generation was reported to have dropped by 14 per cent over the period 2006–07 to 2014–15. However, only about 14 per cent was recovered in 2014–15.³⁶

34 *Australian National Waste Report 2016*, pp. 17–18.

35 *Australian National Waste Report 2016*, p. 19.

36 *Australian National Waste Report 2016*, p. 23.

Adequacy of data on waste management and recycling

2.36 State and territory governments are responsible for collecting data on the generation of solid waste and the fate of waste within their jurisdiction. The need for adequate data on waste management and recycling was seen as being fundamental to the development and implementation of effective waste policy. The Local Government Association of Tasmania commented:

It is vital that the nation is aware of all waste generated and its final destination (be that landfill or diversion processes). Accurate data allows for targeted programs to be developed, improved public education programs and planning of services, resources and infrastructure. It also enables worthwhile targets to be set that are based on reliable information sources.³⁷

2.37 However, gaining an accurate national picture of waste and recycling has proved problematic.

National Waste Reports

2.38 In its September 2008 report on the management of Australia's waste streams, the then Standing Committee on Environment, Communications and the Arts commented that 'understanding and quantifying the impact of waste streams and their economic, environmental costs is central to effective national waste policy development'. However, the standing committee found that there was 'a lack of national data on many waste issues that would otherwise underpin the sustainable management of Australia's waste streams'.³⁸

2.39 In November 2008, Australia's environment ministers, through the Environment Protection and Heritage Council (EPHC), released the *National Waste Policy: Less waste, more resources*. The policy was agreed to by all Australian environment ministers in November 2009 and was endorsed by the Council of Australian Governments (COAG).

2.40 The policy sets direction in six key areas including 'Providing the evidence—Access by decision makers to meaningful, accurate and current national waste and resource recovery data and information to measure progress and educate and inform the behaviour and the choices of the community'. The policy contains sixteen strategies with the final strategy being to publish a three yearly waste and resource recovery report, underpinned by a system that provides access to integrated national core data on waste and resource recovery.

2.41 The first national waste report was published in 2010 using data for 2006–07. As 'waste and recycling data are generated in variable ways by a range of agencies',

37 Local Government Association of Tasmania, *Submission 19*, p. 2

38 Senate Standing Committee on Environment, Communications and the Arts, *Management of Australia's waste streams (including consideration of the Drink Container Recycling Bill 2008)*, September 2008, pp 64–65.

the report commented that there were 'wide disparities in the detail, geographic coverage, scale, time frames and scope of the data'. Limitations to the data were identified and readers were advised 'to exercise a degree of caution when using the information in the report'. While noting that the data collection did not provide comprehensive national data on waste and recycling, the report was viewed as 'a first step toward establishing baseline data and developing a strong and comprehensive knowledge base on waste management and resource recovery in Australia'.³⁹

2.42 Following evaluation of the 2010 report, a methodology was agreed to assist in comparing data across different state and territory data sets, noting that differences in definitions, classifications and approaches to waste data exist between states. This methodology was used in the compilation of the National Waste Report 2013 which used 2010–11 data.⁴⁰

2.43 The most recent report—Australian National Waste Report 2016—was published in June 2017.⁴¹ The 2016 report covers two data years (2013–14 and 2014–15). The report notes that some of the data from the states and territories was supplemented, and sometimes replaced, by national industry data or other nation estimates.⁴² In addition, it was stated that:

Because waste data is often difficult and expensive to collect, the requirements, scope and mechanisms for collecting and reporting waste data vary across jurisdictions, industries and fates. The level of uncertainty in some of the presented data is likely to be high. For example...the composition of waste to landfill is estimated on the basis of periodic audits at a few landfills. In recognition of these limitations, data is generally presented to only two or three significant figures.⁴³

2.44 Data quality differences between the states and territories were also reported. Three areas of data quality differences were identified:

- Data on waste to landfill: Jurisdictions with controlled fees or landfill levies tend to have more comprehensive data on waste to landfill. Queensland also provides good data while that from Western Australia is restricted to the Perth area.

39 Environment Protection and Heritage Council, *National Waste Report 2010*, March 2010, p. 2, <http://www.environment.gov.au/system/files/resources/af649966-5c11-4993-8390-ab300b081f65/files/national-waste-report-2010.pdf>.

40 *National Waste Report 2013*, p. 1 <http://www.environment.gov.au/protection/national-waste-policy/national-waste-reports/national-waste-report-2013> See also Blue Environment, 'Improving national waste data and reporting', 30 March 2018, p. 2, <http://www.environment.gov.au/system/files/resources/de91c360-1995-475c-bc9f-f0c4c85b7692/files/improving-national-waste-data-and-reporting.pdf>.

41 *National Waste Report 2016*, <http://www.environment.gov.au/system/files/resources/d075c9bc-45b3-4ac0-a8f2-6494c7d1fa0d/files/national-waste-report-2016.pdf>.

42 *Australian National Waste Report 2016*, p. 1.

43 *Australian National Waste Report 2016*, p. 3.

- Data on recycling: Data from the ACT, New South Wales, Queensland, South Australia, Victoria and Western Australia is collected through surveys of the recycling sector and produced thorough data. However, New South Wales was unable to provide accurate recycling data for 2014–15 due to quality difficulties with the survey.
- Hazardous waste: Comprehensive data is provided by New South Wales, Queensland, South Australia, Victoria and Western Australia through their hazardous waste tracking systems. However, the Queensland data was found to have significant quality problems.⁴⁴

2.45 Notwithstanding the differences in data quality between jurisdictions, the 2016 report stated that that data presented in the report is the most accurate to date.⁴⁵

2.46 The consultants undertaking the management of waste data and reporting for the Department of the Environment and Energy—Blue Environment—were also commissioned to research and propose improvements to the National Waste Report. Blue Environment published a report in March 2018 documenting the agreed improvements to national waste reporting.⁴⁶ The 65 agreed improvements included:

- inclusion of data on local government waste management, product waste, tip shops, litter and dumping, container deposit schemes, mining waste, stockpiles, approved long-term storages, waste infrastructure and international waste flows;
- increasing the depth of the detail and discussion, particularly of the key data areas of waste generation, recycling, energy recovery and disposal; and
- restructuring the national waste report to focus on these key data areas and remove the distinct sections on each state and territory (whilst maintaining and reporting state and territory data).⁴⁷

Australian Bureau of Statistics

2.47 A number of publications on waste management were produced by the Australian Bureau of Statistics (ABS). For example, *Waste management services Australia 2009–10* provided estimates of the financial performance of waste management services businesses and organisations. It also provided information on waste facilities operated, waste activities undertaken, quantities of waste received and processed and factors hampering resource recovery.

44 *Australian National Waste Report 2016*, p. 3.

45 *Australian National Waste Report 2016*, p. 3.

46 Blue Environment, 'Improving national waste data and reporting', 30 March 2018, <http://www.environment.gov.au/system/files/resources/de91c360-1995-475c-bc9f-f0c4c85b7692/files/improving-national-waste-data-and-reporting.pdf>.

47 Blue Environment, 'Improving national waste data and reporting', p. iv.

2.48 The Western Australian Government commented that this series provided a valuable assessment and there would be value in the ABS producing such reports on a more regular basis.⁴⁸

2.49 In 2014, the ABS produced the Waste Account, Australia 2010–11.⁴⁹ The Waste Account presented 'integrated monetary and physical waste information using an internationally recognised conceptual framework to assist in informing waste policy and discussion in Australia'. ABS commented that due to budget constraints, ABS ceased its Waste Account.⁵⁰

2.50 ABS noted the benefits of the Waste Account, commenting that it 'informs on changes to waste management and resource recovery flows over time and in response to government initiatives and to regulatory, pricing and taxation changes. Importantly, it identifies these changes in relation to various community members (e.g. households, industries) impacted by these changes'. In addition, the Waste Account reports on the economic performance of the waste industry itself, for example, changes to revenue streams and cost profiles. This was seen as being especially useful in response to changing regulatory and business practices.⁵¹

Need for improved waste and recycling data

2.51 It was acknowledged that data collection has improved over time and that work is continuing to improve the data sets.⁵² However, submitters noted that problems still remain with the data being collected. MRA Consulting Group, for example, commented that 'data is notoriously poor around waste generation and diversion'.⁵³ Further, that the latest National Waste Report uses 2012–13 or 2014–15 data depending on the jurisdiction.⁵⁴

2.52 Mr Andrew Doig, Chief Executive Officer, Australian Sustainable Business Group (ASBG), told the committee that 'getting the right data collection is something that Australia lags behind in. For example, the United States has been doing that since the 1970s'.⁵⁵ Local government associations provided examples of continued difficulties with data. The Local Government Association of Tasmania submitted that waste data is currently not collected in a standardised manner across different waste

48 Western Australian Government, *Submission 5*, p. 9.

49 <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4602.0.55.006Main+Features22010-11>.

50 Australian Bureau of Statistics, *Submission 45*, p. 1.

51 Australian Bureau of Statistics, *Submission 45*, p. 2.

52 See for example, Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 13.

53 MRA Consulting Group, *Submission 25*, p. 1.

54 Mr Michael Ritchie, MRA Consulting Group, *Committee Hansard*, 14 March 2018, p. 64.

55 Mr Andrew Doig, ASBG, *Committee Hansard*, 14 March 2018, p. 63.

facilities.⁵⁶ Similarly, the Western Australian Local Government Association submitted that the collection of data on landfill, resource recovery and recycling in Western Australia is via four data sources which are not reconciled with each other 'causing confusion on what the recovery rates actually are'.⁵⁷

2.53 The ASBG commented that available data from the jurisdictions is poorly aligned due to significant differences in the definitions of waste, recycling types and other variations. It was also stated that data quality is questionable as some jurisdictions 'tend to measure recycling rates and diversions in *ad hoc* frequencies and manners of execution'.⁵⁸

2.54 The importance of establishing consistent definitions was raised with the committee. Mr Spedding, Chief Executive Officer, National Waste and Recycling Industry Council (NWRIC) stated:

If we could get our definitions right, we could come up with a national program and we would then have the ability to look at not so much waste on a localised or state basis but on a national agenda.⁵⁹

2.55 The importance of data to the industry was outlined by Mr Spedding, NWRIC, who commented that industry required accurate data for planning and forecasting when considering investment in facilities. Mr Spedding stated:

You need the data to be able to demonstrate that the volumes are there, because when you go to the bank and you put your financials on the table, what basis and security have you got that these volumes will continue. Having a very haphazard system doesn't assist the industry at all... Good data is a fundamental for good planning, and we don't have it.⁶⁰

2.56 Both MRA Consulting and Equilibrium also maintained that accurate data was important to inform investment decisions. MRA Consulting stated that companies are being asked to make investment decisions, some involving millions of dollars, on data that is five years old.⁶¹ Equilibrium noted that in the past, investment has been undertaken on the basis of poor data and this has resulted in the failure of some of those investments.⁶²

56 Local Government Association of Tasmania, *Submission 19*, p. 2.

57 Western Australian Local Government Association, *Submission 58*, p.2.

58 Australian Sustainable Business Group, *Submission 41*, p. 4. See also, Equilibrium, *Submission 35*, p. 2.

59 Mr Max Spedding, National Waste and Recycling Industry Council, *Committee Hansard*, 20 November 2017, p. 6.

60 Mr Max Spedding, National Waste and Recycling Industry Council, *Committee Hansard*, 20 November 2017, p. 6. See also Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 13.

61 Mr Michael Ritchie, MRA Consulting Group, *Committee Hansard*, 14 March 2018, p. 64.

62 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 14.

2.57 Re.Group also commented on delays in the publication of data and stated that it is 'a considerable frustration' that there are significant delays in the publication of data, and that 'industry would appreciate additional efforts to ensure more timely access to this information'.⁶³

2.58 Submitters noted that Strategy 16 provides that the three yearly report be underpinned by a system that provides access to integrated national core data on waste and resource recovery. The Australian Sustainable Business Group commented:

The main point is that even collecting the information on waste generation and landfill diversion is not properly comparable across each jurisdiction. This is despite data management being a key policy position under the National Waste Policy. Consequently, the Commonwealth should continue on with the National Waste Policy's drive to further assist and influence jurisdictions to adopt nationally consistent waste data and quality control to ensure comparability with quality data. Aspirational national recycling diversion rates will first require standardised measurements before they can be considered and ultimately agreed to.⁶⁴

2.59 The Local Government Association of Tasmania similarly commented that the National Waste Policy needs to continue to address Strategy 16 as a priority.⁶⁵

2.60 The committee also received suggestions as to how the collection of waste data could be improved. For example, some submitters called for the reinstatement of the ABS Waste Account.⁶⁶

2.61 Mr Ritchie, MRA Consulting, stated that the collection of waste data should be undertaken by an independent body—the ABS—rather the Department of the Environment and Energy. Mr Ritchie explained:

...it's bigger than the department of the environment. This is an industry issue. We need to raise waste out of being—firstly, it needs to be recognised as something of a quasi-essential service, but, secondly, it should be sitting in industry policy. The appropriate place for the data to sit is ABS...It shouldn't be a four- or five-year protocol development. And it shouldn't be, in my view, put to a consultant to try and jerry-build a dataset out of voluntary surveys that states or councils provide. It's got to be a mandated system, because we're talking about big infrastructure. We are talking about essential services.⁶⁷

63 Re.Group, *Submission 32*, p. 2.

64 Australian Sustainable Business Group, *Submission 41*, p. 4.

65 Local Government Association of Tasmania, *Submission 19*, pp. 2–3.

66 National Waste and Recycling Industry Council (NWRIC), *Submission 10*, p. 1.

67 Mr Michael Ritchie, MRA Consulting Group, *Committee Hansard*, 14 March 2018, p. 66.

Export of recyclable material

2.62 Australia exports recyclable material to over 100 countries⁶⁸ including Vietnam, India, Malaysia, Indonesia, China and Bangladesh. In total in 2016–17, Australia exported 4.23 mega tonnes of recycled materials.⁶⁹

2.63 The three main types of recycled material exported were metals, paper and cardboard, and plastics. Table 2.3 provides an overview of the export of these three categories of recycled materials for 2016–17.

Table 2.3: Export of metals, paper and cardboard and plastics, 2016–17 (tonnes)

| Metals | | | | | | |
|-------------------------------|---------------------------|------------------------------|-------------------------------|---------------------------|--------------------------------|-----------------------|
| Vietnam (share of total) | India (share of total) | Malaysia (share of total) | Indonesia (share of total) | China (share of total) | Bangladesh (share of total) | Total for all exports |
| 373,279 (17%) | 277,220 (13%) | 206,224 (10%) | 199,278 (9%) | 196,312 (9%) | 113,056 (7%) | 2,151,487 |
| Paper and cardboard | | | | | | |
| China (share of total) | Indonesia | Thailand | India | Malaysia | Hong Kong | Total of all exports |
| 895,337 (61.6%) | 253,536 (17.5%) | 133,941 (9.2%) | 58,956 (4.1%) | 38,947 (2.7%) | 25,133 (1.7%) | 1,452,694 |
| Plastics | | | | | | |
| Hong Kong (share of total) | China | Malaysia | Indonesia | Vietnam | Thailand | Total of all exports |
| 81,496 (45%) | 43,207 (24%) | 14,727 (8%) | 12,348 (7%) | 11,874 (7%) | 11,911 (7%) | 182,230 |

Source: ABS, *International Trade*; *Parliamentary Library*.

Restrictions of the export of waste to China

2.64 From January 2018, China implemented restrictions of imports of 24 types of solid waste, including various plastics and unsorted mixed papers, and the setting of more stringent standards for contamination levels.

68 Senator the Hon Simon Birmingham, Minister for Education and Training, *Senate Hansard*, 21 March 2018, p.1786.

69 Blue Environment, 'Data on exports of recyclables from Australia to China', 19 March 2018 <https://blueenvironment.com.au/wp-content/uploads/2018/03/Data-on-exports-of-recyclables-from-Australia-to-China.pdf> (accessed 8 May 2018).

2.65 Blue Environment has provided preliminary data on Australian exports of wastes affected by National Sword. As noted above, 1.27 megatonnes of waste were exported to China in 2016–17. National Sword restrictions affected 1.25 megatonnes (99 per cent) of the Australia's recyclables exported to China.

2.66 The three major categories of affected recyclables were:

- metals – 203 thousands of tonnes;
- paper and cardboard – 920 thousands of tonnes; and
- plastics – 125 thousands of tonnes.⁷⁰

2.67 The impact of the restrictions are discussed in greater detail in Chapter 5.

Regulation of waste and recycling in Australia

2.68 All levels of government are involved in managing waste and recycling to protect the environment, secure public health and safety outcomes, and to avoid the loss of public amenity. In summary, responsibilities can be categorised as follows:

- Local governments are most directly involved in the management of waste and recycling through arrangements for its collection, processing and disposal.⁷¹
- State and territory governments have primary responsibility for regulating domestic waste management. Matters that the states and territories regulate include conditions for operating a landfill facility and the imposition of landfill levies.
- The Australian Government has a role in providing national leadership and coordination, and ensuring that Australia's international obligations regarding waste are met.

2.69 This section provides a brief overview of the roles and responsibilities of each level of government.

Local governments

2.70 As the Australian Local Government Association explained, local governments have 'a long history and expertise in municipal waste management'. The services provided by local governments vary between different councils and

70 Blue Environment, 'Data on exports of recyclables from Australia to China', 19 March 2018 <https://blueenvironment.com.au/wp-content/uploads/2018/03/Data-on-exports-of-recyclables-from-Australia-to-China.pdf> (accessed 8 May 2018).

71 There are areas of Australia without local governments. Most notably, the Australian Capital Territory does not have local governments—the ACT Government is responsible for governing the Territory as well as the matters that local governments would address in other jurisdictions. Certain remote areas of Australia also do not have local governments.

depend on the regulatory framework of their state or territory. In general, however, local governments can:

- provide a range of services directly, including waste collection, waste disposal, kerbside recycling, management of landfills, and gas capture and co-generation of power;⁷²
- provide waste management services as part of a cooperative body with other local governments;⁷³
- contract waste management contractors to undertake waste services;
- undertake other programs to reduce the amount of waste going to landfill, such as the collection of green waste to produce compost; and
- support other initiatives, such as product stewardship, the introduction of container deposit schemes, and community education programs.⁷⁴

2.71 State governments also require local governments to provide data on waste and recycling,⁷⁵ and to address small scale, non-hazardous illegal dumping.⁷⁶

2.72 Various submissions provide insight into the day-to-day waste and recycling services that local governments provide. For example:

- The Adelaide Hills Region Waste Management Authority (AHRWMA) advised that its three member councils provide kerbside waste and recycling services, as well as a green waste service in township areas. A landfill facility with an onsite resource recovery and transfer station is owned by one of the member councils (the Rural City of Murray Bridge) and operated by the AHRWMA.⁷⁷
- The Brisbane City Council contracts its waste and recycling services to industry contractors. The Council owns one landfill, the management of which it contracts to industry, and also utilises a privately-owned landfill.⁷⁸

State and territory governments

2.73 State and territory governments regulate waste and recycling in their jurisdictions by imposing licence conditions for waste and recycling facilities and the

72 For example, Queensland local governments 'operate approximately 450 waste facilities including landfill sites, transfer stations and resource recovery and recycling facilities'. Local Government Association of Queensland, *Submission 7*, p. 3.

73 An example of this approach is the Adelaide Hills Region Waste Management Authority.

74 Australian Local Government Association, *Submission 44*, p. 2.

75 See Government of Western Australia, *Submission 5*, p. 2.

76 See South Australian Government, *Submission 36*, p. 10.

77 Adelaide Hills Region Waste Management Authority, *Submission 33*, p. 2.

78 Brisbane City Council, *Submission 4*, pp. 1–2.

transportation of waste;⁷⁹ imposing landfill levies; providing incentives for recycling;⁸⁰ and undertaking environmental protection measures, such as enforcement activity in relation to large scale illegal dumping and dumping of hazardous waste.

2.74 State legislative frameworks governing waste and recycling are complex and involve multiple pieces of legislation and policy instruments. To illustrate, the legislation and policy frameworks referred to in the Government of South Australia's submission are listed at Box 2.1.

Box 2.1: State legislation and policy frameworks relevant to the regulation of waste and recycling in South Australia

- *Environment Protection Act 1993* and associated regulations
- *Local Government Act 1999*
- *Local Nuisance and Litter Control Act 2016*
- *Green Industries SA Act 2004*
- South Australia's Waste Strategy 2015–2020
- Environment Protection (Waste to Resources) Policy 2010
- *Environment Protection (Movement of Controlled Waste) Policy 2014*
- *EPA Guidelines for Environmental Management of Landfill Facilities (Municipal Solid Waste and Commercial and Industrial General Waste) 2007*
- *30-Year Plan for Greater Adelaide 2017*
- *Waste and Resource Recovery Infrastructure Plan*

Source: South Australian Government, Submission 36, p. 31.

2.75 The submissions to this inquiry provided by state and territory governments outline the legislative and policy arrangements in their jurisdictions in detail.⁸¹

Australian Government

2.76 As noted above, state and territory governments have primary responsibility for regulating domestic waste management. As recycling is closely integrated with waste, the Australian Government also considers that the state, territory and local

79 For example, all waste and recycling facilities in South Australia must be licensed under the *Environment Protection Act 1993* (SA) 'with only some limited exceptions (e.g. the recycling or reuse of under 100 tonnes of waste)'. Across the state, around 400 waste-related or recycling facilities and over 600 waste transporters are licensed. South Australian Government, *Submission 36*, p. 7.

80 Such as the NSW Government's Waste Less Recycle More Initiative. See Office of Environment and Heritage (NSW), 'Waste Less Recycle More Initiative – Grant Programs', www.environment.nsw.gov.au/grants/WLRMI.htm (accessed 10 May 2018).

81 See Government of Western Australia, *Submission 5*; Tasmanian Government, *Submission 11*; Australian Capital Territory Government, *Submission 20*; South Australian Government, *Submission 36*;

governments are 'in the best position' to make decisions on recycling regulation and to respond to market developments.⁸²

2.77 The Australian Government's formal regulatory role largely relates to Australia's international obligations where the external affairs power provides a constitutional basis for legislation.⁸³ The Australian Government has also taken a national leadership and coordination role in certain regulatory matters.

International obligations

2.78 The Department of the Environment and Energy (the department) explained that the international agreements relating to solid waste management focus on wastes that are 'especially hazardous or of significant risk to the environment'. These agreements include:

- the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (the Basel Convention); and
- the Stockholm Convention on Persistent Organic Pollutants (the Stockholm Convention).⁸⁴

2.79 Commonwealth legislation is in place to regulate the export and import of hazardous waste; the management of industrial, agricultural and veterinary chemicals; dumping and incineration at sea of waste; ozone depleting substances; and product stewardship for used oil.⁸⁵ In addition, the department works with state and territory governments to ensure that legislation and reporting are in place so that Australia can fulfil its implementation, reporting and compliance obligations under the international agreements.⁸⁶

National leadership and coordination

2.80 Despite its limited constitutional responsibilities regarding waste and recycling, successive Australian governments have taken a role in these matters. The department indicated that the Commonwealth generally contributes when there are:

- national issues where Australian Government action is 'the most effective and efficient intervention, especially where there are risks posed by hazardous substances to human health and the environment';

82 Department of the Environment and Energy, *Submission 55*, p. 1.

83 Department of the Environment and Energy, *Submission 55*, p. 1; Environment Protection and Heritage Council, *National Waste Policy: Less waste, more resources*, November 2009, p. 2.

84 Department of the Environment and Energy, *Submission 55*, p. 2. Additional relevant international agreements are listed in the department's submission.

85 Environment Protection and Heritage Council, *National Waste Policy: Less waste, more resources*, November 2009, p. 2.

86 Department of the Environment and Energy, *Submission 55*, p. 2.

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- issues 'affecting multiple jurisdictions that would benefit from a coordinated approach or national harmonisation of policies, guidelines or standards that cannot be achieved without Australian Government support';
 - 'domestic market failures or absences of a market that require national policy or partnership programs'; and/or
 - information on a national scale is required.⁸⁷

2.81 However, it should also be noted that a number of submitters were critical of the lack of leadership provided by the Australian Government. These issues will be explored in Chapter 7.

2.82 The National Waste Policy was agreed to by Commonwealth, state and territory environment ministers in November 2009. As noted earlier, the Policy sets national policy direction up to 2020 with 16 priority strategies identified. Overall, the Policy aims 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 the land.⁸⁸

2.83 One of the outcomes of the National Waste Policy is the Commonwealth taking on an additional regulatory role as part of a national approach to product stewardship.⁸⁹ This has been achieved through the *Product Stewardship Act 2011*, which establishes a national framework for co-regulatory and mandatory product

87 Department of the Environment and Energy, *Submission 55*, p. 1.

88 Environment Protection and Heritage Council, *National Waste Policy: Less waste, more resources*, November 2009, pp. 6–7.

89 Product stewardship is a policy approach which acknowledges 'that those involved in producing, selling, using and disposing of products have a shared responsibility to ensure that those products or materials are managed in a way that reduces their impact, throughout their lifecycle, on the environment and on human health and safety'. Department of the Environment and Energy, 'Product stewardship', www.environment.gov.au/protection/national-waste-policy/product-stewardship (accessed 10 May 2018).

stewardship obligations, and for the accreditation of voluntary product stewardship arrangements.⁹⁰ The department is currently reviewing the Product Stewardship Act.⁹¹

2.84 National coordination of waste issues is also provided for by the National Environment Protection Council (NEPC). The NEPC is established under the *National Environment Protection Council Act 1994* (NEPC Act) and mirrors legislation in the states and territories. The NEPC Act provides a framework for the NEPC to make National Environmental Protection Measures (NEPMs) about the environmental impacts associated with hazardous wastes, or the re-use and recycling of used materials. These provide national standards to support a coordinated approach, with NEPMs implemented by individual jurisdictions.⁹²

2.85 Relevant NEPMs include:

- the National Environment Protection (Movement of controlled waste between States and Territories) Measure 1998—this NEPM establishes a nationally consistent system for tracking the movement of hazardous wastes; and
- the National Environment Protection (Used Packaging) Measure 2011, which seeks to encourage re-use and recycling of used packaging materials by supporting and complementing the voluntary strategies in the Australian Packaging Covenant.⁹³

2.86 Finally, the Australian Government has worked with the states and territories to develop a National Food Waste Strategy. This Strategy, which was released in November 2017, aims to achieve a 50 per cent reduction in food waste by 2030.⁹⁴

90 At present, there is one co-regulatory scheme (the National Television and Computer Recycling Scheme). Voluntary industry arrangements in relation to mobile phones and mercury-containing lamps have received accreditation. The National Tyre Product Stewardship Scheme initiated in 2014 is not accredited under the voluntary product stewardship accreditation scheme. Department of the Environment and Energy, *Submission 55*, p. 3; *Review of the Product Stewardship Act 2011, including the National Television and Computer Recycling Scheme*, Consultation Paper, March 2018, www.environment.gov.au/system/files/consultations/79a39335-ee07-4f94-ab7f-cd8323641af0/files/ps-act-review-consultation-paper.pdf (accessed 10 May 2018), p. 3.

91 Information about the review is available here: www.environment.gov.au/protection/national-waste-policy/product-stewardship/consultation-review-ps-act-incl-ntcrs.

92 Department of the Environment and Energy, *Submission 55*, p. 1.

93 Department of the Environment and Energy, *Submission 55*, p. 4; National Environment Protection Council, 'National Environment Protection (Used Packaging Materials) Measure', www.nepc.gov.au/nepms/used-packaging (accessed 10 May 2018).

94 The National Food Waste Strategy can be viewed here: www.environment.gov.au/protection/national-waste-policy/publications/national-food-waste-strategy.

Chapter 3

Landfill

3.1 As noted in Chapter 2, approximately 22 megatonnes of waste (excluding fly ash) were deposited in landfill in 2014–15. Across the three waste streams, about 49 per cent of municipal solid waste went to landfill; 36 per cent of commercial and industrial waste (excluding fly ash); and the same amount of construction and demolition waste were also disposed of in landfill. Landfill therefore remains significant to waste management in Australia.

3.2 This chapter canvasses the evidence received relating to the accreditation and management of landfills. Issues examined include:

- the need for appropriate and effective landfill standards;
- infrastructure planning, such as the identification of suitable sites for waste infrastructure and the implications of urban development for the operation of existing waste and resource recovery facilities; and
- the application of full cost accounting to waste facilities.

3.3 Evidence received regarding the extent of illegal landfilling and dumping is also examined in this chapter.

Accreditation and management of landfills

3.4 This section discusses the accreditation and management of landfills. In particular, several submitters advocated for full cost accounting to be applied to all landfills, and for the application of risk-based and universally enforced landfill standards. Submitters also argued for an increase in state and territory environment protection authority (EPA) oversight of landfills to ensure compliance with regulatory requirements.

Landfill standards

3.5 Environment agencies and EPAs in state and territory jurisdictions have established policies and regulatory requirements for the sustainable management of waste, and landfill performance.

3.6 There are significant differences between jurisdictions in the way that waste is classified and the classes of landfill that are permitted. Waste classification schemes range from two categories used in Queensland, to seven categories used in Western Australia. Similarly, landfill classification schemes vary from a single classification used in South Australia, to five categories used in Western Australia. Despite the

differences in classification, the main classes of waste and landfill types are: putrescible waste, non-putrescible waste, inert waste, and hazardous waste.¹

3.7 Several submissions provided the committee with an overview of the ways in which landfills are regulated in each state and territory. The following paragraphs outline the regulatory frameworks in Western Australia, Tasmania, South Australia and the Australian Capital Territory.

Western Australia

3.8 In Western Australia, the Department of Water and Environmental Regulation (DWER) regulates emissions and discharge from 'prescribed premises', including landfills, under Part V, Division 3 of the *Environmental Protection Act 1986* (WA).²

3.9 The Government of Western Australia submitted that DWER is currently developing legislative reforms relating to waste management, including changes to landfill regulation. The submission explained that after analysing the current legislative framework, DWER has identified opportunities to improve the waste levy framework and the environmental protection regime as it applies to waste generation, storage and disposal. The Government of Western Australia stated that 'in developing reform proposals, DWER considered the waste management approaches of other jurisdictions'.³

3.10 DWER is also developing amendments to prescribed landfill categories under Schedule 1 of the *Environmental Protection Regulations 1987* (WA). These amendments would mean that 'clean (raw, natural) fill and uncontaminated fill that meets environmental and health standards can be used for development, without the requirement for a licence or attracting a levy'.⁴

South Australia

3.11 The South Australian Government submitted that the South Australian EPA 'is responsible for regulating the receipt, treatment, storage and disposal of waste in accordance with the Objects of the *Environment Protection Act 1993*' (SA).⁵

3.12 In South Australia, all waste and recycling facilities are required to be licensed under the *Environment Protection Act 1993* (SA) (EP Act) and the potential environmental impacts of licensed facilities are managed by the SA EPA through site-

1 Wright Corporate Strategy, *Review of the application of landfill standards*, 2010, p. 15, <http://www.environment.gov.au/protection/national-waste-policy/publications/review-application-landfill-standards>, (accessed 9 April 2018).

2 Government of Western Australia, *Submission 5*, p. 2.

3 Government of Western Australia, *Submission 5*, p. 2.

4 Government of Western Australia, *Submission 5*, p. 2.

5 South Australian Government, *Submission 36*, p. 7.

specific licence conditions. The South Australian Government stated that the SA EPA uses a risk-based approach to applying licence conditions relevant to the type of facility, its location, its scale, and its intensity.⁶

3.13 When considering development applications and licence or licence renewal applications, the SA EPA must take into account:

- the Objects of the EP Act;
- the State's Waste Strategy;
- the waste management objective of the Environment Protection (Waste to Resources) Policy 2010 (SA); and
- the EPA Guidelines for Environmental Management of Landfill Facilities (Municipal Solid Waste and Commercial and Industrial General Waste) 2007 (SA EPA Landfill Guidelines).

3.14 The SA EPA Landfill Guidelines provide guidance and management requirements for landfill based on the capacity and site conditions (e.g. proximity to water) of the proposed landfill. The South Australian Government submitted that since the introduction of the Guidelines in 2007, landfill management practices around the state have been enhanced, with some waste management operators choosing to close small, older landfills and instead utilise well-managed regional facilities to satisfy environmental standards.⁷

3.15 The South Australian Government also submitted that the SA EPA is currently reviewing the SA EPA Landfill Guidelines to ensure that they continue to promote contemporary landfill management practices.⁸

Tasmania

3.16 The Tasmanian Government submitted that, under the *Environmental Management and Pollution Control Act 1994* (Tas), Tasmanian landfills receiving more than 100 tonnes of waste (excluding clean fill) per annum are classified as Level 2 activities. The Tasmanian EPA is responsible for the environmental assessment and regulation of Level 2 activities.⁹

3.17 The *Landfill Sustainability Guide 2004* is Tasmania's current environmental guideline for landfills, with conditions of operation generally reflecting the contents of the Guide. The Tasmanian Government noted that Tasmania has a variety of landfills

6 South Australian Government, *Submission 36*, p. 7.

7 South Australian Government, *Submission 36*, p. 9.

8 South Australian Government, *Submission 36*, p. 9.

9 Tasmanian Government, *Submission 11*, p. 3.

including older unlined landfills which are approaching end of life. There are also several landfills which are connected to sewers for the disposal of excess leachate.¹⁰

3.18 The Tasmanian Government noted that due to the state's highly dispersed population, a number of small scale landfills remain in operation in remote areas such as on King Island and Flinders Island. It also submitted that the state's first secure landfill site is due to open in the near future for the receipt of waste. The Tasmanian Government stated that this site is 'expected to reduce reliance on interstate disposal facilities for wastes that exceed the disposal criteria that apply to putrescible landfills'.¹¹

Australian Capital Territory

3.19 The Australian Capital Territory (ACT) Government submitted that landfills in the ACT require an Environmental Authorisation from the EPA and a Waste Facility Licence from the Waste Manager (a public servant appointed under the *Waste Management and Resource Recovery Act 2016* (ACT)).¹²

3.20 The ACT only has one putrescible landfill facility, which is operated by a private contractor engaged by the ACT Government. The ACT Government submitted that ACT's landfill cells are built and operated to best practice regulatory standards. Further, since 2016 the ACT's putrescible landfill cells have been built consistent with the Victorian Landfill Best Practice Environmental Management (BEPM).¹³

Harmonisation of minimum landfill standards

3.21 The National Waste Report noted the view of the Australian Landfill Owners Association (ALOA) that 'major landfill practices have improved significantly over the past twenty years and now are at world's best practice'. ALOA went on to state:

This is evidenced by most sites embracing composite liners, leachate extraction and disposal capability, landfill gas combustion and responsible long term rehabilitation and after use. Unfortunately, many smaller regional landfills are not at this standard and more needs to be done to close the poorer quality sites and provide local waste transfer facilities.¹⁴

3.22 The Waste Management Association of Australia (WMAA) noted that individual states and territories manage the approval and accreditation of waste and resource recovery sites through their respective planning departments and EPAs. The WMAA submitted that there are gaps in the coordination of these departments,

10 Tasmanian Government, *Submission 11*, p. 3.

11 Tasmanian Government, *Submission 11*, p. 3.

12 Australian Capital Territory Government, *Submission 20*, p. 4.

13 Australian Capital Territory Government, *Submission 20*, pp. 4-5.

14 *Australian National Waste Report 2016*, p. 29.

both within jurisdictions and across the country, which has resulted in each state having their own unique regulations and guidelines. The WMAA stated:

Although all States have common objectives, each is on its own journey and this results in inconsistent timing in implementation of regulatory programs and guidance (often a number of years out of step). These differences result in different levels of performance from state to state...¹⁵

3.23 Submitters argued that landfill standards should be best-practice, risk-based and nationally harmonised. For example, The National Waste and Recycling Industry Council (NWRIC) expressed its support for Victoria's *Best Practice Environment Management* (BEPM) for landfills established by the Victorian EPA. The NWRIC described the BEPM as 'the nation's best standard' and submitted that 'all landfill standards should be nationally harmonised'.¹⁶

3.24 MRA Consulting Group submitted that all large landfills present environmental risks, and whilst these risks can be mitigated through management, 'they still cause environmental impacts'. As such, MRA Consulting Group recommended that 'all landfills should have, as a minimum requirement: lining, capping, leachate management and gas capture', although it noted that 'smaller landfills may not generate enough gas to warrant its collection'.¹⁷

3.25 The Waste Contractors and Recyclers Association of NSW (WCRA) highlighted that there are differing landfill standards between New South Wales and Queensland. It submitted that 'acceptable landfill practices and approvals in QLD wouldn't meet regulatory requirements in NSW'.¹⁸ Mr Tony Khoury, Executive Director, WCRA, submitted that the differences in standards between New South Wales and Queensland have influenced the movement of waste from New South Wales to Queensland. Mr Khoury stated:

We drive past our own open-cut mines [in NSW], which our regulators and our legislators won't allow to be turned into landfill, to go to the South-East Queensland open-cut mines. The regulators are really out of whack with their regulations.¹⁹

15 Waste Management Association of Australia, *Submission 52*, p. 2.

16 National Waste and Recycling Industry Council, *Submission 10*, p. 1.

17 MRA Consulting Group, *Submission 25*, p. 4.

18 Waste Contractors and Recyclers Association of NSW, *Submission 28*, p. 2. The issue of waste being transported from NSW to Queensland is explored in Chapter 4.

19 Mr Tony Khoury, WCRA, *Committee Hansard*, 14 March 2018, p. 24.

3.26 Similarly, Mr Max Spedding, Chief Executive Officer, NWRIC, told the committee that the requirements for landfill and material recovery in Queensland are 'not as sophisticated and enforced' as they are in New South Wales. Mr Spedding stated:

The landfill standards in New South Wales are more rigorous than the standards as applied in Queensland. So landfill prices in Queensland are lower, and they're lower because there's old open-cut coalmines in the city and Ipswich—45 million cubic metres or 35 million cubic metres; they're very large—and, because the cost of the void is extremely low, the landfill costs in Queensland are much lower than they are in Sydney.²⁰

Full cost accounting

3.27 Full cost accounting in waste management is a systematic approach to identifying, calculating, and reporting the actual costs associated with waste management. It takes into account the up-front costs of investment and implementation of waste management services, daily operating costs, and back-end costs including end-of-life and aftercare requirements.

3.28 MRA Consulting Group submitted that because landfills generate landfill gas and leachate for decades after closure, the environmental risks associated with closed landfills remain high. It stated that engineering to protect the environment degrades over time, and development also often encroaches on former landfill sites. MRA Consulting Group submitted that:

There have been cases of insufficient money set aside during the operation of landfills to meet post-closure obligations for capping, monitoring and gas capture. Similarly, the public is often required to cover the cost of environmental impacts from closed and "orphaned" landfills.²¹

3.29 The NWRIC submitted that 'all landfills should apply full cost accounting' including 'landfill lining, gas capture, leachate treatment, a weighbridge, provision for closure and capping, asset replacement and aftercare'.²² Submitters noted that 'many local governments do not apply full cost accounting for landfills, instead push costs onto future generations'.²³

3.30 Similarly, the WMAA submitted that 'it is critical for the receiving facility to be designed and operated to best practice standards, and that appropriate attention is given to ensuring the facility does not create unfunded liabilities in the future'.²⁴

20 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 3.

21 MRA Consulting Group, *Submission 25*, p. 4.

22 National Waste and Recycling Industry Council, *Submission 10*, p. 1.

23 SUEZ, *Submission 51*, p. 1. See also National Waste and Recycling Industry Council, *Submission 10*, p. 1; MRA Consulting Group, *Submission 25*, p. 4.

24 Waste Management Association of Australia, *Submission 52*, pp. 2–3.

3.31 SUEZ recommended that all waste facilities, regardless of size and type, should be licenced and required to apply full cost accounting. Further, all regulations should be applied uniformly to both public and privately owned facilities. SUEZ stated that this would 'improve the overall standards of landfill operations and ensure an even playing field between industry participants'. SUEZ explained that in some jurisdictions, local government facilities are not required to provide financial assurance which is generally used to ensure that the costs associated with rehabilitating waste management facilities do not fall on local communities.²⁵

3.32 It was also noted that insufficient provisioning for long-term landfill management enables some landfills to unfairly compete against resource recovery infrastructure and other better-provisioned landfills.²⁶ The WMAA also raised concern that landfill operators have reported 'unnecessary regulatory scrutiny of well managed facilities while rogue operators are not challenged because of a lack of resources to satisfy evidentiary requirements'. The WMAA stated that these 'rogue operators' undermine the standards followed by 'diligent and honest operators'. As such, the WMAA argued it is important for regulators to remove rogue operators from the sector to prevent the creation of sites where rehabilitation costs are not recoverable from waste generators and polluters. The WMAA stated that such sites 'create a legacy of future continuing contamination'.²⁷

Infrastructure planning

3.33 The committee received evidence arguing that improvements to infrastructure planning are required to ensure that waste disposal processes and landfills are managed appropriately. Local Government New South Wales (LGNSW) argued that while waste services are listed as an essential service under the *Essential Services Act 1988* (NSW), the state's future waste infrastructure needs are not being adequately planned or funded. It submitted that:

Following the sale of the NSW Government-owned business known as WSN Environmental Solutions in 2010, waste infrastructure has been developed in an open market responding to financial opportunity rather than need. As a result, the state's waste infrastructure is being delivered in an ad hoc manner.²⁸

3.34 Similarly, Ms Gayle Sloan, Chief Executive Officer, WMAA, told the committee that planning documents fail to discuss issues such as the 'generation of waste, waste movement, and truck movements'. Ms Sloan highlighted that the waste and recycling industry is:

25 SUEZ, *Submission 51*, pp. 1–2.

26 MRA Consulting Group, *Submission 25*, p. 5.

27 Waste Management Association of Australia, *Submission 52*, p. 2.

28 Local Government New South Wales, *Submission 13*, p. 2.

...very determined to be front of mind in planning be that your infrastructure planning or even just how you approve your DA [Development Application] and where you put your bin rooms. We know the challenges of people not being able to manage their waste disposal.²⁹

3.35 Mr Tony Khoury, WCRA, also highlighted the need for new landfill facilities and the importance of leadership from the New South Wales Government on the issue. Mr Khoury noted that with the closure of the Eastern Creek landfill, New South Wales only has two key putrescible landfill sites at Lucas Heights and Woodlawn. Mr Khoury commented that the management of urban planning and waste facilities was 'fairly and squarely a New South Wales government issue'.³⁰ Mr Khoury stated that local councils are:

...not capable of acting in the best interests of the overall New South Wales waste management industry. They'll always say, "Not in my backyard" when it comes to a development.³¹

3.36 LGNSW also submitted that Sydney's waste infrastructure is placed under pressure with waste facilities being located further away from waste sources due to high land prices and the lack of availability of suitable sites. It highlighted that 'a significant portion of residential waste is currently being disposed of/processed in Woodlawn, approximately 300km for its source'. LGNSW concluded that:

This is becoming an increasing problem as Sydney's population density increases and property prices rise. In most cases, it is no longer viable for the waste industry to provide infrastructure where it is most needed.³²

3.37 Another issue is the need for buffer zones that prevent development in close proximity to existing infrastructure. Ms Sloan stated that the WMAA advocates 'very strongly' for such buffer zones to ensure that new residential properties are not built too close to existing waste management facilities. For example, Ms Sloan noted that development has occurred near where established facilities in Western Sydney are located—accordingly 'it is very challenging to operate a facility' in those areas because residents who move in will be concerned about issues such as smell and noise.³³ The WMAA submitted that:

Existing landfills are in fact strategic essential infrastructure, and given the challenges in gaining approval for landfill construction, it is important that

29 Ms Gayle Sloan, Waste Management Association of Australia, *Committee Hansard*, 14 March 2018, p. 21.

30 Mr Tony Khoury, WCRA, *Committee Hansard*, 14 March 2018, p. 31.

31 Mr Tony Khoury, WCRA, *Committee Hansard*, 14 March 2018, p. 31.

32 Local Government New South Wales, *Submission 13*, p. 2.

33 Ms Gayle Sloan, Waste Management Association of Australia, *Committee Hansard*, 14 March 2018, p. 21.

these facilities are protected from encroachment, as well as planning for the co-location and siting of new facilities.³⁴

3.38 Similarly, Mr Tony Khoury, WCRA, stated that 'encroachment', or residential development on the boundaries of existing facilities, has led to facilities closing. To demonstrate, Mr Khoury highlighted the closure of Onesteel's site in Chipping Norton:

Onesteel was a major metal recycler in Chipping Norton and they had a massive buffer zone around them. Liverpool council then allowed residential developments to virtually come right up to the boundary and, within a matter of months, Onesteel were forced to close down their Chipping Norton operation and relocated, at very considerable cost, to the Newcastle area.³⁵

3.39 Ms Sloan also highlighted the dangers associated with landfill and the need for buffer zones to protect residents. Ms Sloan stated:

People put the wrong products in bins. I saw a phenomenal amount of barbecue bottles and soda stream canisters, all of which are combustible, put in the back of a vehicle. You move the blade and boom. That is what happens. So we need buffer zones.³⁶

3.40 Ms Sloan told the committee that the WMAA has drafted a state environmental planning policy specifically for waste, for discussion with the New South Wales Government. Ms Sloan stated that New South Wales needs 'precincts which are clearly identified for waste facilities', which would provide 'real certainty when...planning new transport infrastructure'. Ms Sloan also noted the need for the 'further intensification of existing waste processes' and the prevention of the repurposing of closed waste facilities. Ms Sloan stated:

So it is about having waste precincts and being able to have further intensification of existing waste processes. For example, with the closure of Belrose in the northern beaches, we should be looking at repurposing that not for mountain bike climbing or other things but for existing waste facilities, because there is a knowledge, it's known, that that is what that precinct is. So we do absolutely need state government to work with us and identify the need for appropriate waste and resource recovery facilities within the metropolitan area.³⁷

3.41 Mr John Carse, Regional Waste Management Coordinator, Northern Sydney Regional Organisation of Councils (NSROC), also told the committee that the

34 Waste Management Association of Australia, *Submission 52*, p. 3.

35 Mr Tony Khoury, WCRA, *Committee Hansard*, 14 March 2018, pp. 30–31.

36 Ms Gayle Sloan, Waste Management Association of Australia, *Committee Hansard*, 14 March 2018, p. 21.

37 Ms Gayle Sloan, Waste Management Association of Australia, *Committee Hansard*, 14 March 2018, p. 21.

NSROC has been advocating for waste to be considered as a planning issue at the state level. Mr Carse stated that NSROC is of the view that the New South Wales Department of Planning and Environment, and the New South Wales EPA should be examining what waste facilities are required, particularly as industrial areas are being redeveloped into residential precincts.³⁸

3.42 Mr Carse noted that this type of redevelopment results in industry being moved 'elsewhere' but there is nowhere else for waste facilities to go. Mr Carse stated:

What appears to be happening is that a proposal will come in to say, 'Let's make it medium density. We need more population, so let's convert areas. Let's make Green Square into a nice green environment,' without allowing for the fact that industrial areas are being stopped. Industry is being moved elsewhere and there's not, really, anywhere 'elsewhere' to put it. We would certainly like to see more work by, presumably, the Department of Planning and Environment, as well as the EPA, looking at what waste facilities are needed. It may be landfills but it may also be AWTs [Alternative Waste Technologies] or processing plants. They may not be able to be effectively placed on high-quality Sydney land, but they need to serve that district. You need to create the sort of buffer zones that we have talked about earlier, as did earlier witnesses.³⁹

3.43 The City of Gold Coast submitted that the Australian, state and territory governments should provide assistance to protect waste facilities from encroachment through the introduction of planning controls.⁴⁰

Illegal landfilling and dumping

3.44 This section discusses the evidence received on the extent of illegal landfilling and illegal dumping (other than the evidence relating to the avoidance of landfill levies, which is discussed in Chapter 4).

Overview of illegal landfill and illegal dumping

3.45 In general terms, illegal dumping is the unauthorised discharge or abandonment of waste. Such actions are an offence under state and territory legislation.

3.46 The Australian Sustainable Business Group (ASBG) submitted that there are three different kinds of illegal landfilling and dumping types. These are as follows:

- Illegal dumping on publicly accessible land, such as parks and roads.

38 Mr John Carse, NSROC, *Committee Hansard*, 14 March 2018, p. 36.

39 Mr John Carse, NSROC, *Committee Hansard*, 14 March 2018, p. 36.

40 City of Gold Coast, *Submission 31*, p. 2.

- Illegal dumping on private land (both government and privately held) where access is limited—this includes industrial land, residential land and land owned and managed by government but with restricted non-public access.
- Illegal landfilling at waste facilities or sites—this includes waste being dumped which does not meet the acceptance criteria imposed by either regulation or the site owner/operator's conditions.⁴¹

3.47 The Victorian Waste Management Association (VWMA) described illegal dumping as a 'function of laziness and ignorance, economic (aversion to paying the landfill fees) and availability of open space to deposit material'. It explained that illegal dumping is an 'opportunistic activity that may involve residential households or small construction businesses'. The VWMA submitted that where illegal landfilling is 'systemic and deliberate', for example by opening an illegal tip or sorting facility, it is more likely to attract the attention of state authorities. The VWMA noted that it can be difficult to identify the perpetrators of illegal landfilling, or to prove ownership of waste. The VWMA also highlighted that 'people don't like paying for the true costs of disposal and/or not be totally across the fate of their waste when they pay for it to be taken away'.⁴²

3.48 Submissions from state and local governments provided an overview of the regulatory arrangements in place to investigate and address illegal dumping. For example, the South Australian Government advised that the SA EPA leads investigations into commercial-level and hazardous illegal dumping, including the operation of illegal waste depots,⁴³ whereas local councils have responsibility for smaller scale, non-hazardous illegal dumping under both the *Local Government Act 1999* (SA) and the *Local Nuisance and Litter Control Act 2016* (SA) (LNLC Act).⁴⁴

3.49 Where sufficient evidence is available, the SA EPA is able to manage incidents through environment protection orders, clean-up orders, expiations and prosecution. In 2016, a new legal precedent was set with a jail sentence being imposed on an offender. The SA EPA also provides councils with support to manage illegal dumping through the sharing of expertise, the provision of training and the use of SA EPA's surveillance cameras.⁴⁵

41 Australian Sustainable Business Group, *Submission 41*, p. 5.

42 Victorian Waste Management Association, *Submission 27*, p. 2.

43 South Australian Government, *Submission 36*, p. 10.

44 The LNLC Act gave local government increased powers to manage illegal dumping in their jurisdictions, provided increased penalties and expiations, as well as additional tools to identify illegal dumpers. South Australian Government, *Submission 36*, p. 11.

45 South Australian Government, *Submission 36*, pp. 10–11.

Evidence of illegal landfilling in individual jurisdictions

3.50 The committee was advised that there is uncertainty about the overall extent of illegal dumping. The ASBG explained that illegal landfilling is 'poorly measured across Australia', with figures available tending to focus on the costs accrued by local councils in conducting clean-up and enforcement activities associated with illegal dumping. It also submitted that reports on illegal dumping produced in New South Wales only considered illegal dumping on public land despite there being evidence of considerable dumping occurring on private land.⁴⁶

3.51 Nevertheless, the evidence provided regarding illegal landfilling in a variety of jurisdictions, including South Australia, Tasmania, the Northern Territory and local councils in New South Wales and Victoria, provides some insight into the extent of the problem.

3.52 GCS Consulting submitted that a 2015 research report on illegal dumping released by the NSW EPA calculated that a conservative estimate of illegal dumping expenditure by local government would be in the order of \$20–30 million per year. In addition, in 2013 \$58 million over five years was announced as part of a NSW EPA program for illegal dumping initiatives.⁴⁷

3.53 The Hunter Joint Organisation of Councils submitted that nine local councils and the NSW EPA joined together in establishing the Hunter-Central Coast Regional Illegal Dumping (RID) Squad in 2014. Since then, the RID Squad has investigated 147 reports of illegal landfilling on private land. Of these incidents, 70 per cent involved construction and demolition waste, and 20 per cent involved household waste, including skip bin waste.⁴⁸

3.54 The Hobsons Bay City Council told the committee that it collects approximately 1000 tonnes of illegally dumped rubbish per year, mostly in industrial locations. It explained that the collection of construction and demolition waste from skip bin companies is poorly controlled in Victoria. The Council explained that 'companies tend to establish a site, collect and accept the wastes abandon the site, leaving the waste behind to become the landholder's or a council issue'.⁴⁹

3.55 The South Australian Government advised that, in 2016–17:

- the SA EPA received 346 reports of illegal dumping; and

46 Australian Sustainable Business Group, *Submission 41*, p. 5.

47 GCS Consulting, *Submission 14*, p. 11.

48 Hunter Joint Organisation of Councils, *Submission 22*, pp. 5–6.

49 Hobsons Bay City Council, *Submission 18*, p. 3.

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- the SA EPA issued environment protection orders redirecting in excess of 40,000 tonnes of illegally deposited waste into the legitimate waste management industry.⁵⁰

3.56 The Northern Territory Government submitted that it is difficult to quantify the volumes of material disposed of through illegal operations, however, it noted that anecdotal evidence from clean-up campaigns indicates there are high volumes of waste illegally dumped in the Territory. The Northern Territory Government highlighted that derelict abandoned cars are a major problem, largely due to market pricing and the cost of disposal to consumers. It also submitted that Central Australian councils experienced an increase in the illegal dumping of building and demolition materials following the implementation of charges on contractors for the disposal of material and waste facilities. The Northern Territory Government advised that 'education and communication strategies with contractors and government agencies funding such house programs have seen these practices reduced'.⁵¹

3.57 The Tasmanian Government submitted that 'there is little quantitative data on the extent of illegal landfilling in Tasmania, and only a handful of isolated cases of illegal activity are reported to EPA Tasmania each year'.⁵² Nevertheless, the Government expressed concern regarding reports of the illegal burial of hazardous waste including industrial and farm chemicals, and asbestos.⁵³

Views on the need to increase efforts to address illegal dumping

3.58 Overall, submitters presented divergent views on whether illegal landfilling and illegal dumping are significant problems—some governments advised that these actions are not a major problem in their jurisdictions, while other submitters indicated that they are ongoing challenges for councils and have high associated clean up and enforcement costs.

3.59 Submissions from several state, territory and local governments advised that they consider that illegal landfilling and illegal dumping are not a significant issues in their jurisdictions. For example:

- The South Australian Government is of the view that, in its jurisdiction, 'there may be less concerning levels of inappropriate landfilling than is alleged in

50 South Australian Government, *Submission 36*, p. 10.

51 Northern Territory Government, *Submission 9*, p. 3.

52 The Local Government Association of Tasmania (LGAT) also noted that there is limited data available not only in relation to illegal landfilling, but waste in Tasmania more generally. It stated that this is due to data not being collected in a standardised manner across different waste facilities. Local Government Association of Tasmania, *Submission 19*, pp. 2–3.

53 Tasmanian Government, *Submission 11*, p. 3.

some other states', which it attributed to the requirement for the licensing of all landfills within the state.⁵⁴

- The ACT Government advised that it 'is not aware of any illegal landfilling occurring within the Territory'.⁵⁵
- The Brisbane City Council submitted that it 'is not aware of any significant illegal landfilling in the Brisbane local government area'.⁵⁶
- As noted above, the Tasmanian Government advised that few reports of illegal dumping are received by the EPA each year. Overall, with the exception of incidents of hazardous waste illegally dumped, the Tasmanian Government advised that illegal dumping is 'largely seen as an issue for local government'.⁵⁷

3.60 The Local Government Association of Queensland stated that it 'has not been advised of any significant systemic incidences of illegal landfilling' and that it would be expected that such an issue would 'be escalated to the state government for investigation and appropriate action'.⁵⁸

3.61 Other submitters, however, highlighted the challenges that illegal landfilling and dumping presents. MRA Consulting submitted that illegal landfilling is an ongoing issue 'ranging from isolated dumped loads of waste through to entire fill operations run without approval'. It also highlighted that 'illegal dumping undermines the integrity of the waste system in general'.⁵⁹

3.62 Councillor Linda Scott, President of the LGNSW, told the committee that 'councils continue to be the frontline for dumping' and that the LGNSW has been particularly vocal regarding the illegal dumping of asbestos and other dangerous materials. Councillor Scott advised that the illegal dumping of asbestos is a 'very problematic issue for councils' and results in significant clean-up costs. Councillor Scott stated:

Most local government areas are dealing with up to 100 instances of illegal dumping of asbestos per year and 11 per cent of councils are spending more than \$500,000 of public money a year on prevention, monitoring and enforcement of asbestos dumping.⁶⁰

54 South Australian Government, *Submission 36*, p. 10.

55 ACT Government, *Submission 20*, p. 5.

56 Brisbane City Council, *Submission 2*, p. 2.

57 Tasmanian Government, *Submission 11*, p. 3.

58 Local Government Association of Queensland, *Submission 7*, p. 5.

59 MRA Consulting Group, *Submission 25*, p. 5.

60 Councillor Linda Scott, Local Government New South Wales, *Committee Hansard*, 14 March 2018, p. 45.

3.63 Local governments called for state governments to take further actions to address the pressures local governments face in addressing illegal dumping. The Hunter Joint Organisation of Councils submitted that continued support for the RID Squad (see paragraph 3.53) would enable member councils to address the issue of illegal landfill for the next four years. It added that a long-term commitment from the New South Wales Government and the Australian Government would ensure operation of the RID Squad program beyond 2021.⁶¹

3.64 The Hobsons Bay City Council submitted that 'the availability of sufficient staff to address illegal landfilling is a critical barrier for Hobsons Bay'. Further, it noted that Council's power of entry is poor and the Council must apply to the Victorian Civil and Administrative Tribunal for enforcement orders. The Hobsons Bay City Council suggested that a council's power of entry provisions should be changed to match those of Victoria's EPA.⁶²

3.65 Several submitters also expressed support for funding for education, enforcement and clean-up activities to be provided to local governments through the hypothecation of waste levies.⁶³ Others made suggestions such as encouraging the use of drones by EPAs to identify 'hot spots for illegal dumping'.⁶⁴

61 Hunter Joint Organisation of Councils, *Submission 22*, pp. 5–6.

62 Hobsons Bay City Council, *Submission 18*, p. 3.

63 See Chapter 2.

64 Mr Andrew Tytherleigh, Victorian Waste Management Association, *Committee Hansard*, 20 November 2017, p. 24.

Chapter 4

Waste levies

4.1 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.

4.2 This chapter examines the evidence received relating to issues arising from the implementation of waste levy schemes. This includes issues such as how the harmonisation of levies across jurisdictions could help address the inter-jurisdictional transportation of waste, and the hypothecation of levies for waste management programs.

Overview

4.3 Waste levies are imposed in New South Wales, Victoria, South Australia, Western Australia and the ACT. In Tasmania, the waste levy is voluntary. Currently, there is no waste levy in Queensland¹ and the Northern Territory. Levies vary between states as well as within jurisdictions according to the type of material being sent to landfill. An overview of the different levies applied by the states and territories is below.²

- *Australian Capital Territory*³
 - Municipal solid waste (MSW) costs \$90.55 per tonne to dispose of at landfill.
 - Construction and industrial (C&I) costs \$146.20 per tonne to dispose of at landfill.
 - Mixed C&I waste with less than 50 per cent recyclable material costs \$199.20 per tonne to dispose of at landfill.
- *New South Wales*⁴
 - A waste levy of \$138.20 per tonne applies in metropolitan areas and \$79.60 per tonne in regional areas.

1 As discussed below, there is a proposal to introduce a waste levy in Queensland.

2 Except where otherwise indicated, this overview is based on the detailed table of state and territory landfill levies as at October 2017 contained in the WMAA's submission. See Waste Management Association, *Submission 52*, pp. 8–10.

3 These are 'landfill gate fees' rather than levies as the ACT Government owns the landfill and sets the fees. However, these fees operate in the same manner as waste levies and share the objective of diverting material to recycling.

4 <https://www.epa.nsw.gov.au/your-environment/waste/waste-levy>

- A range of levy rates are in place for particular materials, such as virgin extracted natural material, shredder floc, trackable liquid waste, and coal washery rejects.
- *Queensland*
 - A landfill levy of \$35 per tonne for construction and demolition (C&D) waste, commercial and industrial (C&I) waste, and contaminated soil was introduced in 2011 and removed in 2012. In March 2018, the Queensland Government announced that it will be reintroducing the waste levy.⁵
 - In June 2018, the Queensland Government released a Directions Paper 'Transforming Queensland's Recycling and Waste Industry' detailing the proposed waste levy. The paper details that the waste levy will apply to a designated levy zone which includes 38 of the 77 local government areas in Queensland and will be applied at rates of between \$100 and \$150 per tonne for regulated waste, and \$70 per tonne for C&I, C&D and MSW.⁶
- *South Australia*
 - A metropolitan levy of \$87 per tonne and a non-metropolitan levy of \$38 per tonne are in place. Discounted levy rates apply for materials such as asbestos and shredder floc.
- *Western Australia*
 - A waste levy of \$65 per tonne for putrescible waste and \$90 per cubic metre for inert waste applies to waste generated in the Perth metropolitan region which is disposed in either landfill in Perth or elsewhere in the state.⁷
- *Tasmania*
 - A state-wide levy is not in place, however, a voluntary levy at rates of \$0 to \$5/tonne has been adopted in some regions.

Beneficial outcomes

4.4 Submitters that expressed support for waste levies highlighted the beneficial outcomes of such schemes, including that appropriately designed schemes provide a disincentive for disposal of waste by landfill. Further, they noted that levies provide an important source of funding for investment in waste and recycling management initiatives.

5 Brisbane City Council, *Submission 4*, p. 2.

6 Clayton Utz, 'Transforming Queensland's recycling and waste industry', <https://www.lexology.com/library/detail.aspx?g=01f5b1f9-d79b-44a7-a805-3c0d4b377d25>.

7 Western Australian Government, *Submission 5*, p. 3.

4.5 Tyrecycle, which described landfill levies as a 'blunt economic instrument', stated that waste levies provide an incentive for waste collectors to find the most economic method to dispose of waste material. By way of example, Tyrecycle provided evidence on the impact of the New South Wales levy on tyre disposal in that state:

The waste management sector is profit driven, and as such waste collectors will look to find the cheapest point of disposal for waste materials. The landfill levy aims to set a price on disposal to landfill that is higher than the cost of recycling, such that recycling becomes a more attractive end-point. We see this successfully applied in NSW, where landfill costs (within the regulated zone) are in excess of \$250/tonne, which makes the landfilling of tyres uneconomical when compared to recycling alternatives.⁸

4.6 In contrast, the disposal of tyres in Queensland, the Northern Territory and Tasmania is mainly to landfill. Tyrecycle commented that in those jurisdictions, the costs associated with disposing items such as end-of-life tyres to landfill, even where there is a requirement for shredding first, are generally lower than those associated with recycling. Tyrecycle stated that 'national data shows high rates of landfill disposal in these three jurisdictions, supporting the contention that levies are an effective means of increasing landfill diversion'.⁹

4.7 Other submitters similarly commented on the use of levies to encourage the diversion of waste from landfill. For example, the Western Australian Government noted that in Western Australia, there has been a significant diversion from landfill for C&D waste and C&I waste since 2011 when levy rates were substantially increased.¹⁰ Similarly, Re.Group noted that New South Wales' relatively high recovery rate for C&D waste and household waste has been driven by the landfill levy.¹¹

4.8 The South Australian Government submitted that, in South Australia, 'the waste levy has progressively increased since its initial introduction'. Over this time, 'resource recovery has increased significantly' from around 2 million tonnes in 2003–04 to almost 4 million tonnes in 2015–16'. This represents an increase in the rate of recovery from around 60 per cent in 2003–04 to 81.5 per cent in 2015–16, which is the highest recovery rate in Australia. The South Australian Government also noted that the total volume of waste sent to landfill reduced by 29 per cent from 2003–04 to 2015–16.¹²

8 Tyrecycle, *Submission 21*, p. 4. See also, Australian Tyre Recyclers Association, *Submission 23*, p. 4.

9 Tyrecycle, *Submission 21*, p. 4.

10 Western Australian Government, *Submission 5*, p. 4.

11 Re.Group, *Submission 32*, p. 5.

12 South Australian Government, *Submission 36*, p. 12.

4.9 The Western Australian Local Government Association (WALGA) commented that there is evidence that the Western Australian Waste Avoidance and Resource Recovery (WARR) levy has been responsible for diverting inert material from landfill. In support of this, it pointed to the reduction in levy payments for inert material, as well as other reporting mechanisms. WALGA added, however, that it is not known where this material has been diverted to.¹³

4.10 The benefits of levies are not limited to the diversion of waste from landfill. Submitters commented that the funds raised by levies can 'finance waste and recycling initiatives', encourage waste avoidance and recycling, and support local economic activity.¹⁴ The Australian Tyre Recyclers Association (ATRA) explained that these outcomes create 'jobs and economic activity, tax revenue and other economic multiplier effects'. ATRA also submitted that:

Landfill levies can additionally help to force up the collection price charges to tyre retailers (levy avoidance is a primary driver for alternate used tyre disposal/recycling options). This in turn can alleviate some of the challenges of lack of capital and investment as outlined above.¹⁵

4.11 Submitters also pointed to the beneficial outcomes associated with the investment of waste levies in the recycling industry. Mr Tony Khoury, Executive Director, Waste Contractors and Recyclers Association of NSW, (WCRA), told the committee that the waste levy in New South Wales has 'done many positive things' for that state. Mr Khoury explained that:

...we've seen a lot of investment in recycling because of the waste levy. There are many facilities that now operate because of the waste levy.¹⁶

4.12 The committee also heard from submitters that argued low waste levies can have negative impacts on the rate of recycling. Outcomes in Tasmania, which as noted at paragraph 4.3 does not have a state-wide levy (although voluntary levies are in place in parts of the state) were put forward to support this conclusion. The Local Government Association of Tasmania (LGAT), which supports the introduction of a statewide landfill levy in Tasmania, submitted that 'the absence of a levy has created a market environment where resource recovery has a limited capacity to compete with landfill'. The LGAT went on to comment that:

The low landfill pricing in Tasmania is a financial barrier to recycle, invest in resource recovery and implement practices which reduce waste

13 Western Australian Local Government Association, *Submission 58*, p. 3.

14 Re.Group, *Submission 32*, p. 11.

15 Australian Tyre Recyclers Association, *Submission 23*, p. 4. See also, Re.Group, *Submission 32*, p. 11.

16 Mr Tony Khoury, WCRA, *Committee Hansard*, 14 March 2018, pp. 27–28. The benefits of investment will be explored further when examining the hypothecation of waste levies.

generation. The existing regional local government levies are not adequate to significantly encourage investment in resource recovery.¹⁷

4.13 The LGAT further highlighted that 'resource recovery operations employ more people and require greater investment in infrastructure per tonne of material compared to landfills'.¹⁸

4.14 The LGAT's position was also supported by evidence from a recycled plastics manufacturer, which submitted that 'landfill levies in Tasmania are at the very bottom of the National Waste Levy Scale' with some sites not charging for waste disposal while those that do charge 'so low that it does not cover the administration cost'. Envorinex stated that, as a result, it has been 'forced' to collect waste in Tasmania as a free service in order to obtain 'valuable waste plastic' for use in manufacturing. It submitted that 'this has impeded our ability to expand due to a very tight cash flow situation'.¹⁹

4.15 Envorinex highlighted that in Victoria four tonnes of waste black poly pipe would cost \$600 dollars to dispose of at a landfill site, but in Tasmania, disposal would only cost \$40. Envorinex concluded that 'landfill levies should be priced high enough to encourage major business to send their waste to recyclers and not to landfill sites'.²⁰

Perverse outcomes and limitations

4.16 While submitters acknowledged the benefits accruing from levies, this view was tempered by the need to ensure that levies are 'appropriately designed' so that there are no perverse outcomes.²¹ Many submitters raised concern that current waste levy schemes have also led to a number of unintended and undesirable consequences.

4.17 The National Waste and Recycling Industry Council (NWRIC) submitted that market distortions are occurring because landfill levies vary across jurisdictions. In addition to price disparity, there are variations in the application of levy mechanisms and definitions of leviable waste. It submitted that these variations are causing 'undesirable consequences', such as:

- the unnecessary transport of waste between jurisdictions to avoid levy costs, most notably between metropolitan Sydney and south-east Queensland;
- an uncertain regulatory environment that undermines the ability of private investors to create recycling infrastructure;

17 Local Government Association of Tasmania, *Submission 19*, p. 3.

18 Local Government Association of Tasmania, *Submission 19*, p. 3.

19 Envorinex, *Submission 1*, p. 2.

20 Envorinex, *Submission 1*, p. 2.

21 Re.Group, *Submission 32*, p. 11.

- high administrative costs, particularly in the application of complex schemes; and
- the potential for fraud created by mislabelled waste.²²

4.18 The Law Council of Australia (LCA) also commented that levies can encourage stockpiling and illegal dumping.²³

4.19 The following discussion canvasses the evidence provided to the committee on a number of perverse outcomes that have arisen following the implementation of waste levies.

Cross-jurisdictional transport of waste

4.20 Submitters noted that differences in regulatory arrangements between jurisdictions, particularly landfill levies, create an opportunity for the transport of waste between jurisdictions to avoid or reduce the amount of levy incurred. For example, it was submitted that the lack of a landfill levy in Queensland has provided a major commercial incentive for waste to be transported to Queensland from New South Wales because it is cheaper to transport and landfill in South East Queensland than to landfill or undertake resource recovery in New South Wales.²⁴

4.21 Indeed, the incentives are such that Mr Max Spedding, Chief Executive Officer, NWRIC, commented that one or two companies are mining their landfill and transporting the mined material to Queensland, 'creating more airspace in their Sydney landfill and making a profit'. Mr Spedding added that this is 'not illegal, as it stands, but what is driving it is the disparity [in levies]'.²⁵

4.22 Mr Spedding went on to state that the volume of waste being transported from Sydney to South East Queensland is 'enormous' and cited an estimate that 700,000 tonnes of waste per year is being transported.²⁶ Similarly, WMAA stated that, on average, 60,000 tonnes of predominantly C&D waste is being transported from metropolitan Sydney to South East Queensland each month.²⁷

4.23 GCS Consulting stated 'that the "leakage" of C&D material to Queensland represents a small but growing portion' of the New South Wales market. It estimated

22 National Waste and Recycling Industry Council, *Submission 10*, p. 2.

23 Law Council of Australia, *Submission 30*, p. 3.

24 Australian Sustainable Business Group, *Submission 41*, p. 15; Visy, *Submission 43*, p. 6; SUEZ, *Submission 51*, p. 2; Local Government Association of Queensland, *Submission 7*, p. 7.

25 Mr Max Spedding, National Waste and Recycling Council, *Committee Hansard*, 20 November 2017, p. 3.

26 Mr Max Spedding, National Waste and Recycling Council, *Committee Hansard*, 20 November 2017, p. 3.

27 Waste Management Association of Australia, *Submission 52*, p. 10. See also GCS Consulting, *Submission 14*, p. 6.

that the C&D material being moved to Queensland represents approximately 7 per cent of the total C&D waste generated in New South Wales.²⁸

4.24 The NWRIC put the view that the transport of waste to Queensland occurs 'entirely because of the landfill levy in Sydney—that central core area'. Mr Spedding stated:

In New South Wales there are three levy areas. There's the central area [Sydney] at \$138, the North Coast at \$78 dollars and the rest of New South Wales at zero dollars. From that central area with a \$138 levy, you can take construction and demolition material—not putrescible waste and not domestic waste but the material that's relatively easy to cart, because you can put it into a normal truck. You can run it up the Pacific Highway and the cost of the cartage, the cost of landfill and the cost of transfer is less than \$138, so you can do it and actually make a profit.²⁹

4.25 In addition to the absence of a waste levy in Queensland, submitters argued that the interstate movement of waste is encouraged by the metropolitan New South Wales levy being higher than the cost of transport. For example, Visy explained that at inception, the New South Wales metropolitan waste levy was approximately \$50 per tonne, which did not provide an incentive to transport waste interstate due to the additional transport cost. Over the past eight years however, the New South Wales waste levy has increased by over 260 per cent, with significant increases of between 10 and 25 per cent per annum from 2010 to 2016. Visy explained that 'this now provides the necessary arbitrage that makes transportation across state borders financially attractive'.³⁰

4.26 The Victorian Waste Management Association (VWMA) submitted that 'it is instructive that the cost of the landfill levy in some jurisdictions [has] reached a point that makes it cheaper to move material out of the state of origin'.³¹

4.27 Submitters also pointed to how the difference in levies within some jurisdictions has resulted in the transport of waste over long distances.³² The Local Government Association of Queensland (LGAQ) noted that the City of Gold Coast Council recently increased its waste disposal charges for waste originating from outside city limits to \$200 per tonne. This stemmed the flow of waste from New South

28 GCS Consulting, *Submission 14*, p. 7.

29 Mr Max Spedding, National Waste and Recycling Council, *Committee Hansard*, 20 November 2017, p. 3.

30 Visy, *Submission 43*, p. 7 (citation omitted). See also Mr Tony Monaco, Visy Recycling, *Committee Hansard*, 20 November 2017, p. 26.

31 Victorian Waste Management Association, *Submission 27*, p. 4.

32 MRA Consulting, *Submission 25*, p. 10.

Wales to the Gold Coast, but the waste was then diverted to other South East Queensland landfill sites.³³

4.28 Some witnesses were very critical of the interstate transport of waste. Mr Mark Venhoek, Chief Executive Officer, SUEZ Australia and New Zealand, for example, commented that the interstate transportation of waste for landfill is an 'unsustainable practice, driven purely by profits, and is, in our view, clearly unethical behaviour that should stop as soon as possible'. Mr Venhoek added:

With the majority of the volume going straight to landfill, it completely disregards the importance of resource recovery and puts unnecessary safety risks on our roads. SUEZ, clearly, is opposed to the unnecessary interstate long-distance transportation of waste to landfill and we are committed to managing our customers' waste and resources reliably, responsibly and locally, and we are not engaging in any of those activities.³⁴

4.29 While averring that it is 'not advocating for the end of landfill levies', the VWMA also commented that the original intent of levies has been undermined and could result in an adverse impact on recycling:

...we believe it shows that landfill levies which were meant to support recycling, are now being used as a blunt tool of revenue collection by Government. The loss of confidence by the public in the role of the landfill levy will ultimately undermine recycling as people look for cheaper ways to dispose of waste.³⁵

4.30 Evidence of the impact of the New South Wales levy on recycling rates was provided by GCS Consulting. It argued that as levies are raised, there are diminishing returns. GCS Consulting submitted that for example, during the period when the amount of the metropolitan New South Wales levy doubled, the New South Wales C&D industry was found to have reduced its recycling rate, which is contrary to expected market behaviour.³⁶

4.31 GCS Consulting stated that in New South Wales, the efficacy of the levy as a pricing mechanism was achieved when the levy was at much lower levels. It submitted:

It was becoming apparent that by 2012–13 the continual increases in the waste levy were possibly having a negative effect on C&D recycling rates and certainly were not encouraging further recycling in the NSW market. It is notable that the C&D sector was already recycling 64% of all material as early as 2002–3 when the levy rate was around \$25 per tonne suggesting

33 Local Government Association of Queensland, *Submission 7*, p. 7.

34 Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018, p. 48.

35 Victorian Waste Management Association, *Submission 27*, p. 4.

36 GCS Consulting, *Submission 14*, p. 6.

that the efficacy of the levy as a pricing mechanism may have already had a majority of its effect at much lower levels and well before the dramatic increases from 2006 onward.³⁷

4.32 Mr Gregor Riese, GCS Consulting, stated that while 'state-based levies are okay', levies should be kept at 'a reasonable level, such that your entire waste and recycling system does not become fixated on levy avoidance rather than creating a useful recycled product'.³⁸ Mr Riese argued that benefits associated with levies occur on a bell-curve and unless levies are appropriately managed benefits become outweighed by negative consequences. Mr Riese described New South Wales as now being a jurisdiction where the benefits of the levy have been outweighed by the negative consequences.³⁹

4.33 In addition, Mr Khoury, WCRA, pointed to the negative impact of long-distance transport on the environment and stated that it is a major cost to the economy.⁴⁰

4.34 Submitters argued that to reduce the movement of waste across state boundaries either landfill levies should be reduced to less than the costs of transport or a consistent approach to levies should be introduced across all jurisdictions.⁴¹ Levy harmonisation is discussed later in this chapter.

4.35 The Department of the Environment and Energy indicated that it is currently in discussions with states and territories regarding regulatory tools (including landfill levies) that may be leading to increased transportation of solid waste across state boundaries.⁴²

The impact of levies on changing ratepayer behaviour

4.36 The committee received evidence indicating that waste levies have a limited impact on reducing the waste generated by ratepayers, as they have no direct financial incentive to reduce waste going to landfill.

4.37 Local councils are responsible for paying waste levies on behalf of ratepayers, and this is then recovered through household rates. GCS Consulting stated that the estimated household contribution to the New South Wales waste levy payment is

37 GCS Consulting, *Submission 14*, p. 6.

38 Mr Gregor Riese, GCS Consulting, *Committee Hansard*, 14 November 2017, p. 2.

39 Mr Gregor Riese, GCS Consulting, *Committee Hansard*, 14 November 2017, p. 3.

40 Mr Tony Khoury, Waste Contractors and Recyclers Association of NSW, *Committee Hansard*, 14 March 2018, p. 24. See also, Mr Gregor Riese, GCS Consulting, *Committee Hansard*, 14 March 2018, p. 2.

41 Victorian Waste Management Association, *Submission 27*, p. 4; Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018, p. 48.

42 Department of the Environment and Energy, *Submission 55*, p. 7.

between 10 and 20 per cent of the total rates liability. It cited a 2012 KPMG report on the New South Wales waste levy which stated that:

Because home owners are charged a flat fee for their waste, they do not receive any financial benefit from reducing the amount of waste they produce at the individual household level, even though all households would benefit if they collectively reduced waste.⁴³

4.38 The Northern Sydney Regional Organisation of Councils (NSROC) submitted that the New South Wales waste levy does not provide a 'reward or incentive for better waste management behaviour, other than a minor reduction in the waste charge for using a smaller red bin in some council areas'. This is because:

Waste management charges to residents reflect the actual costs to councils of delivering waste services. These charges are applied across the entire community and are not adjusted for actual consumption of waste services by an individual household.⁴⁴

4.39 Similarly, the Brisbane City Council, in considering the introduction of a waste levy in Queensland, submitted that:

A levy is not effective on domestic waste generators as the price signal is not able to be passed on through the rates directly...Applying a landfill levy to domestic waste is challenging as residents cannot avoid the levy in a domestic setting. Council does not have a pay as you throw style of charging so residents are all charged equally.⁴⁵

4.40 Other local government authorities support this view with the Adelaide Hills Region Waste Management Authority (AHRWMA) arguing that waste disposal levies do 'not act as a direct driver for the community to reduce waste generation or increase recycling habits' because any increase in waste levies is 'covered by general rate revenue'.⁴⁶

4.41 GCS Consulting recommended that any jurisdiction seeking to introduce a waste levy should, at a minimum:

...require local governments to introduce weight-based charging to permit its ratepayers to reduce their rate liability. This is based on the user-pays principle where the more a household throws out, the more they contribute to disposal charges and the state government tax.⁴⁷

43 GCS Consulting, *Submission 14*, p. 9.

44 Northern Sydney Regional Councils, *Submission 29*, p. 11.

45 Brisbane City Council, *Submission 4*, pp. 2–3.

46 Adelaide Hills Region Waste Management Authority, *Submission 33*, p. 3.

47 GCS Consulting, *Submission 14*, p. 13.

Impact on recycling

4.42 The committee received a range of evidence on the sometimes negative impacts that waste levies can have on recycling. This includes evidence on the increasing economic pressures on recyclers due to high levies; poorer quality recyclable material entering the market and driving up the cost of treatment; and changes to the market.

4.43 Submitters argued that waste levies are having a detrimental impact on traditional recycling processes such as those for metals, paper, glass and cardboard. The Australian Sustainable Business Group (ASBG) highlighted the findings of the Victorian EPA commissioned report *Impact of Landfill Levy on the Steel Recycling Sector in Victoria*, which concluded that for every \$15/tonne increase in the levy rate, an additional \$738,000 per annum cost is incurred by the steel recycling industry in Victoria. The report suggested that to counter the impact of the landfill levy, options such as the provision of a partial levy exemption for the steel recycling industry, better funding and grants to support the steel recycling industry, and the use of Product Stewardship programs, should be considered.⁴⁸

4.44 Similarly, in noting that high levies can undermine the recycling of some types of material, especially steel, the NWRIC stated that the 'levy on the disposal of recycling residuals reduces the competitiveness of materials sold into the international market'.⁴⁹

4.45 GCS Consulting submitted that in New South Wales, the metal recycling industry has been 'heavily impacted by the waste levy increases'. It noted the findings of the Centre of International Economics which indicated that in 2011 the waste levy of \$120 per tonne would reduce the profit margins of metal recyclers by 3 per cent relative to no levy. GCS Consulting stated that the levy puts existing recyclers with capital infrastructure in hammer mills at a competitive disadvantage to operators who export unprocessed scrap metal directly to international markets. GCS Consulting noted that the quantity of ferrous container exports from New South Wales more than doubled over a five year period during which the waste levy increased. It stated:

While minor in terms of the overall waste tonnages, this 'leakage' from the metal recycling system is symptomatic of broader pressures on all material recyclers operating in the NSW market and the potential commercial penalties that the levy can impose on existing industry players.⁵⁰

4.46 The ASBG also submitted that recycling facilities are under pressure from international prices and the comparatively lower cost of shipping driving the export of collected materials to overseas markets. This, combined with increasing waste levies, creates 'tough economic conditions' for recycling facilities. The ASBG warned that

48 Australian Sustainable Business Group, *Submission 41*, p. 7.

49 National Waste and Recycling Industry Council, *Submission 10*, p. 2.

50 GCS Consulting, *Submission 14*, pp. 7–8.

'if closures occur they [recycling facilities] will be very difficult to re-establish given the large economies of scale and similar levels of investment required'.⁵¹

4.47 As a consequence of concerns that metal shredders in New South Wales would have to close due to competitors exporting scrap overseas, they have been given a 50 per cent reduction in waste levy. The ASBG submitted that the New South Wales Environment Protection Authority also offered funding to metal shredders to find alternative methods to deal with their floc.⁵²

4.48 Submitters highlighted that waste levies also impact the recycling industry when recycling businesses are forced to pay the levy for the disposal of contaminants which have entered the recycling stream. The Australian Council of Recycling (ACOR), for example, commented that although it supports landfill levies, the impact on recycling companies can be such that it is a 'disincentive towards being involved in the recycling industry'.⁵³

4.49 Some of Australia's largest recycling companies—Re.Group, Visy, Owens-Illinois and SKM Recycling—provided the committee with additional information on this issue. Re.Group explained why recyclers need to dispose of material:

There are residual waste components from recycling facilities, which require disposal. The amount of residual waste depends on the specific type of facility; for example, a 'yellow bin' recycling facility may have circa 10–15% residual waste, compared with a 'red bin' recycling facility with circa 30–40% residual waste. The disposal of residuals generally represents a significant cost for recycling facilities, which can obviously create commercial incentives to seek lower disposal cost options.⁵⁴

4.50 Mr Stuart Garbutt, Director, Operations, Re.Group, outlined further the concerns of the imposition of the waste levy. Mr Garbutt noted that Re.Group does not experience a 'vast impact' from the levy as only the material processed at Re.Group's material recovery facilities (MRFs)⁵⁵ that is unrecyclable is landfilled. In addition, the Re.Group considers that levies are 'an important part of diverting material from landfill'.⁵⁶

4.51 However, Re.Group suggested that the application of the waste levy to New South Wales recyclers seeking to dispose of residual contaminants provides a

51 Australian Sustainable Business Group, *Submission 41*, p. 8.

52 Australian Sustainable Business Group, *Submission 41*, pp. 8–9.

53 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 25.

54 Re.Group, *Submission 32*, p. 11.

55 Material recovery facilities may also be called materials reclamation facilities, multi re-use facilities or material recycling facilities.

56 Mr Stuart Garbutt, Re.Group, *Proof Committee Hansard*, 30 April 2018, p. 5.

commercial incentive to transport waste to interstate locations. It submitted that, despite its commitment to managing waste as close as possible to its source of generation, it is competing with organisations which minimise operating costs through the interstate transport of waste. Re.Group commented:

If other organisations are able to undercut our operations due to disposal savings via transport to Queensland (or elsewhere), then Re.Group will need to evaluate its options to remain competitive. At present, we are aware of several of our competitors that do transport waste to Queensland, and we do risk competing against this practice in the future.⁵⁷

4.52 Re.Group concluded that 'the introduction of a Queensland price signal is the best (if not only) way to ensure that waste is not unnecessarily transported interstate for disposal'.⁵⁸

4.53 Visy also expressed concern that landfill levies penalise the recycling industry for the disposal of residual rubbish that enters the recycling stream when householders place non-recyclable items in recycling bins. Visy submitted:

Rather than being incentivised for providing this environmentally sustainable essential service of landfill diversion, the recycling industry (as distinct from the waste disposal industry) is being penalised by being charged excessive waste levies for their disposal of residual rubbish that inadvertently ends up in the recycling stream due to householders incorrectly placing it into kerbside recycling bins.⁵⁹

4.54 Visy recommended that reforms to current policy and regulatory frameworks should include 'a waiver of landfill levies on the disposal of residual waste from recycling operations'. In addition, landfill levies should not apply to 'companies that utilise kerbside recyclable materials for raw material feedstock in further re-manufacturing activities'.⁶⁰

4.55 Similarly, Owens-Illinois, which has 11 glass making plants and one glass recycling plant in Australia, submitted that:

Companies that are being proactive and investing considerable capital into recycling facilities should not be penalised with landfill levies to dispose of material that has been incorrectly disposed of in kerbside collection bins.⁶¹

4.56 Further, Owens-Illinois stated that 'companies who actively use recycled materials in their manufacturing process should be rewarded and provided with a benefit that recognises their contribution to recycling and waste minimisation'.⁶²

57 Re.Group, *Submission 32*, p. 11.

58 Re.Group, *Submission 32*, p. 11.

59 Visy, *Submission 43*, p. 5.

60 Visy, *Submission 43*, p. 6.

61 Owens-Illinois, *Submission 56*, p. 8.

4.57 SKM Recycling submitted that 'the imposition of landfill levies on recyclers imposes an undue cost burden on the recycling industry'. It went on to comment that:

By undertaking costly sorting processes, SKM is performing an essential public good, enabling both government and business to achieve landfill diversion targets, and promoting the development of the circular economy. After bearing the costs of sorting, it is unfair that SKM should have to pay a landfill levy with respect to any residual materials, the cost of which would otherwise be borne by the suppliers of SKM's feedstock. This is effectively a pass-through of landfill charges to SKM.⁶³

4.58 SKM Recycling recommended that the Australian Government should 'consider the systemic impacts that landfill levies have on the recycling industry'. As such, it argued that the Australian Government should:

...support the exemption of landfill levies for resource recovery industry operators in relation to the small percentage of waste contained within residential recycling materials those operators receive (or the introduction of a reduced levy), by engaging with state governments to reform landfill levy regimes.⁶⁴

Illegal landfill

4.59 Some submitters expressed concern that waste levies can result in increases in illegal dumping. To mitigate this risk, it was argued that waste levies should be allocated to the management and clean-up of illegally dumped material.

4.60 Local Government New South Wales (LGNSW) submitted that since the introduction of the waste levy in New South Wales, 'regional and rural councils in the regulated area have seen a noticeable increase in the incidences of illegal dumping...[including] the illegal dumping of asbestos'. The LGNSW submitted that the costs of cleaning up illegally dumped waste where the offender cannot be identified rests with local councils. It stated that 'some councils have seen a tripling of the funds they must set aside for this purpose since the levy was introduced'. The LGNSW also submitted that:

NSW councils are being charged the levy for the proper disposal of large scale, illegally dumped waste. Councils have said that it is a disincentive for public land managers to clean up these large piles of waste.⁶⁵

4.61 Councillor Linda Scott, President of the LGNSW, told the committee that, in particular, the LGNSW has campaigned for the New South Wales Government to remove the waste levy on asbestos. This is due to concerns that the levy acts as a

62 Owens-Illinois, *Submission 56*, p. 8.

63 SKM Recycling, *Submission 50*, p. 2.

64 SKM Recycling, *Submission 50*, p. 2.

65 Local Government New South Wales, *Submission 13*, p. 2.

disincentive for people to manage asbestos responsibly, safely and legally, resulting in councils incurring significant expenditure to clean up asbestos that has been illegally dumped.⁶⁶

4.62 The Hunter Joint Organisation of Councils also highlighted the impact of the levy on councils already bearing the costs associated with the detection, collection and transport of illegally dumped material. It submitted that 'member councils request the review of levy charges for the disposal of illegally dumped material' in New South Wales.⁶⁷

4.63 The Law Institute of Victoria similarly submitted that in Victoria, increases in landfill levies have seen an increase in illegal landfilling in rural areas. It stated:

...the increase in landfill levies has caused an increase in the amount of landfill being disposed of illegally on rural land, under the guise of the fill being deposited in association with a rural land use purpose, a practice designed to avoid the landfill levy.⁶⁸

4.64 In considering the impact of the introduction of a Queensland waste levy, the Brisbane City Council observed that 'a levy is likely to increase the risk of illegal dumping and levy funds would need to be allocated to management of such activities for clean-up, education and enforcement'.⁶⁹

4.65 However, South Australian Government officers stated that it has found that there is 'no apparent correlation' between increases in the South Australian levy and changes to illegal dumping. Ms Tiana Nairn, Waste Reform Policy Program Manager, South Australian Environment Protection Authority (SA EPA), told the committee:

We're aware, for example that, whilst Queensland has had no levy in place, they have continued to have illegal dumping. Often illegal dumping relates to being a convenience factor. It is certainly a significant issue for state and local government. Our government has focused on increasing and improving the powers of both the environment protection authority officers and local councils to be able to respond...⁷⁰

4.66 The Western Australian Government also submitted that it had not detected an increase in illegal landfills related to the waste levy. It stated:

Western Australia has not detected an increase in illegal landfills. There is an increase in stockpiling of material awaiting a market. The creation of a

66 Councillor Scott explained that cleaning-up illegally dumped asbestos costs local councils thousands of dollars. Councillor Linda Scott, Local Government New South Wales, *Committee Hansard*, 14 March 2018, p. 45.

67 Hunter Joint Organisation of Councils, *Submission 22*, p. 6.

68 Law Institute of Victoria, *Submission 57*, p. 3.

69 Brisbane City Council, *Submission 4*, p. 2.

70 Ms Tiana Nairn, SA EPA, *Proof Committee Hansard*, 30 April 2018, p. 37.

dedicated illegal dumping enforcement area has seen an increase in the number of offences detected. It appears that offences are primarily committed by individuals as a matter of convenience and to avoid landfill gate fees rather than as a means of avoiding commercial waste levy liability.⁷¹

Strategies to mitigate negative impacts of waste levies

4.67 Multiple submitters suggested that to eliminate these perverse outcomes, waste levies should be harmonised across jurisdictions. In addition, they argued that governments must do more to combat illegal landfilling. Some submitters also advocated for the hypothecation of waste levies to fund waste management programs.

4.68 It was also emphasised that there are limits to what can be achieved through levies. The Hunter Joint Organisation of Councils submitted that 'a waste levy alone cannot solve waste and recycling issues'. It noted:

As a market mechanism, it requires a range of complementary approaches such as land use planning, education and compliance, regulation and a range of market incentives to recover the resources in 'waste' streams.⁷²

It's our view that there's not a direct linear relationship between increasing the landfill levy and reducing waste. It's a more complex problem. As has been shown, it can lead to perverse outcomes such as interstate movement and illegal dumping. The industry believes that the reliance on the landfill levy to drive change is now outdated and should be re-examined.⁷³

4.69 Submitters outlined a number of strategies to mitigate the negative consequences of waste levies. This included the enforcement or implementation of the 'proximity principle', the national harmonisation or inter-jurisdictional portability of levies, and the hypothecation of waste levies to recycling and waste management programs. The following sections provide an overview of the evidence received in relation to each of these strategies.

Proximity principle

4.70 Submitters argued that the enforcement or implementation of the proximity principle, which requires waste to be disposed of within a distance proximate to its place of generation, would prevent the movement of waste between jurisdictions to avoid or minimise waste levy liabilities.

4.71 In New South Wales, the Protection of the Environment Operations (Waste) Regulation 2014 (NSW) prohibits the transport of waste more than 150 kilometres

71 Western Australian Government, *Submission 5*, p. 3.

72 Hunter Joint Organisation of Councils, *Submission 22*, p. 6.

73 Mr Andrew Tytherleigh, Victorian Waste Management Association, *Committee Hansard*, 20 November 2017, p. 20.

from its place of generation. It should be noted that since its inception, this regulation has been subject to significant criticism. For example, in 2016, the New South Wales Government settled a challenge to the regulation's constitutional validity. The removal of the proximity principle is being considered.⁷⁴

4.72 Mr Khoury, WCRA, told the committee that the proximity principle in New South Wales had been 'an absolute failure' because there had not been any prosecutions. Mr Khoury did however express the view that a federal proximity principle could be effective. Mr Khoury stated:

Perhaps there is a role for the federal government to play with the proximity principle. If the federal government were to introduce a proximity principle that would apply across the whole country, that might work.⁷⁵

4.73 Other submitters expressed support for the broad application of the proximity principle. The LGAQ submitted that:

Waste should not be transported unnecessarily long distances and all tiers of government should assist local communities to manage their waste as close as practicable to its place of generation and should clearly support the principles of the waste management hierarchy.⁷⁶

4.74 Ms Gayle Sloan, WMAA, told the committee that the WMAA called for its members to cease the practice of long-distance transportation of waste. Ms Sloan stated:

So we do not agree with long-distance transportation; we actually agree there has to be a proximity principle in place to stop the excessive and unnecessary movement of waste across distances, particularly if there is the infrastructure in place. You can't actually invest and develop infrastructure if you haven't got certainty about what's coming through the front gate. In Europe you do have a proximity principle, so we need to solve how we do that.⁷⁷

4.75 The AHRWMA expressed its support for the proximity principle. However it also stated that any legislation to manage the transport of waste between states should be considered carefully to ensure that it does not prevent improved environmental outcomes resulting from the transport of waste, such as national schemes for the

74 Law Council of Australia, *Submission 30*, p. 5. In October 2017, the New South Wales Environment Protection Authority released a suite of documents aimed at reforming the C&D waste industry. These documents include a public consultation draft Protection of the Environment Operations Legislation Amendment (Waste) Regulation 2017 which (amongst other amendments) proposes to abolish the proximity principle. For more information see <http://www.epa.nsw.gov.au/your-environment/waste/industrial-waste/construction-demolition/construction-and-demolition-waste>.

75 Mr Tony Khoury, WCRA, *Committee Hansard*, 14 March 2018, p. 24.

76 Local Government Association of Queensland, *Submission 7*, p. 7.

77 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 20.

disposal of certain types of material. The AHRWMA submitted that for 'controlled wastes, interstate agreements or principles for transferring of such waste streams across state should be established to appropriately regulate the disposal/treatment/recycling of such waste'.⁷⁸

4.76 The Law Council of Australia (LCA) suggested that the Australian Government could implement a federal proximity principle. It acknowledged that it is unclear whether any head of legislative power in the Constitution could support such a proposal. The LCA noted, however, that the power to implement such a principle could be referred to the Commonwealth by the states under section 51(xxxvii), as occurred for the implementation of the *Corporations Act 2001* (Cth).⁷⁹

4.77 The LCA also commented that the proximity principle could arguably breach section 92 of the Constitution, which provides that 'trade, commerce and intercourse among the States...shall be absolutely free'. It noted that section 92 does not operate with unqualified effect and that the High Court has upheld numerous laws restraining trade between states. The LCA submitted that a federal proximity principle must be considered in light of section 92, but that section 92 does not necessarily preclude the enactment of one.⁸⁰

4.78 The LCA went on to suggest that a national and uniform proximity principle could be constituted by complementary federal and state law, and that this would be unlikely to contravene section 92. The LCA submitted that precedent generally suggests that a uniform federal scheme is significantly less likely to contravene section 92 than legislation enacted by the states individually. The LCA concluded that 'these considerations provide compelling reasons for the Commonwealth to consider enacting a national proximity principle and for the States to consider referring the constitutional power to do so'.⁸¹

Harmonisation and portability

4.79 In exploring the causes of the interstate transport of waste, it was suggested by a number of submitters that the national harmonisation of waste levies would remove the incentive to send waste to other jurisdictions. For example, the NWRIC submitted that 'the national harmonisation of landfill levies is essential to prevent unnecessary waste transportation (market distortions) and to provide regulatory certainty for investors'.⁸²

78 Adelaide Hills Region Waste Management Authority, *Submission 33*, p. 5.

79 Law Council of Australia, *Submission 30*, p. 6.

80 Law Council of Australia, *Submission 30*, p. 6.

81 Law Council of Australia, *Submission 30*, p. 6.

82 National Waste and Recycling Industry Council, *Submission 10*, p. 2.

4.80 The Maitland City Council submitted that the 'harmonisation of landfill levies across states and territories along the eastern seaboard must be considered as a matter of urgency'.⁸³ SUEZ suggested that the harmonisation of waste levies should occur as part of a broader strategy which prioritises the reuse and recycling of materials, and the disposal of waste within jurisdictions. SUEZ submitted that as part of this strategy, 'the harmonisation of levies will encourage waste to be managed at the closest location of origin'.⁸⁴

4.81 Some submitters argued that the Australian Government should establish waste levies. For example, Envorinex submitted that 'landfill levies and incentives should be set at a federal level to overcome' the issue of transporting waste between jurisdictions to avoid levies.⁸⁵

4.82 Similarly, the LCA submitted that:

...the Federal Government could consider implementing uniform landfill levies. The primary motivation for interstate waste-dumping appears to be the avoidance of relatively high landfill levies in the waste's place of generation. This advantage would disappear if uniform levies are introduced. Introduction of uniform levies may, however, be less politically feasible than a national proximity principle.⁸⁶

4.83 However, other submitters argued that rather than a Commonwealth waste levy being established, levies could instead be harmonised between jurisdictions. For example, the Australian Landfill Owners Association submitted that:

The current system of landfill levies, whereby adjoining states have significantly different levies, encourages the interstate movement of large volumes of waste for the economic benefit of the transport and waste facility operators. Harmonisation of environmental legislation across the states would provide a great environmental benefit for the community.⁸⁷

4.84 Similarly, the LCA submitted that:

Inconsistency in landfill levies and over-aggressive waste management regulations can create increases in illegal and environmentally irresponsible activities. A consistent, national approach would reduce such incentives.⁸⁸

4.85 The WMAA noted that it 'strongly advocates for a common approach to levies nationally'. The WMAA recognised that any reduction in levies would undermine existing infrastructure investment, so it instead advocated for other states to follow the

83 Maitland City Council, *Submission 40*, p. 2.

84 SUEZ, *Submission 51*, p. 2.

85 Envorinex, *Submission 1*, p. 3.

86 Law Council of Australia, *Submission 30*, p. 6.

87 Australian Landfill Owners Association, *Submission 2*, p. 2.

88 Law Council of Australia, *Submission 30*, p. 6.

lead of New South Wales in providing 'strong market based instruments to encourage investment in resource recovery'. The WMAA went on to explain that in the absence of a common approach to levies and the proximity principle, alternatives such as levy portability should be explored.⁸⁹

4.86 ResourceCo noted that the harmonisation of waste levies would 'eliminate unnecessary interstate transport of waste'; however, it also submitted that 'harmonisation of levies in a state based EPA structure is a long-term ambition that will take time to achieve'. ResourceCo suggested that in the short term, 'states should move their landfill levies at least closer together to negate the financial incentives to transport waste between states'.⁹⁰

4.87 Levy portability, that is a waste levy determined by where the waste is generated rather than where it is landfilled, was also suggested by other submitters as a mechanism to prevent the inter-jurisdiction movement of waste. The NWRIC told the committee that it has advocated for landfill levy portability to be introduced. Mr Max Spedding, Chief Executive Officer, NWRIC, stated:

What we as an association have put forward is that we believe we should have what we call landfill levy portability. In other words, say a state government applies a landfill levy of \$138 to waste in Sydney. When it creates that levy legislation, the legislation should clearly state that if that waste goes to landfill, wherever—including the moon, if it were landfill on the moon, as one of the consultants said—the levy should be due. So you shouldn't get a situation where you can get to the border and suddenly the rules change with respect to levies. If the levy applies wherever the material is landfill, whether it's in the home state or in a non-levy area or whether it applies in another state, the levy should be paid.⁹¹

4.88 Mr Spedding noted that levy portability already occurs within states but 'the problem is that it doesn't apply if you go...over the border'.⁹² The NWRIC submitted that levy charges based on point-of-waste-generation occur in New South Wales, South Australia and Western Australia (within state boundaries). Further, several large operating landfills currently use point-of-waste-generation levies. For example, Veolia's Woodlawn Facility is not located in the Sydney Metro Levy Zone, but because it receives the majority of its waste from this region, it charges a levy accordingly. Similarly, the Cleanaway landfill located southeast of Bunbury charges the Perth Metro Levy for waste received from that area.⁹³

89 Waste Management Association of Australia, *Submission 52*, Attachment 1, p. 3.

90 ResourceCo, *Submission 26*, p. 4.

91 Mr Max Spedding, National Waste and Recycling Industry Council, *Committee Hansard*, 17 November 2017, p. 4.

92 Mr Max Spedding, National Waste and Recycling Industry Council, *Committee Hansard*, 17 November 2017, p. 4.

93 National Waste and Recycling Industry Council, *Submission 10*, Appendix A, p. 7.

4.89 Mr Spedding, NWRIC, explained that the NWRIC has had discussions with state environmental protection authorities and is:

...now working state by state to have discussions in each state as to whether they will change their legislation so that levy portability will be added to the package of legislation that covers the creation of a landfill levy.⁹⁴

4.90 The NWRIC submitted that levy portability could be introduced by reciprocal agreement between states. It suggested that the process could begin between New South Wales and Queensland, and then extend to other states. The NWRIC submitted that 'this process will strongly incentivise waste being processed as close to its point of generation as possible'.⁹⁵

4.91 The NWRIC submitted that the process could be 'legally achieved by aligning the levy legislation within these states, and then by inserting additional levy licence conditions into all landfill licences in the relevant states'. The NWRIC suggested that any landfill levies collected for interstate waste should be initially remitted to the host state. Further, reporting obligations should remain with waste generators while levy remittance obligations should remain with landfill operators. The NWRIC also suggested that landfill operators could request a statutory declaration to confirm the point of waste generation.⁹⁶

4.92 The NWRIC told the committee that preliminary legal advice suggests that levy portability would not be in conflict with either sections 90 or 92 of the Constitution.⁹⁷

Hypothecation

4.93 Waste levies which are hypothecated are 'returned to, or reinvested in environmental and waste management activities rather than directed back into consolidated revenue'. The Hunter Joint Organisation of Councils noted that:

Hypothecation can be investment back into state-based waste management activities...or directly back to local government for use in local waste management activities such as waste avoidance, reuse, recycling, education and enforcement activities.⁹⁸

4.94 This section explores the evidence received by the committee in relation to the benefits of waste levies being hypothecated to waste and recycling management programs, and whether the current rates of hypothecation are adequate. In particular,

94 Mr Max Spedding, National Waste and Recycling Industry Council, *Committee Hansard*, 17 November 2017, p. 4.

95 National Waste and Recycling Industry Council, *Submission 10*, Appendix A, p. 7.

96 National Waste and Recycling Industry Council, *Submission 10*, Appendix A, pp. 7–8.

97 National Waste and Recycling Industry Council, *Submission 10*, Appendix A, p. 7.

98 Hunter Joint Organisation of Councils, *Submission 22*, p. 6.

submitters highlighted that hypothecated levies can be used to invest in technology, research, infrastructure and the development of markets for recycled material. Submitters also expressed concern that waste levies are being treated by state governments as general revenue, and that insufficient investment in waste and recycling is occurring.

Current approaches to hypothecation

4.95 Ms Gayle Sloan, WMAA, noted that currently, the rate of levies being returned to industry varies between states, and that 'anywhere between 10 and 50 per cent...goes back to industry'.⁹⁹

4.96 Mr Andrew Tytherleigh, Executive Officer, VWMA, explained that waste levies in Victoria are collected by the Sustainability Fund, which is tasked with determining how the money should be spent. Mr Tytherleigh stated that there are a number of criteria for determining spending including that programs must 'improve resource recovery and reduce waste'. Mr Tytherleigh explained that 'in that sense it is a hypothecated fund' and that it has been used to fund waste management groups such as Sustainability Victoria, and to run small grant programs. Mr Tytherleigh stated:

...there are a number of waste programs by Sustainability Victoria, which is the program delivery government organisation here in Victoria, that they have utilised over the years, and there have been some positive outcomes from that. The programs don't tend to run for more than the length of a government. The processes of getting those grant programs up, getting the criteria developed, calling for expressions of interest, getting the grants out, getting the activity generated and then getting the grant acquitted often runs for longer than three or four years. These are long-term things.¹⁰⁰

4.97 The South Australian Government submitted that the hypothecation of waste levies in South Australia is established by the *Greens Industries SA Act 2004*. Fifty per cent of collected levies are paid into the Green Industry Fund, 5 per cent are paid into the Environment Protection Fund, and 45 per cent directed to the SA EPA to deliver its regulatory and administrative functions. The South Australian Government noted that since 2003, \$107 million has been spent from the Green Industry Fund on programs 'that have stimulated councils, businesses and the community to reduce, reuse, recycle and recover, thereby cutting the amount of waste going directly to landfill'.¹⁰¹

4.98 WALGA submitted that in Western Australia, 75 per cent of funds collected through waste levies go to consolidated revenue with the remaining 25 per cent

99 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 20.

100 Mr Andrew Tytherleigh, Victorian Waste Management Association, *Committee Hansard*, 20 November 2017, p. 22.

101 South Australian Government, *Submission 36*, p. 14.

hypothecated to the Waste Avoidance and Resource Recovery (WARR) Account managed by the Waste Authority.¹⁰²

Stakeholders' views on the need for hypothecation

4.99 In advocating for levy hypothecation, witnesses suggested that waste levies should be used to ensure the future of recycling in Australia. For example, Mr Stuart Garbutt, Re.Group, told the committee that levies 'provide the opportunity for building infrastructure and processing that waste...we certainly see a levy as being an important part of the waste strategy'.¹⁰³ Similarly, Mr Tony Kane, Executive General Manager, Visy Recycling, told the committee that levies should be used to develop the market for recyclable material. Mr Kane stated:

We would suggest that the levies on landfill waste, the waste levies generated, should be put back into the market, whether it's low-interest loans or incentives—and R&D was talked about earlier; a couple of previous witnesses talked about that as well. So we would support those landfill levies being used to support and generate new end markets. From our position, the end market is the key issue. It is having an end market for the material. How can we get plastics into roadways? How can we get glass into roadways? How can we use other materials and generate new markets?¹⁰⁴

4.100 The WMAA submitted that it 'supports hypothecation of landfill levy funds to support the development of alternate and more sustainable management approaches for waste, whilst not necessarily advocating for 100% hypothecation of funds back to industry'.¹⁰⁵ Ms Sloan told the committee that it is not 'realistic to expect government to hand over 100 per cent' of the waste levy, but the WMAA advocates for a 'great proportion' to be returned to industry.¹⁰⁶

4.101 The LGAQ argued that funds raised through the implementation of waste levies 'should be fully returned to the resource recovery industry', as this would provide industry with 'the confidence to invest in new waste management and recycling infrastructure and technology'.¹⁰⁷ Similarly, Brisbane City Council, in considering a possible waste levy in Queensland, submitted that:

Funds collected through a landfill levy must be hypothecated to the waste and resource recovery sectors (including local government) in the first five

102 Western Australian Local Government Association, *Submission 58*, p. 3.

103 Mr Stuart Garbutt, Re.Group, *Proof Committee Hansard*, 30 April 2018, p. 5.

104 Mr Tony Kane, Visy Recycling, *Committee Hansard*, 17 November 2017, p. 27. See also Mr Max Spedding, National Waste and Recycling Industry Council, *Committee Hansard*, 17 November 2017, p. 2.

105 Waste Management Association of Australia, *Submission 52*, p. 4.

106 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 20.

107 Local Government Association of Queensland, *Submission 7*, p. 6.

to 10 years post levy introduction to ensure the sector is robust and able to provide genuine alternatives to landfill.¹⁰⁸

4.102 Mr Bryce Hines, Acting Chief Operating Officer, Works, Parks and Recreation Department, Ipswich City Council, told the committee that hypothecation of a waste levy in Queensland for 'looking at alternative waste treatment is critical to enabling us to truly address the issues that we have'.¹⁰⁹

4.103 Mr Mark Venhoek, Chief Executive Officer, SUEZ Australia and New Zealand commented that 'it is important to use those levies as support measures for new technologies, new infrastructure, new innovations'. Mr Venhoek stated:

They could be used to support communication in order to get a better understanding of source separation. But I think reinvesting the majority of that back into new infrastructure is the absolutely the way to go.¹¹⁰

4.104 ResourceCo similarly submitted that 'waste levies should be used for the purpose of improving the waste and recycling industry'. Further, levies:

...should be hypothecated back to the industry for enforcement and improvement rather than be used as just another tax by State Governments and included in general revenue.¹¹¹

4.105 The Maitland City Council argued that waste levies should be used to establish markets for recyclable materials. It submitted:

A significant proportion of the levy received by the EPA must be diverted to encourage the establishment of markets for recyclable materials and demand by end users. This could occur on a similar basis as the Australian Renewable Energy Agency (ARENA). Most importantly state governments must be fully transparent on how the landfill levy is used as well as the hypothecation rate.¹¹²

4.106 The committee received evidence from witnesses who submitted that waste levies have already been used to support more sustainable waste management approaches. The WMAA commented that the New South Wales waste levy has supported the development of five mixed waste processing facilities in that state. By comparison, other states have either no mixed waste processing facilities (Victoria) or only one (Queensland) or two (Western Australia).¹¹³

108 Brisbane City Council, *Submission 4*, p. 2.

109 Mr Bryce Hines, Ipswich City Council, *Proof Committee Hansard*, 30 April 2018, p. 23.

110 Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018, p. 52.

111 ResourceCo, *Submission 26*, p. 5.

112 Maitland City Council, *Submission 40*, p. 2.

113 Waste Management Association of Australia, *Submission 52*, p. 3.

4.107 Other witnesses also provided evidence of investment made possible due to hypothecated waste levies. ResourceCo, a fully integrated resource recovery business, stated that it had invested heavily in waste to energy plants that sort C&D and other waste into its constituent parts. This investment (up to \$30 million per plant) was only possible due to the waste levy and the ability to divert high calorific material to energy use rather than landfill. ResourceCo submitted that:

Waste levies should be used for the purpose of improving the waste and recycling industry and should be hypothecated back to the industry for enforcement and improvement rather than be used as just another tax by State Governments and included in general revenue.¹¹⁴

4.108 Similarly, Tyrecycle, a subsidiary company of ResourceCo, submitted that it has 'been the beneficiary of hypothecated landfill levy funding, particularly in Victoria'. This included grant funding provided by Sustainability Victoria for improvements to Tyrecycle's tyre crumbing facility, and for the development of a mobile tyre shredding unit.¹¹⁵¹¹⁶

4.109 The VWMA, however, submitted that it is not in favour of hypothecating landfill levies. Rather, it supported levies being made available for low interest/subsidised business loans to create new markets for recycled and waste materials.¹¹⁷ Similarly, the NWRIC supported landfill levy revenue being made available for low-interest loans, modelled on the Clean Energy Finance Corporation's approach. Mr Spedding told the committee that 'if you were able to do that, you would then encourage value-adding and more material being used in Australia rather than it all going to China and then being bought back at a discount'.¹¹⁸

Concerns about the degree of levy reinvestment by state governments

4.110 Evidence provided by key stakeholders identified that state governments may choose to use landfill levies to fund other priorities rather than reserving the revenue for waste management and recycling programs. The Hunter Joint Organisation of Councils acknowledged that although waste levies are primarily designed to encourage diversion of materials away from landfill, they can also become a source of general income 'to which the state quickly becomes addicted'. It noted that these competing interests are a 'crucial element to the administration of a waste levy in any jurisdiction'.¹¹⁹

114 ResourceCo, *Submission 26*, p. 5.

115 Tyrecycle, *Submission 21*, p. 5.

116 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 8.

117 Victorian Waste Management Association, *Submission 27*, p. 3.

118 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 8.

119 Hunter Joint Organisation of Councils, *Submission 22*, p. 6.

4.111 Several submitters noted that levies were raising substantial revenue for state governments, however, only limited amounts of funds are being returned. For example, the ASBG stated that hypothecation of all landfill levies towards waste management purposes, especially to assist recycling, is generally non-existent with often only small fractions of revenue allocated to waste. ASBG argued that most waste levies are for revenue collection and stated that levies in most jurisdictions are well above external costs of landfill environmental impacts.¹²⁰

4.112 Mr Craig Mynott, Regional Cullet Director, Owens-Illinois, told the committee that Owens-Illinois considers that the waste levy in Victoria 'is not being spent as best as it could be'. Mr Mynott noted that Owens-Illinois 'had the advantage of having some funding to help establish our glass-recycling facility in Queensland' and concluded 'there could be a lot more done in Victoria and in New South Wales'.¹²¹

4.113 Tyrecycle expressed concern that, in Victoria, although significant revenue has been collected through landfill levies, 'there has been a notable decline in the degree of levy reinvestment'. Tyrecycle submitted that there is:

...more than \$500 million in levy revenue [which] remains locked away in the Sustainability Fund where it is used as a budget offset mechanism. Only a small portion, less than 5% is, currently reinvested back into waste and resource recovery initiatives.¹²²

4.114 Tyrecycle went on to explain that in Victoria, grant funding initiatives and funding for enforcement and waste education activities have decreased. Tyrecycle noted that funding for Sustainability Victoria has decreased 56 per cent from almost \$70 million in 2009–10 to around \$30 million in 2015–16. Tyrecycle commented that 'Victoria is not unique in this regard' with levy reinvestment in other states such as New South Wales and Western Australia remaining 'significantly lower than the total amount collected'. Tyrecycle stated that 'South Australia stands alone as the only state to commit to fully reinvesting levy revenue back into waste, environmental and climate change programs'.¹²³

4.115 The Hunter Joint Organisation of Councils stated that the waste levy has increased 501 per cent over 12 years for councils in the Sydney Metropolitan Area, which includes six of the ten councils in the Hunter/Central Coast region. During 2016–17 the Hunter/Central Coast Region councils collected approximately \$60 million in levy payments, of which only 10 per cent was hypothecated through the

120 Australian Sustainable Business Group, *Submission 41*, p. 6.

121 Mr Craig Mynott, Owens-Illinois, *Committee Hansard*, 20 November 2017, p. 45.

122 Tyrecycle, *Submission 21*, p. 5.

123 Tyrecycle, *Submission 21*, p. 5.

New South Wales Waste Less, Recycle More Initiative.¹²⁴ The Hunter Joint Organisation of Councils submitted that:

Individual Councils, and local government more broadly across NSW, have consistently argued the case that a major portion of the waste levy, which is collected and administered by them on behalf of the state, should come back to the communities who generate that income.

4.116 The Northern Sydney Regional Organisation of Councils also commented unfavourably on the rate of hypothecation and stated that 'the high rate of the levy has had the perverse effect of creating a Budget dependency issue, as only about one-third of the total collected through the levy is returned to local government or industry through waste policy and programs'.¹²⁵

4.117 In Western Australia, WALGA noted that of the 25 per cent of funds collected through waste levies that is hypothecated to the WARR Account, over 60 per cent is used to fund the activities of the Department of Water and Environmental Regulation. It submitted that in recent years, this practice has resulted in unexpended funds exceeding \$30 million and, in the 2015–16 financial year, only 58 per cent of budgeted items received funding. It concluded that 'overwhelmingly, expenditure was directed towards the activities of the Department'.¹²⁶ WALGA advised that:

The use of, and access to, WARR Levy funds is a constant source of concern for Local Government. Local Government's support for the WARR Levy is predicated on the funds being used for strategic waste management activities—and that is currently not the case.¹²⁷

4.118 WALGA went on to comment that the current rate of investment is insufficient to encourage local councils to make changes to municipal waste management. WALGA submitted:

The Better Bins Program provides up to \$30 per household to Local Governments that move to a three bin system. This is only a fraction of the cost associated with such a service change, and may not be enough of an incentive to encourage Local Governments to progress this option.¹²⁸

4.119 The Northern Adelaide Waste Management Authority (NAWMA) submitted that in 2016–17 it 'contributed approximately \$6 million in levy payments', but was only 'successful in one infrastructure funding round of \$300,000, a return of 5%'. NAWMA described the continued increase of waste levies in order to drive waste

124 Hunter Joint Organisation of Councils, *Submission 22*, p. 6. Lake Macquarie City Council provided similar evidence about hypothecation of around 10 per cent under the Waste Less, Recycle More Initiative: see *Submission 37* p. 4.

125 Northern Sydney Regional Organisation of Councils, *Submission 29*, p. 11.

126 Western Australian Local Government Association, *Submission 58*, p. 3.

127 Western Australian Local Government Association, *Submission 58*, p. 3.

128 Western Australian Local Government Association, *Submission 58*, p. 3.

diversion and enable new recycling technologies as a 'well used justification...[that is] difficult to swallow for most Councils' in South Australia. It concluded that:

NAWMA supports 100% hypothecation of the landfill levy back to local government and industry to support further resource recovery services and infrastructure, and to develop a local remanufacturing sector which would reduce the need to export recyclable commodities.¹²⁹

4.120 Other witnesses, however, urged caution in relation to the hypothecation of waste levies. Mr Jeffrey Angel, Director, Total Environment Centre and Boomerang Alliance, told the committee that governments may need to extend the tender and assessment processes to ensure that funding is given to successful projects. Mr Angel stated:

New South Wales certainly has been quite adventurous in its application of funding. I understand the need to be cautious about allocating public funds. There are businesses out there who take \$5 million and nothing happens. They just wander off into the sunset with the \$5 million. I think we are at the point where we have to start picking winners. If the bureaucracies haven't been particularly good at allocating those funds to projects that have been successful and continue to be successful, then I think you have to extend the tender and assessment process for some other people. I know it's important not to waste public money, but I also know that it's incredibly important not to let recycling collapse.¹³⁰

129 Northern Adelaide Waste Management Authority, *Submission 39*, p. 2.

130 Mr Jeffrey Angel, Total Environment Centre/Boomerang Alliance, *Committee Hansard*, 14 March 2018, p. 62.

Chapter 5

Key challenges and opportunities for Australia's recycling effort

5.1 Evidence received during this inquiry indicates that there are significant challenges facing the recycling industry, with a number of witnesses calling it a crisis. However, stakeholders recognised that some of these challenges might be a catalyst for change that would facilitate an improved recycling sector in Australia.

5.2 The challenges arise from a number of factors including the regulatory environment, changes in the international market for recyclable materials, a weak domestic market for recycled products, and a lack of investment in infrastructure.

5.3 A key issue that arose during this inquiry was the Chinese Government's decision to restrict imports of 24 types of solid waste, including various plastics and unsorted mixed papers, and the setting of more stringent standards for contamination levels. Up until this decision, the exportation of recycled waste to China has been a low-cost option upon which many developed countries have relied for managing recycling. The importation restrictions are necessitating all Australian governments and the recycling industry to reconsider existing approaches to how recycled waste is managed.

5.4 This chapter commences the report's discussion of the current state of Australia's recycling industry by examining the lack of end-markets for recyclable materials, market volatility, and the recent ban imposed by China on the importation of many types of recyclable waste. Opportunities to improve how recycled waste is managed are then discussed, with a key focus being evidence from stakeholders advocating the need to move from a 'linear economy' where raw materials are used to make a product that can be discarded, to a 'circular economy' based on recycling.

Overview of current economic conditions

5.5 Overall, there is a trend in Australians generating less municipal waste per person with a greater proportion of the waste being recycled.¹ Over the period 2006–07 to 2014–15, recycling (excluding fly ash) grew by 32 per cent. This growth rate of 1.6 per cent per year outstripped the average annual population growth of 1.5 per cent.² As noted by Lake Macquarie City Council, it appears that Australians are more likely to be enthusiastic recyclers than they are at seeking to avoid waste generation—

1 *Australian National Waste Report 2016*, p. vii.

2 *Australian National Waste Report 2016*, p. 11.

accordingly, the increasing amounts of material generated for recycling is placing the recycling industry under pressure.³

5.6 During this period of growth in recycling, practices in Australia's recycling sector have been influenced by a lack of domestic markets for recycled products, market volatility and the export of recycled waste.

5.7 Several submitters highlighted the lack of local demand for recyclable materials. They explained that this has contributed to poor economic conditions in the recycling industry and resulted in unsustainable practices, such as stockpiling and export to overseas markets. For example, the Hunter Joint Organisation of Councils, which represents ten councils in the Hunter/Central Coast Waste Region of New South Wales, submitted that in its region, there is 'limited reprocessing infrastructure...for dry recyclables, with two MRF [material recovery facilities] facilities taking materials from almost 1 million residents'. As the local and regional markets for recycled materials are 'relatively immature', it advised that 'a large proportion of dry recyclables are sent overseas for recycling'.⁴

5.8 Similarly, Maitland City Council submitted that the 'markets for most recyclables in Australia are unable to absorb the quantity of material collected'. As a result, unsustainable practices such as stockpiling and export to overseas markets are occurring.⁵ The NWRIC also submitted that it considers that the markets for glass, soft plastic and end of life tyres 'are under stress...or have failed'.⁶

5.9 The reliance on export to overseas markets, and in particular China, was raised in evidence. It was noted that China has in the past provided a stable market for Australian recyclable materials. Mr Tony Monaco, National Finance and Administration Manager, Visy Recycling, explained:

The growth of China as a market over the last 20 years has provided a large and steady outlet for the sale and re-use of recyclable commodities. Australian kerbside recyclers have, to a greater or lesser extent, relied on this outlet.⁷

5.10 Mr Tony Khoury, Executive Director, Waste Contractors and Recyclers Association of NSW (WCRA), also commented on the reliance on the Chinese market and lack of local markets. Mr Khoury stated that 'for a number of years, our members have expressed concern about both the reliance on exporting material to China that

3 Lake Macquarie City Council, *Submission 37*, p. 5.

4 Hunter Joint Organisation of Councils, *Submission 22*, p. 8.

5 Maitland City Council, *Submission 40*, p. 2.

6 National Waste and Recycling Industry Council, *Submission 10*, p. 3. The NWRIC explained that by market failure, it means materials are being landfilled or stockpiled.

7 Mr Tony Monaco, Visy Recycling, *Committee Hansard*, 20 November 2017, p. 26.

has high contamination levels and the fact that there have been no local markets for glass.⁸

5.11 This lack of local demand is largely influenced by cost considerations. For example, the South Australian Government highlighted the impact of commodity prices for imported materials (both virgin and recovered) relative to the prices for local recovered material on the domestic market for recycled product. It submitted that where imported products can be purchased more cheaply than products produced using locally recovered material, there is likely to be a detrimental impact on local businesses.⁹

5.12 Similarly, the financial viability of recycling depends on whether material recovery facilities (MRFs) can obtain a better price than the cost of landfill. Local Government NSW explained:

Kerbside recycling is processed at 48 material recovery facilities (MRFs) across NSW. At these facilities, co-mingled recycling is sorted into various products either to be processed on site or sent off site for processing or re-use. Some of the sorted recycled material can be sold, and in some cases the MRF will pay for another facility to process it. However, as long as the MRFs receive a better price than the cost of landfill it is still worthwhile for the MRF.¹⁰

5.13 Ms Gayle Sloan, Chief Executive Officer, Waste Management Association of Australia (WMAA), also argued that the lack of genuine progress of the national waste strategy in the last eight years has hampered the creation of secondary markets and a circular economy in Australia. If this had occurred, Australia 'would not have the continued reliance we have, to an extent, on global trading markets, such as China, for our commodities'.¹¹

5.14 It was emphasised that domestic markets for recycled products are required for recycling efforts to be sustainable.¹² Local Government NSW emphasised that 'real and productive domestic recycled product markets are desperately needed'.¹³ The Local Government Association of Tasmania similarly explained that 'long term viable markets for collected recycling is crucial to the success of recycling programs', and that the development of new markets would be required as recycling programs are

8 Mr Tony Khoury, WCRA, *Committee Hansard*, 14 March 2018, p. 23.

9 South Australian Government, *Submission 36*, p. 21.

10 Local Government NSW, *Submission 13*, p. 3.

11 Ms Gayle Sloan, Waste Management Association of Australia, *Committee Hansard*, 14 March 2018, p. 12. See also Councillor Linda Scott, Local Government NSW, *Committee Hansard*, 14 March 2018, p. 40; Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018p. 49.

12 Mr Tony Kane, Visy Recycling, *Committee Hansard*, 20 November 2017, p. 30.

13 Local Government NSW, *Submission 13*, p. 4.

expanded.¹⁴ The WMAA and Re.Group advised that the current lack of sustainable markets might result in some recycling companies failing.¹⁵

5.15 Market volatility is also an issue. The Australian Capital Territory Government noted that recyclables are sold into global commodity markets and as such, recovered steel and aluminium are affected by the price of virgin material and recovered plastics are affected by the price of crude oil.¹⁶ Market developments can have significant implications for the financial viability and management of waste and recycling programs. The Hunter Joint Organisation of Councils explained:

The eventual end markets and corresponding commodity prices for materials dictate whether it is practical and viable to collect the materials for recycling or to landfill them. A recent example relates to the drop in commodity prices for ferrous scrap metals. Although these prices are now on the rise again, councils in the region had to make strategic decisions as to whether to continue to collect metals for recycling or to landfill them.¹⁷

5.16 The Adelaide Hills Region Waste Management Authority also noted that councils have struggled to recycle scrap metal in a cost effective manner since scrap metal pricing has fallen.¹⁸

5.17 Mr Tony Monaco, Visy Recycling, also commented on market volatility and noted that there has been an 'overall decline in the commercial viability of recycling and recyclable feedstock markets globally'. However, with China banning the importation of certain recyclable plastic grades and mixed paper from January 2018, the market is now changing rapidly. Mr Monaco concluded, 'export-facing commodity sales are exposed to unavoidable volatility and financial risk'.¹⁹

Changes to China's import policies

5.18 Existing challenges with lack of domestic markets have been exacerbated by recent developments affecting the export of recycled waste.

14 Local Government Association of Tasmania, *Submission 19*, p. 5.

15 Waste Management Association of Australia, *Submission 52*, pp. 10–11; Re.Group, *Submission 32*, p. 10.

16 Australian Capital Territory Government, *Submission 20*, p. 6.

17 Hunter Joint Organisation of Councils, *Submission 22*, p. 9.

18 Adelaide Hills Region Waste Management Authority, *Submission 33*, p. 4.

19 Mr Tony Monaco, Visy Recycling, *Committee Hansard*, 20 November 2017, p. 26. See also, Mr Andrew Doig, Australian Sustainable Business Group, *Committee Hansard*, 14 March 2018, p. 63.

5.19 As noted in Chapter 2, Australia exports recyclable material to over 100 countries with 4.23 mega tonnes of recycled materials exported in 2016–17.²⁰ China has been a major destination for Australia's recycled waste, with around 1.3 million tonnes exported in 2016–17. This accounted for 4 per cent of Australia's total recyclable waste, but included significant amounts of recyclable plastics and recyclable paper (35 per cent and 30 per cent of Australia's totals).²¹

5.20 Over the last four years, China has implemented a series of strategies to restrict the importation of certain types of recycled material. The aim of these restrictions is to combat smuggling and illegal activities in relation to the importation of recyclable and waste material into China, as well as supporting the development of China's domestic recovery industry. Of particular concern to the Chinese Government has been the adverse impacts of imported contaminated waste on China's environment, and health of its population.²²

5.21 China implemented Operation Green Fence in February 2013. Green Fence sought to enforce existing regulations limiting the amount of non-recyclable material in imported bales particularly mixed paper and mixed rigid plastics scrap. Substandard imports were shipped back to the exporter at the exporters' expense.²³ In February 2017, China announced Operation National Sword. In relation to imported recyclates, National Sword sought to tighten rules for compliance with waste import regulations, including higher penalties for smugglers.²⁴

5.22 In July 2017, China notified the World Trade Organisation (WTO) that it planned to restrict imports of 24 types of solid waste, including various plastics and unsorted mixed papers. An updated notification in November 2017 outlined China's intention of adopting a 0.5 per cent contamination limit on waste imports for the previously announced 24 categories.²⁵ The new contamination thresholds came into force in January 2018.

20 Blue Environment, 'Data on exports of recyclables from Australia to China', 19 March 2018 <https://blueenvironment.com.au/wp-content/uploads/2018/03/Data-on-exports-of-recyclables-from-Australia-to-China.pdf> (accessed 8 May 2018).

21 Meeting of Environment Ministers Agreed Statement, 27 April 2018, p. 1.

22 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 17; Mr Jeffrey Angel, Total Environment Centre/Boomerang Alliance, *Committee Hansard*, 14 March 2018, p. 57; Mr Tony Kane, Visy Recycling, *Committee Hansard*, 20 November 2017, pp. 28–29.

23 Jerry Powell, 'Operation Green Fence is deeply affecting export markets', *Resource Recycling*, 12 April 2013, <https://resource-recycling.com/recycling/2013/04/12/operation-green-fence-is-deeply-affecting-export-markets/> (accessed 5 May 2018).

24 Jared Paben, 'China announces 'Sword' crackdown on illegal recyclable material imports', *Resource Recycling*, 21 February 2017, <https://resource-recycling.com/recycling/2017/02/21/china-announces-sword-crackdown-illegal-recyclable-material-imports/> (accessed 5 May 2018).

25 Mr Mike Ritchie - Presentation, 'China's National Sword policy', received 19 March 2018, p. 5.

5.23 More recently, China launched the new customs inspection program *Blue Sky 2018* to replace the National Sword initiative, further concentrating on the 24 categories of solid waste added to the list of restricted imports in 2017, including plastics waste, unsorted waste paper and waste textile materials with a contaminant level of more than 0.5 per cent. Blue Sky will operate to December 2018.²⁶

An industry in crisis—the effects on the recycling sector in Australia

5.24 The consequences of China's waste import policies have been felt in Australia with witnesses describing the recycling industry as being in crisis. Mr Mark Venhoek, Suez, stated:

Their—virtual—import ban on recyclables is an issue that has sent the industry into, what I would call, indeed, a crisis mode and is a clear example of imperfections within our industry. Although the issue is not just an Australian one—it's a global problem—it needs to be dealt with at a national level.²⁷

5.25 The two main affects identified in evidence are the impact of the reduction in international prices for certain recyclable products and the consequent flow on effects for the local recycling businesses and collection services, and the increasing cost of processing material to meet Chinese regulatory requirements.

5.26 Witnesses also emphasised the need for urgent action noting that the 'crisis is happening now' and that Australia doesn't 'have three years to run through a COAG process to come to a solution' to the issue.²⁸ Councillor Linda Scott, President, Local Government New South Wales, told the committee that 'governments and industry, including recyclers, collectors, manufacturers and the community need to work together to develop solutions to the current recycling crisis'.²⁹

5.27 Ms Sloan, WMAA, was more cautious in describing the current operating environment but nevertheless called for action. Ms Sloan stated that 'it's a challenging time which creates opportunity but, if we don't act, it may become a crisis'.³⁰

26 'China launches Blue Sky 2018 to replace National Sword', *Waste Management Review*, 13 March 2018, <http://wastemanagementreview.com.au/china-launches-blue-sky-2018-replace-national-sword/> (accessed 10 May 2018).

27 Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018, p. 49.

28 Mr Gregor Riese, GCS Consulting, *Committee Hansard*, 14 March 2018, p. 6.

29 Councillor Linda Scott, Local Government New South Wales, *Committee Hansard*, 14 March 2018, p. 40.

30 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 13.

Commodity prices and export opportunities

5.28 Exports to China must meet stringent contamination levels and as a consequence, the international market is facing a glut of certain material with a resultant reduction in prices. Mr Monaco addressed this issue and stated:

Coupled with increasing rates of recycling, globally and now within China itself, this will most likely see a glut of recyclable materials with no home, and prices will likely plummet due to supply-and-demand dynamics. Thus, existing commercial arrangements will no longer be financially sustainable.³¹

5.29 Mr Tony Kane, Visy Recycling, similarly observed that the reverberations of the bans are being felt in the industry internationally. He provided the example of the significant quantities of fibre exported for recycling from the United States and Europe—28 million tonnes—of which approximately six million is mixed paper. The mixed paper now has no market in China and 'is going to have to find a home somewhere else in Asia'.³²

5.30 Countries still accepting imports include Malaysia and Vietnam, albeit at much lower prices. The South Australian Government commented that, in relation to recycled plastics, exporters need to 'compete in a "shrinking" global market for other export destinations'. However, these countries are now buying the same material for less.³³

5.31 MRA Consulting provided an analysis of the impacts on commodity prices in a report commissioned by the Australian Council of Recycling. The report stated that the prices paid for Australia's recovered recyclables have crashed.³⁴ Mr Mike Richie, Director, MRA Consulting Group, commented that the price of mixed paper 'dropped from its decade-long range of \$200–250/tonne to between \$0–80/tonne' and 'mixed plastic has dropped from \$250–350/tonne (\$400–450 for sorted PET and HDPE) to around \$50/tonne'.³⁵

5.32 The reduction in prices is being felt by recyclers in Australia. The Australian Sustainable Business Group (ASBG) commented:

While some recyclers will welcome a drop in their inputs, those collecting recycle for export will find major problems with their business model.

31 Mr Tony Monaco, Visy Recycling, *Committee Hansard*, 20 November 2017, p. 26.

32 Mr Tony Kane, Visy Recycling, *Committee Hansard*, 20 November 2017, p. 29.

33 South Australian Government, *Submission 36*, p. 21.

34 MRA Consulting Group, *China National Sword: The role of Federal Government*, April 2108, p. 2.

35 Mr Mike Ritchie, 'China's National Sword is cutting deep in the recycling sector', received 19 March 2018, p. 17.

These bans will likely lead to stockpiling, increased flows to landfills and potentially illegal dumping activities.³⁶

5.33 The South Australian Government also provided evidence on the impacts on plastics recyclers in that state. Recycled plastics were described as being particularly vulnerable with export operators needing to charge operating fees to cover handling and export (shipping) costs. Following the fall in prices 'some plastics recyclers are struggling to compete with landfill disposal operators to receive the material. Due to these circumstances and plastics' lightweight nature, some plastics can currently be disposed to landfill at a cheaper rate than directing the material to a plastics recycler'.³⁷

5.34 It was noted that exporters could seek to reduce the contaminant level of their materials to meet Chinese import standards. However, to do so will be require MRFs to ensure that materials are sorted, separated and washed prior to export to China.³⁸

5.35 The South Australian Government submitted that it will be difficult to meet the standards with existing materials-recovery processes or without incurring higher costs.³⁹ Infrastructure, such as optical, high-tier technology is available but requires investment and increased manual processing is costly. Mr Stuart Garbutt, Re.Group, commented that 'pre this ban probably 30 to 40 per cent of our operating costs were labour whereas now 50 to 60 per cent of our operating costs are labour'. However, Mr Garbutt went on to state that this is not sustainable in the current market.⁴⁰

5.36 In the face of a limited local market for recycled materials, exporters could seek other overseas markets. As noted above, while these markets exist, the prices being received for commodities have fallen. In addition, witnesses commented on concerns with industry standards in some countries. For example, Mr Robert Kelman, Executive Officer, Australian Tyre Recyclers Association, commented on the export of whole baled tyres to countries using dirty pyrolysis operations.⁴¹ Similarly, Mr Peter Shmigel, Chief Executive Officer, Australian Council of Recycling, stated that materials will be exported to landfill in other markets, which is not desirable,

36 Australian Sustainable Business Group, *Submission 41*, p. 10.

37 South Australian Government, *Submission 36*, p. 21.

38 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 16.

39 Mr Vaughan Levitzke, Green Industries SA, *Proof Committee Hansard*, 30 April 2018, p. 33.

40 Mr Stuart Garbutt, Re.Group, *Proof Committee Hansard*, 30 April 2018, p. 2. See also, Lake Macquarie City Council, *Submission 37*, p. 5; Mr Harry Wilson, WCRA, *Committee Hansard*, 14 March 2018, p. 29.

41 Mr Robert Kelman, Australian Tyre Recyclers Association, *Committee Hansard*, 14 March 2018, p. 56.

'particularly when those landfills are not designed to the same standards as ours, are not regulated in any particular way and have people living on them'.⁴²

5.37 Mr Terry Van Iersel, Manager, Sales and Commodity Trading, SKM Recycling, also commented that changes in China are 'just another step in what's been happening for some time' and argued that 'it may even get tighter in China. But certainly, over time, it will happen in other countries as well'.⁴³

Kerbside recycling sector

5.38 The impacts of the Chinese ban on importation of material are particularly apparent in the kerbside recycling industry. Mr Tony Kane, Visy Recycling, noted that most operators in the kerbside recycling industry have a heavy reliance on exporting a large proportion of recyclable materials recovered from kerbside recycling.⁴⁴ Mr Harford, Equilibrium, similarly commented that:

Previously, a material recovery facility in Australia could largely have taken the material from kerbside recycling and exported the mixed plastics load either directly to China or through another brokerage into China.⁴⁵

5.39 However, Mr Kane commented that the contamination level in kerbside recycled material is higher than allowed under the new restrictions.⁴⁶ Given the lack of alternative markets, falling prices and increasing costs to reduce the level of contamination, and the lack of domestic markets, evidence indicated that the kerbside recycling is facing significant difficulties.

5.40 The Local Government Association of Queensland (LGAQ) provided the committee with a range of outcomes from the loss of offshore markets combined with the absence of local markets. These include financial impacts on existing council kerbside recycling services that are already marginal or cost negative; consideration of gate fee increases; stockpiling and/or landfilling of recyclate over the short-to-medium term; and erosion of community confidence in kerbside recycling schemes when landfilling of recyclate becomes more widespread. The LGAQ added that in Queensland, councils are concerned that the viability of kerbside recycling services is being threatened.⁴⁷

42 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 30.

43 Mr Terry Van Iersel, SKM Recycling, *Committee Hansard*, 20 November 2017, p. 37.

44 Mr Tony Kane, Visy Recycling, *Committee Hansard*, 20 November 2017, p. 26.

45 Mr Nicholas Harford, *Committee Hansard*, 20 November 2017, p. 16.

46 Mr Tony Kane, Visy Recycling, *Committee Hansard*, 20 November 2017, p. 29.

47 Mr Luke Hannan, Local Government Association of Queensland, *Proof Committee Hansard*, 30 April 2018, p. 9.

5.41 Queensland councils were also anticipating losses of revenue—\$7 million in the 2018–19 financial year. The LGAQ stated that it believed that the total cost could be as high as \$50 million per annum in Queensland once all of the effects are fully known.⁴⁸

5.42 Similarly, other local government organisations noted that the ban will have significant impacts on the ability of MRF operators to market sorted recyclables. As a consequence, stockpiling, a reduction in the type of materials acceptable in household recycling streams and more materials ending up in landfill were seen as the likely outcomes.⁴⁹

5.43 Witnesses also commented that waste collection operators are seeking changes to contractual arrangements with local councils. Mr Adrian Beresford-Wylie, Chief Executive, Australian Local Government Association (ALGA) stated that 'there clearly is concern and uncertainty from councils across the nation about the likelihood of collectors and material recovery facilities refusing service' and in some cases 'recycling contractors either have already begun to negotiate or are seeking to renegotiate fees with councils'.⁵⁰ The South Australian Government similarly stated:

Local government organisations are continuing to meet their kerbside collection obligations, but all of the material recovery facilities that receive and process South Australia's kerbside recyclables are experiencing considerable cost pressures due to current market conditions and are seeking to renegotiate contractual arrangements with their councils.⁵¹

5.44 One council which decided to send its recyclable materials to landfill was Ipswich City Council, Queensland. The Council noted that its decision in April 2018 was the direct result of its failure to reach an agreement with the successful tenderer for its collection services. It argued that being 'in the market in a tender process at the point in time China's Sword policy occurred' was a primary factor in this outcome.⁵²

48 Mr Luke Hannan, Local Government Association of Queensland, *Proof Committee Hansard*, 30 April 2018, p. 9. See also Mr Robert Ferguson, Local Government Association, *Proof Committee Hansard*, 30 April 2018, p. 10.

49 Northern Adelaide Waste Management Authority, *Submission 39*, p. 3. See also Mr Harry Wilson, Waste Contractors and Recyclers Association of New South Wales, *Committee Hansard*, 14 March 2018, p. 26.

50 Mr Adrian Beresford-Wylie, Australian Local Government Association, *Committee Hansard*, 21 March 2018, p. 12.

51 Mr Vaughan Levitzke, Green Industries SA, *Proof Committee Hansard*, 30 April 2018, p. 33.

52 Councillor Andrew Antonioli, Ipswich City Council, *Proof Committee Hansard*, 30 April 2018, pp. 17 and 21. See also Mr Luke Hannan, Manager, Planning, Development and Environment, Local Government Association, *Proof Committee Hansard*, 30 April 2018, p. 10.

5.45 Councillor Linda Scott, President, Local Government NSW, added that these pending contract negotiations, have the potential to have significant financial implications for councils.⁵³

5.46 The committee heard evidence that not all kerbside services are under pressure. The Australian Capital Territory Government, for example, indicated that the effect of the bans on its services were 'very manageable' as kerbside collection in the Australian Capital Territory represents 3.5 per cent of the total waste in the territory.⁵⁴ There have also been few effects in the Northern Territory. The City of Brisbane also commented that very little of its recyclables are sent offshore: its recycling contractor, Visy, currently has beneficial markets in Australia for over 80 per cent of its recyclable materials; glass is sent to local processors; and, glass fines are used in the Brisbane's asphalt production.⁵⁵

5.47 However, the committee heard that as a result of the ban, some councils are in a 'crisis situation'.⁵⁶ The LGAQ also stated that the impacts are being felt more in regional and coastal areas.⁵⁷

5.48 Submitters noted that another significant impact of China's policy change has been the management of increasing stockpiles of recyclable materials. Mr Robert Ferguson, Senior Advisor, Environmental and Public Health, LGAQ, commented that councils are concerned with the unprecedented stockpiling that they are currently undertaken. Mr Ferguson noted that a number of councils do not have a lot of capacity to stockpile.⁵⁸ Stockpiling also represents an environmental hazard and significantly increases the risk of fires.⁵⁹

5.49 State Governments have responded to the emerging situation with funding for short-term support: Victoria provided \$13 million, and New South Wales provided \$47 million.

53 Councillor Linda Scott, Local Government NSW, *Committee Hansard*, 14 March 2018, p. 42.

54 Mr Jim Corrigan, Transport Canberra and City Services Directorate, *Committee Hansard*, 21 May 2018, p. 12.

55 Mr Arron Lee, Brisbane City Council, *Proof Committee Hansard*, 30 April 2018, p. 8.

56 Mr John Pritchard, Australian Local Government Association, *Committee Hansard*, 21 March 2018, p. 13.

57 Mr Robert Ferguson, Local Government Association of Queensland, *Proof Committee Hansard*, 30 April 2018, p. 11; Mr Luke Hannan, Local Government Association of Queensland, *Proof Committee Hansard*, 30 April 2018, p. 14.

58 Mr Robert Ferguson, Local Government Association of Queensland, *Proof Committee Hansard*, 30 April 2018, p. 11.

59 Visy, *Submission 43*, p. 8.

Australian Government response

5.50 The Department of the Environment and Energy (the department) provided the committee with an overview of the work undertaken following the announcement of the changes to China's import policies. Mr Bruce Edwards, the department, commented that discussions had taken place with the Department of Foreign Affairs and Trade (DFAT). The department also undertook discussions with the Department of Industry, Innovation and Science and Austrade to explore the potential for Australia to access different markets for recycled material.⁶⁰

5.51 The Australian Government also undertook a number of 'diplomatic interactions between Australian officials and Chinese officials' to clarify the when the bans would take effect and the nature and extent of them. The department also met with European counterparts.⁶¹

5.52 In addition, the department sought advice from state and territory governments on the impact of the bans. This process was described by the department as one of 'discovery' which recognised that effects were different for each state and territory and also between local government jurisdictions. Mr Edwards also noted that the states and territories had sought advice from industry stakeholders.⁶²

5.53 In March 2018, the department conducted a workshop with stakeholders to discuss a range of issues including whether the domestic market for recyclables has the capacity to manage the material unable to be exported to China.⁶³

5.54 The situation in the waste management sector was considered at the Meeting of Environment Ministers on 27 April 2018. Following the meeting, the environment ministers released an agreed statement on the need to 'set a sustainable path for Australia's waste' following import restrictions announced by China. Ministers agreed to a number of commitments, which are outlined below:

- A commitment to reduce the amount of waste generated and to make it easier for products to be recycled. Ministers endorsed a target of 100 per cent of Australian packaging being recyclable, compostable or reusable by 2025 or earlier. Governments would work with the Australian Packaging Covenant Organisation to deliver this target.

60 Mr James Tregurtha, Department of the Environment and Energy, *Proof Committee Hansard*, 21 March 2018, p. 5.

61 Mr Bruce Edwards, Department of the Environment, *Proof Committee Hansard*, 21 March 2018, p. 2.

62 Mr Bruce Edwards, Department of the Environment and Energy, *Proof Committee Hansard*, 21 March 2018, p. 4.

63 Mr James Tregurtha, Department of the Environment and Energy, *Proof Committee Hansard*, 21 March 2018, p. 5.

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- Encourage waste reduction strategies through greater consumer awareness, education and industry leadership.
 - Increase Australia's recycling capacity by developing increased domestic capabilities.
 - Increase the demand for recycled products. Ministers agreed to advocate for increased use of recycled materials in the goods procured by government, and to collaborate on creating new markets for recycled materials.
 - Explore opportunities to develop waste-to-energy and waste-to-biofuels projects, whilst recognising the reduction, reuse and recycling of waste as a priority. This will occur with the support of the Clean Energy Finance Corporation and the Australian Renewable Energy Agency.
 - Update the 2009 Waste Strategy to include circular economy principles.⁶⁴

5.55 The Ministers also agreed to a number of other measures including:

- fast-tracking the development of new product stewardship schemes for photovoltaic solar panels and batteries;
- making a commitment to halving Australia's food waste by 2050 through the alignment of community education efforts and encouragement of the composting of residual food waste; and
- making a commitment to complete the voluntary phase out of microbeads initiated in 2016. Currently 94 per cent of cosmetic and personal care products are microbead free and Ministers committed to eliminating the final 6 per cent, and examining options to expand the phase out to other products.⁶⁵

5.56 Further discussions were foreshadowed with ministers agreeing to re-convene by teleconference in mid-June 2018 to discuss progress on recycling, and to meet in late 2018 to 'further progress delivery of the commitments' made in the 27 April 2018 agreement.⁶⁶

Opportunities

5.57 The recent changes in the international market provide an opportunity for industry and government to improve the way recycled material is managed in Australia. Witnesses advocated for investment in infrastructure and technologies, and the development of a circular economy with sustainable domestic markets. Mr Van Iersel, SKM Recycling told the committee:

64 Seventh Meeting of Environment Ministers, Agreed Statement, 27 April 2018, Melbourne, <http://www.environment.gov.au/about-us/mem>.

65 Seventh Meeting of Environment Ministers, Agreed Statement, 27 April 2018, Melbourne, <http://www.environment.gov.au/about-us/mem>.

66 Seventh Meeting of Environment Ministers, Agreed Statement, 27 April 2018, Melbourne, <http://www.environment.gov.au/about-us/mem>.

Recent regulatory changes in China do pose some challenges but we believe this represents a major opportunity for our business and the industry, more broadly.⁶⁷

5.58 Similarly, Mr Venhoek, SUEZ, told the committee that the changes bring:

...significant opportunities to stimulate the domestic market on the reuse of recyclables and to create jobs in both recycling and manufacturing, which will, in turn, bring economic benefits to the Australian economy and make us, once again, less dependent on having other countries treating our waste.⁶⁸

5.59 It was argued that the regulatory changes in China are simply 'another step in what's been happening for some time' and that similar regulation is likely to be seen in other countries such as Vietnam and Thailand in the future.⁶⁹ As such, the industry must respond by investing in the 'areas of infrastructure, improvement and innovation'. This includes investment to improve sorting and reprocessing infrastructure to meet international regulatory requirements and to better supply domestic markets.⁷⁰

Domestic market and circular economy

5.60 In response to the lack of domestic markets for recycled content and the crisis caused by China's National Sword policy, multiple submitters argued that recycling in Australia needs to transition away from being export-focused to an industry that supports waste being processed and reused to make new products domestically.

5.61 Submitters stated that the most effective way to transition away from an export-focused industry was by the establishment of a circular economy in Australia. A circular economy is an alternative model to the traditional linear economy which is based on 'take, make, use and dispose'. It is a self-sustaining system founded on the principle of keeping material resources in use, or 'circulating' for as long as possible. It is designed to extract the maximum value from resources while in use, then recover and regenerate products and materials.⁷¹

5.62 Mr Max Spedding, Chief Executive Officer, National Waste and Recycling Council (NWRIC), noted the current rate of growth in waste production and stated:

If waste continues to grow at 4½ per cent per annum, which is currently what it's doing, and rises from the current 55 million tonnes, by 2040

67 Mr Terry Van Iersel, SKM Recycling, *Committee Hansard*, 20 November 2017, p. 37.

68 Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018. See also Mr Jim Corrigan, ACT Government, *Proof Committee Hansard*, 21 March 2018, p. 11; Mr Kane, Visy Recycling, *Committee Hansard*, 20 November 2017, p. 29.

69 Mr Terry Van Iersel, SKM Recycling, *Committee Hansard*, 20 November 2017, p. 37.

70 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 25.

71 Southern Metropolitan Regional Council, *Submission 59*, p. 1.

Australians will generate 138 million tonnes of solid waste. Assuming that recycling, the national diversion, continues at 75 per cent, our recycling capacity we will need to increase by 400 per cent by 2040, which is an enormous amount.⁷²

5.63 Mr Spedding, NWRIC, argued that this situation can only be remedied through the alignment of 'waste management planning, regulations and procurement practices to quickly transition the sector to a circular economy'. Mr Spedding noted that a circular economy would focus waste management on the recovery of materials rather than landfill and that 'an early transition to a sustainable circular economy is required to meet the challenges of increased waste volumes'.⁷³

5.64 The committee heard that circular economies are implemented in other jurisdictions, and that there are both environmental and economic benefits of transitioning to such a system. Ms Sloan, WMAA, told the committee that:

I submit that Australia's being left behind the rest of the developed world in transitioning to the circular economy and using waste commodities as a resource, with the effective closure of China as a market for Australia's commodities, it's vital that the Australian government works with industries to create a circular economy in Australia and develop onshore local manufacturing. The added benefit beyond the environmental good of moving to a circular economy is increased job creation. Studies have found repeatedly that, for every one job involved in landfill and 10,000 tonnes of waste, over four are created by resource recovery.⁷⁴

5.65 A number of suggestions were made to encourage domestic markets including mandating the use of recycled product in manufacturing, and the provision of government funding. For example, Mr Spedding, NWRIC, suggested that landfill levies could be used to stimulate the creation of domestic markets for recycled material. As noted in Chapter 4, Mr Spedding also suggested that landfill levies should be used to provide low-interest loans to the recycling industry, modelled on the Clean Energy Finance Corporation's approach.⁷⁵ In addition, the NWRIC supported the use of the Emissions Reduction Fund (ERF) to support greenhouse gas reduction initiatives, land for gas recycling and material efficiency.⁷⁶

5.66 Mr Mark Venhoek, SUEZ Australia and New Zealand advocated for the Australian Government to mandate the use of recycled material in producing new products. Mr Venhoek stated that currently, the manufacturing industry is hesitant to

72 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 1.

73 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, pp. 1–2.

74 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 12.

75 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 8.

76 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 1.

invest in the use of recycled material but that if it became mandatory then 'those investments will automatically come'.⁷⁷

5.67 Mr Venhoek told the committee that in other countries, government policy has required that infrastructure be created to support the pre-treatment, treatment and re-manufacture of recycled material. Mr Venhoek explained:

In Germany, for instance, there is a semi-government organisation that developed the dual system, or the green dot system. While they were tendering for the collection and processing of all materials, they said: 'Everything needs to be processed within our country boundaries. We are not there to have any kind of materials leaving our country and being treated in India or in China or anywhere else in the world.'⁷⁸

5.68 Mr Venhoek noted that as a result, Germany's dependency on exporting recyclates outside of Germany has now dropped to almost zero.⁷⁹

Invest in infrastructure and new technologies

5.69 It was argued that investment in the infrastructure required to deliver high quality recyclable products will ensure access to international markets.⁸⁰ Further, investment in infrastructure is required to develop Australia's domestic markets.⁸¹

5.70 For example, Mr Van Iersel highlighted that SKM Recycling has invested heavily in order to produce higher grade recyclable material and therefore has a strong and ongoing market for its products. Mr Van Iersel stated 'those who invest in the infrastructure needed to deliver higher quality recyclable products should have little difficulty in being able to access a strong market'.⁸²

5.71 Mr Shmigel, Australian Council of Recycling, told the committee that investment in infrastructure is 'valuable', particularly in relation sorting and reprocessing. Mr Shmigel noted that Australia has a mature reprocessing capacity for paper, fibre, and metals.⁸³ However, Mr Stuart Garbutt, Re.Group, observed that a lot of older MRFs are producing mixed paper. Internationally, MRFs are designed to take

77 Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018, p. 54.

78 Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018, pp. 54–55.

79 Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018, p. 55.

80 Mr Terry Van Iersel, SKM Recycling, *Committee Hansard*, 20 November 2017, p. 37.

81 Mr John Pritchard, Australian Local Government Association, *Committee Hansard*, 21 March 2018, p. 14.

82 Mr Terry Van Iersel, SKM Recycling, *Committee Hansard*, 20 November 2017, p. 37.

83 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 25.

one individual component of mixed paper. Investment is needed to enable Australian MRFs to separate the components—newspaper, magazines and pamphlets and cardboard. Mr Garbutt concluded that this investment will value add and ensure sustainability. Similarly, rather than producing general mixed plastic, four to five main plastic groups could be separated.⁸⁴

5.72 The level of investment required to develop new facilities is however, significant. Mr Garbutt stated that:

A brand-new 10,000 to 15,000 tonne MRF is \$5 million to \$6 million; the 100,000 to 200,000 tonne MRFs are \$25 million to \$30 million. I believe the one in Melbourne is reported to be somewhere in the vicinity of \$40 million to \$50 million. I would dare say that these newer MRFs probably don't need as much capital as some of these older regional MRFs. You would be probably looking at packages of \$1 million to \$2 million in regional areas, \$3 million to \$5 million in the cities.⁸⁵

5.73 Mr Garbutt, Re.Group also noted that unless the industry can ensure a financial return, investment in upgrading infrastructure will not occur. Mr Garbutt stated:

Fundamentally, no-one is going to spend money in this industry unless we can get a return on that capital. If that material is going to be exiting the stream then it doesn't seem to make commercial sense to invest in it to try and recover it.⁸⁶

5.74 It was suggested that government assistance should be provided to industry operators to support the upgrading of infrastructure to ensure the delivery of recyclable products that meet market expectations. Mr Van Iersel, SKM Recycling, stated:

We suggest that further investigation is needed into which types of recyclable material some operators are finding it difficult to sell, and the extent to which that issue may be related to their processing methods and the quality of their end product, rather than broader trends in commodity prices.⁸⁷

5.75 The need for investment in innovative technological solutions to deal with waste and recycling was also raised by a number of submitters. For example, Mr Max Spedding, NWRIC, told the committee that there is a need to plan and invest in recycling in Australia. Mr Spedding highlighted the work being undertaken in Victoria to process soft plastics. Mr Spedding stated:

84 Mr Stuart Garbutt, Re.Group, *Proof Committee Hansard*, 30 April 2018, p. 3.

85 Mr Stuart Garbutt, Re.Group, *Proof Committee Hansard*, 30 April 2018, p. 4.

86 Mr Stuart Garbutt, Re.Group, *Proof Committee Hansard*, 30 April 2018, p. 3.

87 Mr Terry Van Iersel, SKM Recycling, *Committee Hansard*, 20 November 2017, p. 35.

There is a small company in Geelong called GT Recycling that got a grant from Sustainability Victoria. They got a further grant from the Packaging Covenant's council, and they had Deakin University do some genuine R&D. They've now got a facility in Geelong processing 1,500 types of soft plastics and producing a pallet. They're value-adding to this waste product, and that pallet is now being used for agricultural plastic manufacturing in Australia. Here's a situation where you've got a problem product on the market, which is soft plastics. If you were sending it to China, you would have to be worried that it's not going to go to China in the future. Here's a local solution: with a bit of R&D and some grant funding, they've now got a facility and I think they're employing 15 people.⁸⁸

5.76 Mr Spedding, NWRIC, also suggested that collected landfill levies should be used to support sustainable recycling initiatives through low-interest loans being made available to industry for the development of 'value-added' businesses.⁸⁹

5.77 The University of New South Wales (UNSW) submitted that the Australian Government should move beyond the current approach of 'reducing, re-using and recycling' and 'embrace the concept of "reforming" waste to create new products and valuable resources'. It highlighted the work of the UNSW Centre for Sustainable Materials Research and Technology (SMaRT) which has developed world-leading microfactory technology to transform different types of waste into reformed products with commercial returns. This includes:

- dirty glass into engineered stone products;
- e-waste into valuable alloys and metals and 3D filament;
- fabrics into construction industry materials;
- wood into new wood products;
- coffee capsules, tyres and other types of waste into carbon for the use in the steel industry; and
- waste fishing nets into glasses frames.⁹⁰

5.78 UNSW submitted that microfactory technologies provide a range of benefits including requiring a less intensive level of recycling sorting, and the ability to process a wide range of mixed and complex wastes. It also described microfactories as 'economic game-changers' providing new employment opportunities, revitalising Australia's manufacturing sector, and creating new export opportunities for products created through microfactory technology.⁹¹

88 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 8. For other examples, see Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 18; Mr Stuart Garbutt, Re.Group, *Proof Committee Hansard*, 30 April 2018, p. 4.

89 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 8.

90 University of New South Wales, *Submission 62*, p. 1.

91 University of New South Wales, *Submission 62*, pp. 1–2.

Chapter 6

Issues facing the recycling industry

6.1 The previous chapter highlighted the implications of the lack of domestic demand for recycled content, particularly given China's recent decision to ban the importation of 24 types of material.

6.2 Other reasons attributed to the challenges the recycling industry face, however, relate to the collection, sorting, and processing of materials. This chapter examines issues related to the approach taken to collecting materials as well as the infrastructure for sorting and processing. The issue of stockpiling is also discussed, as are particular issues related to specific types of recyclable material, including glass, mattresses and tyres.

Implications of collection methods for recycling

6.3 Submitters emphasised that the collection method is a major component in ensuring the high quality of recyclable products and in ensuring viable markets for recyclable materials. 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.¹

6.4 The variability of recycling yields was highlighted by Re.Group, which submitted that:

Analysis of household recycling yields across all NSW Council areas, using 2011–12 data published by the NSW EPA, demonstrates the scale of variance in the quantity of material collected for recycling in this one jurisdiction. Across NSW, the average yield is about 250kg/household/year. However, there are more than 40 councils with yields above 300kg/household, and more than 10 with yields above 400kg/household/year.²

6.5 Re.Group also provided an example of the differences in the quality of recycling feedstock collected in New South Wales, measured in terms of contamination by items that are not able to be recycled at a specific facility. It submitted:

We have some council clients where 'yellow bin' recycling feedstock consistently has less than 10% contamination, and other clients where

1 Waste Management Association of Australia, *Submission 52*, p. 11.

2 Re.Group, *Submission 32*, p. 7.

contamination levels are up to 20%. Contamination management is a key factor in the cost of operating a recycling facility...³

Collection methods

6.6 In its submission, the Western Australian Local Government Association (WALGA) outlined the different types of programs which can contribute to the collection and recovery of recyclable material. These programs include the provision of multiple bins to encourage source separation of waste, organics and recycling at the household level; container deposit schemes which improve the quality of both eligible materials and what remains in kerbside programs; and product stewardship schemes such as DrumMuster and MobileMuster which promote the use of specific collection infrastructure.⁴

6.7 The committee received evidence about the collection methods in place throughout Australia. For example, the Lake Macquarie Council submitted that 'fortnightly collection of a mobile recycling bin has proven to be the most effective in terms of yield, presentation rates, ratepayer satisfaction, safety and cost effectiveness'. It stated that as a result, this model for recycling has been 'widely adopted across Australia'. The Council also noted that the addition of fortnightly garden or weekly food and garden waste kerbside collection services has also proven effective.⁵

6.8 It was particularly noted that the kerbside regimes (up to three bins) in New South Wales, Victoria, Australian Capital Territory and South Australia result in greater diversion from landfill of both household recyclables (paper, cardboard, glass, aluminium, plastics and steel) and green waste. The Waste Management Association of Australia (WMAA) explained that a number of jurisdictions also provide assistance in diverting food waste from landfill towards the green waste.⁶

6.9 The South Australian Government, which was recognised by the Australian National Waste Report 2016 as having the highest resource recovery rate in Australia, highlighted the success of its kerbside recycling collection system which diverts 47.8 per cent of kerbside collected material away from landfill. It submitted that an investment of \$7.25 million has provided householders with access to easy to use, two and three bin systems.⁷

6.10 The Northern Adelaide Waste Management Authority (NAWMA) submitted that a three bin system should be mandatory in all metropolitan areas. NAWMA also suggested that governments should not preclude or prevent collection systems that may divert more recyclables from landfill. It highlighted that in South Australia it is

3 Re.Group, *Submission 32*, p. 7.

4 Western Australian Local Government Association, *Submission 58*, pp. 3–4.

5 Lake Macquarie Council, *Submission 37*, p. 2.

6 Waste Management Association of Australia, *Submission 52*, p. 11.

7 South Australian Government, *Submission 36*, pp. 16–17.

mandated that municipal solid waste must be collected weekly while 'other jurisdictions have shown step changes in recycling rates from a weekly food and garden organics service, and fortnightly residual waste' collection.⁸

6.11 Local Government New South Wales (LGNSW) also noted that the collection methods of kerbside recycling chosen by local councils is influenced by both the market value of recyclates, and community expectations and behaviour. It noted that in New South Wales:

Some NSW councils source separate materials, such as paper and cardboard, as a higher quality recyclate has more market value. Other councils have mixed waste and recycling collections that are processed at advance waste treatment centres as diverting recyclable materials from the general waste stream has proved challenging in some communities.⁹

6.12 Container deposit schemes (CDS) can also increase the rate of container recycling and increase source separation. They also have the additional benefit of reducing litter. Under a CDS, a refund is provided for eligible empty containers that are returned to a designated collection point. The longest running CDS in Australia is in place in South Australia. Other jurisdictions with CDS in place, or where schemes are being developed, are New South Wales, Queensland, Western Australia, the Australian Capital Territory and the Northern Territory.

6.13 A number of submitters highlighted the benefits of CDS. For example, the Western Australian Local Government Association (WALGA) submitted that:

There is documented evidence that a CDS improves the quality of both eligible materials and what remains in the kerbside system. Furthermore, the provision of handling fees can encourage operators and community groups to participate in the waste management industry and develop markets for collected material.¹⁰

6.14 Implications for the glass industry associated with CDS are discussed later in this chapter.

Issues with existing approaches to kerbside collection

6.15 The Victorian Waste Management Association (VWMA) submitted that collection methods have developed to provide the simplest and most efficient mechanism for households, and have reduced manual handling exposure for the industry. It noted that 'infrastructure is now all geared to handle comingled recycling'. The VWMA concluded that 'separation at source (i.e. by the householder) requires significantly more resources and space and reduces the economics of the activity'.¹¹

8 Northern Adelaide Waste Management Authority, *Submission 39*, p. 3.

9 Local Government New South Wales, *Submission 13*, p. 3.

10 Western Australian Local Government Association, *Submission 58*, p. 4.

11 Victorian Waste Management Association, *Submission 27*, p. 3.

6.16 However, a number of submitters highlighted that the separation of materials at the source results in higher yield recycling programs. Maitland City Council submitted that 'the collection of comingled materials will always be of lower quality than the collection of source separated clean recyclables'.¹² Similarly, the Waste Management Association of Australia (WMAA) submitted that 'by source separating different waste streams, and providing accessible collection systems, there is an increased ability to recover materials which can be potentially recycled into other products'.¹³ The Western Australian Government likewise submitted that:

The State Government and the Waste Authority strongly support source separation rather than mixed waste processing as a preferred means to achieving higher recovery. Source separation generates more homogenous waste streams which are easier to recover and represent a higher value to the recycling sector.¹⁴

6.17 The South Australian Government was also supportive of source separation at the household level, and submitted that:

Source separation at the point of generation (i.e. household) generally results in a much higher quality recyclable material than a single bin system for all household wastes that relies on downstream processing technology to subsequently separate out various materials. Collection is undertaken using compaction vehicles that in the case of recyclables can result in further contamination due to glass breakage that embeds in other recyclables such as paper / cardboard.¹⁵

6.18 Mr Jeffrey Angel, Director, Total Environment Centre/Boomerang Alliance, told the committee that 'source separation in a genuine sense is the opposite to co-mingled'. Mr Angel stated:

...we do have red and yellow and green bins, where ostensibly there is some general separation. But, as we've seen in the yellow co-mingled recycling bin, that degrades the material value of the paper and metal and plastic. Not only that, but in placing it both in the bin and in the garbage truck, where things are then compressed, the glass breaks and infiltrates the paper. That also makes the paper either useless or of low value.¹⁶

6.19 Visy similarly submitted that accurate at-home segregation is 'inconsistent at best' and that the causes of this include reduced size waste bins, differing council guidelines, volumes of waste to be disposed, and the level of householder education. Visy explained that the failure to segregate materials 'may doom tonnes of other

12 Maitland City Council, *Submission 40*, p. 2.

13 Waste Management Association of Australia, *Submission 52*, p. 11.

14 Western Australian Government, *Submission 5*, p. 4.

15 South Australian Government, *Submission 36*, pp. 16–17.

16 Mr Jeffrey Angel, Total Environment Centre/Boomerang Alliance, *Committee Hansard*, 14 March 2018, p. 57.

recyclable items to waste' as contaminant items can confuse sorting machinery in MRFs or elude hand sorting, thus risking 'contaminating an entire load'.¹⁷

6.20 SKM Recycling suggested that the provision of smaller general waste bins by councils 'may also be contributing to an increase in the quantum of non-recyclable (waste) materials ending up in recycling bins'.¹⁸

6.21 The Australian Capital Territory (ACT) Government argued that 'government interventions to achieve a greater level of upstream sorting can greatly impact on the quality and quantity of materials recovered for recycling'. It highlighted that in the ACT when construction and demolition (C&D) waste is sorted onsite, virtually all of the material can be recovered and the gate fees for the sorted material at C&D MRFs can fall to under \$20 per tonne. Companies that deliver unsorted C&D waste to MRFs are charged over \$130 per tonne and only 75–85 per cent of the material is recovered.¹⁹

6.22 The ACT Government also noted that office waste, if not sorted onsite is often collected with other commercial waste such as food waste and as a result is considered contaminated and sent to landfill. The ACT Government highlighted that the cost to send such waste to landfill or to Advanced Waste Treatment (AWT) facilities for processing is much higher than sending it to facilities for sorted material. The ACT Government submitted that this demonstrates that state and territory governments can set requirements for waste management which achieve positive outcomes for recycling. It submitted that:

The ACT has been successful at increasing recycling from C&I [commercial and industrial] businesses via its Actsmart program. However, at present this only reaches around 6 percent of eligible businesses. A case may exist for further Government interventions to achieve higher adoption levels.²⁰

6.23 Kerbside collection also has particular implications for the glass recycling, which are discussed later in this chapter.

Need to educate households and provide incentives

6.24 Submitters also noted that significant community engagement and education are required to increase the quantity and quality of recycling collected. WMAA stated that:

Having a well-informed community that has easy access to collection systems such as those described above definitely assists with source

17 Visy, *Submission 43*, p. 11.

18 SKM Recycling, *Submission 50*, p. 2.

19 Australian Capital Territory Government, *Submission 20*, p. 6.

20 Australian Capital Territory Government, *Submission 20*, p. 6.

separation of waste into the respective streams, and can therefore improve the quality of what is collected and recovered. This also has the additional benefit of improving the remanufacturing process, by assisting to reduce costs associated with contamination.²¹

6.25 In addition to the need for appropriate infrastructure for the collection and processing of material to be in place, the WALGA submitted that 'the chances of recovering good, high quantity material' can be increased through the use of:

- a well-funded communication and engagement program; and
- sufficient motivation to undertake waste diversion activities—motivation can be intrinsic (value based), related to incentive (cash), or a wish to avoid a negative consequence (regulation).²²

6.26 The VWMA submitted that 'the complexity of materials and the different materials collected by council recycling can be confusing to residents, especially to renters who have less ownership of recycling than longer term residents'.²³

6.27 As previously noted, source separation is critical to ensuring that recycling processes are efficient and effective. SKM Recycling submitted that 'the presence of non-recyclable materials in SKM's feedstock reduces the efficiency of SKM's materials recovery processes'. It attributed poor kerbside sorting practices 'partly to a lack of community awareness as to what can, and what can't be recycled in the kerbside recycling bin'. SKM Recycling suggested that the Australian Government should provide funding to support community education programs to encourage sound recycling practices.²⁴

6.28 Visy also supported the implementation of 'strong education practices to promote better at-home recyclables segregation'. It stated that:

...there are householders that simply do not comply with Council recycling guidelines and those who practice "wish-cycling". Wish-cycling is the phenomenon of tossing anything and everything that could possibly, maybe, sort of be recycled into the recycling bin.²⁵

21 Waste Management Association of Australia, *Submission 52*, p. 11.

22 Western Australian Local Government Association, *Submission 58*, p. 3.

23 Victorian Waste Management Association, *Submission 27*, p. 3.

24 SKM Recycling, *Submission 50*, p. 2.

25 Visy, *Submission 43*, p. 11.

6.29 It was also argued that the ability to export recycled materials to China has resulted in a policy and education focus on the quantity rather than the quality of recycling which has led to the contamination of recycling streams. Mr Harry Wilson, President, Waste contractors and Recyclers Association of New South Wales (WCRA), told the committee that:

As an industry we pulled off the advertising and the education of the ratepayers over the last five or 10 years because of the acceptability of this product into China. I think that was a bad mistake by the whole industry. That has to come back on and we need to tell the public that some of these products aren't recyclable and get them out of the stream so that we're not handling non-acceptable items. I think we can do better in that area, and that's federally.²⁶

6.30 The Ipswich City Council noted that levels of contamination in its recycling program had increased over the past five years and attributed the increase to education programs in its jurisdiction becoming lax. Councillor Andrew Antonioli, the then Mayor of Ipswich City Council, told the committee that the council has focused, and continues to focus, on educating children in local schools, but noted that 'different age groups have different understandings of recycling, and particularly the older age group sometimes get somewhat confused'.²⁷

6.31 Councillor Antonioli also noted that the area has a diverse cultural community and 'some cultures aren't as familiar with recycling as others'. Councillor Antonioli told the committee that the council had recently released a 'bin app' which advises residents on bin collection schedules and the correct bin to utilise, but that 'the up-take rate of the app' has not been as high as the council would prefer. Councillor Antonioli acknowledged that council may have placed too much emphasis on the app and that in the future, there must be an 'advanced education scheme' implemented.²⁸

6.32 LGNSW submitted that as each council responds to the unique needs of their community, a range of practices and collection methods are utilised. This can also lead to challenges in educating householders on what items can be recycled, and the correct method for disposal.²⁹

26 Mr Harry Wilson, WCRA, *Committee Hansard*, 14 March 2018, p. 29.

27 Councillor Andrew Antonioli, Ipswich City Council, *Proof Committee Hansard*, 30 April 2018, p. 19.

28 Councillor Andrew Antonioli, Ipswich City Council, *Proof Committee Hansard*, 30 April 2018, p. 19.

29 Local Government New South Wales, *Submission 13*, p. 3.

6.33 Similarly, Mr Peter Shmigel, Australian Council of Recycling, told the committee that the level of investment in recycling varies from council to council. Mr Shmigel stated:

The reality is that from council to council you find very different levels of investment, effort in contamination reduction and in education of the community. Some rely entirely on their contractors and some do it themselves. It's a totally disparate approach in the same way that it's disparate around which bins there are. I think that a concerted effort can get you some gains right away.³⁰

6.34 The South Australian Government noted that investment in the *Recycle Right* household education program has assisted in addressing the issue of householders placing incorrect items in kerbside recycling bins.³¹ The Adelaide Hills Region Waste Management Authority (AHRWMA) also highlighted the importance of education in achieving positive outcomes in recycling, and the need for such programs to be funded. It submitted that:

Advice and understanding of what can/cannot be recycled has the ability to significantly impact consumer behaviour and decisions regarding waste – for example takeaway coffee cups. When consumers became aware that takeaway coffee cups potentially could not be recycled through kerbside recycling bins there was a quick change in behaviour to use reusable cups. This matter also raises the importance of education in the effort to reduce waste to landfill.³²

6.35 Re.Group, which operates a number of recycling facilities, and accepts feedstock from a range of local councils and commercial operators submitted that 'there are significant differences in the quantity and quality of material collected for recycling in different parts of Australia'. It attributed these differences to 'the lack of a consistent national approach to education and promotion of resource recovery activities'. Re.Group advocated for the development of a nationally consistent education program, based on existing programs which have been proven to be successful. It submitted:

Community engagement and education is a critical factor for increasing the quantity and quality of recycling collected. Given that this education is often left to individual councils or contractors, the messaging is often inconsistent and less effective than could be possible through a more coordinated national approach. There are excellent examples of recycling education programs that have been developed in specific parts of Australia,

30 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 28.

31 South Australian Government, *Submission 36*, pp. 16–17.

32 Adelaide Hills Region Waste Management Authority, *Submission 33*, p. 4.

which could be readily replicated and rolled out across a much larger audience.³³

6.36 The City of Gold Coast (CoGC) submitted that it has been offering 'financial incentives to residential customers' to encourage the use of green waste bins to reduce the volume of green and food wastes entering landfill. It submitted that this has proven successful with up to 20 per cent of CoGC households becoming customers over four years. The CoGC also noted that 'at a future tipping point, incentives lose their impact and disincentives such as higher disposal fees have more influence, e.g. green waste disposal charge increases make a green waste collection service a more viable option. The CoGC stated that the introduction of mandatory collections will maximise the quantity of organics collected but that there will be an inevitable increase in contamination from disengaged residents.'³⁴

6.37 The South Australian Government submitted that state governments should consider implementing variable rate pricing to provide a 'more direct market based price signal and economic incentive for behavioural change towards resource recovery'. Variable rate pricing would charge householders for the disposal of waste in a similar manner to other utilities such as water and electricity. This would be in accordance with two guiding principles of environmental policy, namely the polluter pays principle and the shared responsibility concept.³⁵

6.38 The South Australian Government suggested that variable rate pricing would increase the transparency of the price differential between recycling and landfill disposal. It submitted that an effective variable rate system should be built on three pillars—identification (for waste generator accountability), measurement (of waste and/or services provided), and unit pricing (charging according to service provided). The South Australian Government suggested that such systems can take various forms. It stated:

A variable rate pricing system can take various forms such as weighing the amount of waste in collection bins or using pre-paid bags, tags or stickers or prescribed sizes of waste bins. Technical specifications depend on the specific situation in the collection area, provisions made in legislation and other waste policy. While they operate differently from one another, these systems share one defining characteristic - person/business who throws away more, pay more.³⁶

33 Re.Group, *Submission 32*, pp. 7–8.

34 City of Gold Coast, *Submission 31*, pp. 2–3.

35 South Australia Government, *Submission 36*, p. 18.

36 South Australia Government, *Submission 36*, p. 18.

Issues related to particular types of recyclates

6.39 The following sections will outline the evidence raised in relation to the collection, sorting and recycling of particular types of recyclates which pose unique challenges to the recycling industry. This includes: glass, mattresses, and tyres.

Glass

6.40 Submitters noted that the glass recycling sector is facing significant challenges including that:

- commodity prices are non-existent with some councils paying to have glass recovered;³⁷
- glass is being stockpiled as there are limited established markets for recycled glass;³⁸
- there is progressive closure of glass furnaces by glass re-manufacturers; and
- there is a decline in investment for glass manufacturing.³⁹

6.41 Glass is currently recovered through kerbside recycling and CDS. However, the committee received evidence indicating that both collection methods present issues for glass recycling.

Kerbside collection

6.42 While there are high levels of recycling of glass through kerbside systems, submitters pointed to problems with kerbside recycling. For example, Visy submitted that glass recycling has posed a challenge to the industry for a number of years. It stated:

The sorting, cleaning and re-manufacture of glass received from the kerbside recycling stream has posed serious challenges to the recycling industry over many years. Glass is a significant portion of the kerbside recycling bin, making up circa 35% of the volume. Therefore of the total 3 million tonnes per annum collected from kerbside bins, approximately 1 million tonnes is glass.⁴⁰

6.43 Owens-Illinois explained that current kerbside collections systems result in 'a significant level of small glass fragments and contaminants' that cannot be used in recycled glass manufacturing. It stated that co-mingled recycling collection combined

37 Brisbane City Council, *Submission 4*, p. 4.

38 Lake Macquarie City Council, *Submission 37*, p. 5.

39 Visy, *Submission 43*, p. 11.

40 Visy, *Submission 43*, p. 11. See also Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 4.

with high compaction rates breaks glass into small fragments that cannot be extracted, and contaminates other recyclable materials.⁴¹

6.44 Mr Nicholas Harford, Equilibrium, told the committee that glass products collected in kerbside recycling:

...get broken at multiple points. When the bin gets picked up it gets thrown into the truck pretty hard, depending on the style of the truck. As the truck gets fuller, most trucks compact within the truck, so that creates breakage as well. When the truck gets to the material-recovery facility the material is dumped onto a cement floor, so you get more breakage. It's usually picked up in an excavator if it hasn't been dumped straight into a loading bay of some sort, so it gets picked up and dumped again. All through these phases it gets broken. I would explain as well that over the years a lot of bottles have got lighter and thinner, which is a good thing because it uses less material and energy in its manufacture. But it breaks more easily.⁴²

6.45 In addition, Owens-Illinois explained that for operational, quality and safety reasons, glass must be colour sorted and contaminants such as metal, stone, ceramics, and a range of glass types (e.g. Pyrex glassware, drinking glasses, and medical and laboratory glass) must be removed prior to processing.⁴³

6.46 Owens-Illinois stated that despite these challenges, it has been able to maintain an average of 250,000 tonnes of post-consumer cullet, and recycle content has increased from 23 per cent to 39 per cent over the past 15 years. It attributed this success to a willingness to invest in technology to process recycled glass, and manufacture new containers with an increasing recycled content. Owens-Illinois highlighted the investment in technology such as optical sorting and x-ray technology to colour sort small particles of glass and remove contaminants. It stated that 'such technology is expensive and its commercial viability relies heavily on high volumes of glass collected through co-mingled kerbside collection'.⁴⁴

Container deposit schemes

6.47 Given the issues kerbside collection presents for glass recycling, the introduction of CDS (also referred to as container deposit legislation, or CDL) creates an alternative stream of glass collection, diverting material from kerbside collection systems. Some submitters highlighted the benefits of CDS for glass recycling, including that it reduces glass contamination of co-mingled recycling, and yields higher quality recyclates. Other submitters, however, argued that the introduction of CDS pose a number of challenges to glass recycling in Australia. This section explores these issues.

41 Owens-Illinois, *Submission 56*, p. 5.

42 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 17.

43 Owens-Illinois, *Submission 56*, p. 5.

44 Owens-Illinois, *Submission 56*, pp. 5–6.

6.48 The South Australian Government, which has had CDL since 1977, submitted that its scheme results in reduced glass in kerbside recycling, which has reduced glass breakage in compaction vehicles and led to higher quality recyclables.⁴⁵ The scheme has also increased the quality of recovered materials due to a greater level of separation according to container type. It submitted that there are 120 depots across the state where deposits can be redeemed.⁴⁶ Similarly, Councillor John Woodward, City of West Torrens (South Australia) submitted that:

Container Deposit Levy (CDL) in South Australia has proved effective in reducing waste, increasing recycling and importantly, creating a high quality glass for recycling. The CDL allows the glass to be sorted into different colours at source, which increases the quality and value of the material for recycling. There is a strong argument for making the CDL a national scheme and increasing the deposit to 20c per item.⁴⁷

6.49 It was submitted that in addition to improving recycling outcomes and reducing waste, container deposit schemes provide a buffer against changes in commodity prices or changes in the recycling regulatory environment. For example, Mr Ritchie, MRA Consulting, told the committee that:

...container deposit schemes are worth somewhere between \$190 and \$300 a tonne in additional revenue to that MRF-council combined entity—and, yes, there's a whole debate happening about where that is apportioned and allocated—but CDS in New South Wales at least offers a buffer to China National Sword that perhaps other states don't have. It's half as much again in terms of value to the MRFs.

6.50 Owens-Illinois told the committee that, globally, it has supported 'non-discriminatory' CDS when the scheme helps 'deliver high volumes of good quality and cost effective cullet'. Owens-Illinois emphasised that its support 'is very much market specific and our support for CDL is typically in markets that have limited recycling infrastructure and where existing recycling outcomes are poor'.⁴⁸ However, in considering the introduction of schemes in both New South Wales and Queensland, Owens-Illinois expressed a preference for a 'centralised container deposit scheme'. The benefits of a single, national approach are further discussed in Chapter 7.

6.51 The implications of new schemes being introduced in states such as New South Wales and Queensland attracted significant comment. The Local Government Association of Queensland, in considering the impact of the upcoming introduction of a CDS in Queensland in July 2018, submitted that:

45 The South Australian Government noted that glass bottles returned for deposit through its CDS are 'of high quality and are sought after by re-processors'. It stated that 'the price for recovered glass in South Australia in 2015–16 was around \$90 per tonne, compared to an average of about \$50 per tonne'. South Australia Government, *Submission 36*, p. 19.

46 South Australia Government, *Submission 36*, p. 17.

47 Councillor John Woodward, *Submission 54*, p. 1.

48 Owens-Illinois, *Submission 56*, p. 6.

The introduction of a Container Refund Scheme (CRS) in Queensland on 1 July 2018 will provide significant resource recovery opportunities and challenges across the State. In particular, CRS glass collected through a container refund point is not subject to compaction making it capable of being sorted and as such a more valuable commodity. However, comingled glass collected outside South East Queensland (SEQ) through a local government kerbside collection would have greater transport costs and would be least desirable compared with CRS and SEQ glass.⁴⁹

6.52 The Brisbane City Council submitted that glass containers in kerbside recycling bins currently represent approximately \$12.5 million in council revenue. It submitted that when the Queensland Government implements the Container Refund Scheme from 1 July 2018, it is expected that these containers will not remain in the kerbside system as 'community groups and charities will all operate as collection and refund points, thereby diverting these funds into community groups'. The Brisbane City Council also submitted that 'the cost of the scheme (external to local government) will far outweigh any benefits gained'.⁵⁰

6.53 Similarly, Visy, in considering the introduction of CDL in Queensland and New South Wales submitted that such schemes:

...may further exacerbate the glass challenges, as the unintended consequence could be that, after glass containers are removed for redemption, the glass remaining in the kerbside bin could be too poor in quality to be re-used and can only be sent to landfill.⁵¹

6.54 It was also argued that, although the roll-out of CDS will marginally increase the recovery of some recyclable materials, it may exacerbate the market failures in the glass sand and glass bottles arenas.⁵² Mr Spedding, NWRIC, also stated that if there is not a market for the glass fines⁵³ resulting from kerbside collection, then it is likely that stockpiling will occur.⁵⁴

6.55 Mr Vaughan Levitzke, Chief Executive Officer, Green Industries SA, told the committee that the implementation of new CDS in Australia has largely been driven by the community, and noted that the beverage industry has long opposed the introduction of such schemes. Mr Levitzke stated:

It's probably community pressure, but also NGOs have played a strong role, particularly in New South Wales. Also I think the beverage industry

49 Local Government Association of Queensland, *Submission 7*, p. 6.

50 Brisbane City Council, *Submission 4*, p. 4.

51 Visy, *Submission 43*, p. 11.

52 MRA Consulting, *Submission 25*, p. 10.

53 Glass fines are crushed glass resulting from the collection and sorting process.

54 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 4. Issues related to the need for markets for recycled goods are discussed in Chapters 5 and 7.

probably didn't do itself a great service in terms of the way it fought container deposits over many, many years. Many of those arguments didn't hold water—no pun intended!⁵⁵

Suggestions for change

6.56 To address challenges for glass recycling associated with kerbside collection, Owens-Illinois advocated for the introduction of kerbside glass-only collection systems. Owens-Illinois considered this would achieve 'the single greatest improvement to glass recycling'. It stated that:

Current Beneficiation Facilities using feedstock from the current kerbside collection system yield between 30% to 60% glass recoveries. Glass only kerbside collections will significantly increase the glass recovery to at least 90%.⁵⁶

6.57 Owens-Illinois anticipates that the introduction of glass only collections would result in the glass delivered to cullet beneficiation plants under both kerbside collection and CDS being of similar quality. This, in turn, would 'allow for less capital intensive facilities, reducing the cost of recycling in the future'.⁵⁷

6.58 In addition to making changes to the ways in which glass is collected and processed, it was suggested that a range of other policies should also be implemented. These include:

- taxes or levies should be applied to virgin aggregates to provide a level playing field for recycled glass;⁵⁸ and
- the use of recycled products in new materials, for example, requirements to utilise a minimum proportion/amount of recycled glass in aggregate and roadbuilding materials should be mandated.⁵⁹

Mattresses

6.59 In excess of two million mattresses are sold every year. 1.6 to 1.8 million mattresses are disposed of with more than half of these going to landfill (about 900,000 cubic metres per year of landfill). Other mattresses are reused, stockpiled or

55 Mr Vaughan Levitzke, Green Industries SA, *Proof Committee Hansard*, 30 April 2018, p. 38.

56 Owens-Illinois, *Submission 56*, p. 7.

57 Owens-Illinois, *Submission 56*, p. 8.

58 Brisbane City Council, *Submission 4*, p. 4. See also Hunter Joint Organisation of Councils, *Submission 22*, p. 9.

59 Brisbane City Council, *Submission 4*, p. 4; Visy, *Submission 43*, p. 11.

illegally dumped.⁶⁰ It should be noted that with the appropriate collection and processing systems, mattresses are '(almost) fully recoverable'.⁶¹

6.60 The WMAA noted the importance of source separation and appropriate collection systems in achieving high recovery rates. It stated that 'mattresses...cannot be recovered from landfill, however where Councils create separate collection systems, the potential for these to be recycled is greatly improved'.⁶²

6.61 It was also noted that a product stewardship scheme for mattresses is currently being discussed. Councils supported the inclusions of mattresses in the scheme so that as much of the material can be recovered and to keep bulky items out of landfill.⁶³

Tyres

6.62 In 2015–16, Australia generated more than 56 million EPUs (equivalent passenger units) of end-of-life tyres, which equates to roughly two EPUs per person. By weight, this equates to around 450,000 tonnes of waste material. This waste material is:

- recycled domestically (e.g. road construction, tile adhesives) – 10 per cent;
- exported as tyre-derived fuel – 27 per cent; and
- sent to landfill, stockpiles, illegally dumped or exported, or buried in mine sites – 63 per cent.⁶⁴

6.63 Mr Robert Kelman, Executive Officer, Australian Tyre Recyclers Association (ATRA), told the committee that the greatest barrier to the sustainable use of used tyres in Australia is the export of whole baled tyres. Mr Kelman stated that:

There are three principal reasons why we believe that process is unsustainable. The first is that those tyres carry water, and the World Health Organization identified that tyres moving around the globe are the biggest cause of the transportation of mosquito borne diseases that there is, so we move dengue fever, malaria and other quite dangerous diseases around the world in tyres because they're black and contained and they sustain water—the perfect incubator for mosquito larvae. The second reason is that they go to unsustainable outcomes like dirty pyrolysis operations in Malaysia or India. The third is that it massively diminishes the ability of the industry in Australia to develop, because you can buy a baler for \$15,000, get a truck

60 TIC Group, *Submission 8*, p. 3.

61 Brisbane City Council, *Submission 4*, p. 4.

62 Waste Management Association of Australia, *Submission 52*, p. 11.

63 Brisbane City Council, *Submission 4*, p. 3.

64 Tyrecycle, *Submission 21*, p. 3.

and undercut a legitimate industry when you go to the retailers and collect their tyres. So it keeps the industry at a very low level.⁶⁵

6.64 ATRA noted the lack of regulation in relation to tyres in Queensland and WA has allowed rogue operators to undercut legitimate businesses, and to stockpile or dump waste products. ATRA went on to note that Queensland and Tasmania have large stockpiles of tyres, with Tasmania having around 1.2 million tyres in stockpiles—the largest in Australia.⁶⁶

6.65 Mr Kelman, ATRA, told the committee that:

The modus operandi, which we've seen again in Queensland, is that you lease an industrial site, pay maybe a few months in advance to an unsuspecting landlord, pile the tyres up—and we've got a couple of sites in Queensland which have over a million tyres each—and then walk away. Or, as I say, they may mysteriously somehow catch fire. And that means that you're not spending any money in shredding that material, containerising it and exporting it. My members pay about \$1,100 per 40-foot container to export tyre derived fuel, so the \$2 is the endpoint of their income. If you've got a model where you can simply stockpile those tyres, you're making quite a lot of money.⁶⁷

6.66 Mr Kelman, ATRA, also noted that eventually illegally stockpiled tyres 'have to be paid for by government to get rid of them'. Mr Kelman highlighted that the Victorian EPA was forced to fund the removal of a large stockpile of tyres in Stawell. Mr Kelman stated:

Stawell was the largest stockpile of used tyres in Australia...Stawell became a massive community issue every year. Every fire season, they allocated a crew to the site to remain in position on those really hot, dangerous days in case it did go up because of the enormity of the impact that that would have. The government eventually spent the several million dollars to contract one of my members to collect the material, process and export it and deal with that community opposition.⁶⁸

6.67 A number of submitters noted that, in an attempt to manage end-of-life tyres, a voluntary, industry-led product stewardship scheme was introduced in 2014. The scheme—Tyre Stewardship Australia (TSA) is administered by tyre importers in Australia and is supported by a levy imposed on tyre importers, vehicle manufacturers and miners of a minimum of \$0.25 per EPU imported into Australia.⁶⁹ The Australian

65 Mr Robert Kelman, Australian Tyre Recyclers Association, *Committee Hansard*, 14 March 2018, p. 57.

66 Australian Tyre Recyclers Association, *Submission 23*, p. 3. See also Mr Robert Kelman, Australian Tyre Recyclers Association *Committee Hansard*, 14 March 2018, pp. 58–59.

67 Mr Robert Kelman, ATRA, *Committee Hansard*, 14 March 2018, p. 59.

68 Mr Robert Kelman, ATRA, *Committee Hansard*, 14 March 2018, p. 60.

69 Revenue raised by the levy is used to find and promote new uses for tyre-derived products.

Competition and Consumer Commission (ACCC), which has granted authorisation for the scheme to operate,⁷⁰ has published the following summary of the purpose of the TSA and how the scheme operates:

The Scheme is an accreditation program that aims to reduce the amount of end of life tyres (EOLTs) entering the environment via landfill, illegal dumping or undesirable export, while increasing the recycling rate of EOLTs...Broadly, the Scheme requires participants to adhere to a series of general and specific commitments to ensure the environmentally sound use of EOLTs, to deal only with other accredited participants of the Scheme and to report data to TSA regularly. The Scheme also imposes a \$0.25 tyre levy on tyres that its participants import into Australia.⁷¹

6.68 Mr Harford, Equilibrium, told the committee that the bulk of tyre retailers in Australia now use a Tyre Stewardship Australia accredited member for the recycling of tyres. Mr Harford explained:

Under the Tyre Stewardship Australia scheme, 25c per equivalent passenger unit is now charged on every tyre that is sold in Australia and that goes to Tyre Stewardship Australia to do research and development. It's a coercive action, and the ACCC has acknowledged it as such, in that anyone who wants to be a member of Tyre Stewardship Australia can only use Tyre Stewardship Australia members for any of its activities. Therefore, the bulk of the retailers of tyres in Australia, passenger tyres in particular, now have to use a Tyre Stewardship accredited member for their collection and recycling. As I noted, we actually do audits for Tyre Stewardship Australia for the recyclers. So those recyclers have to meet a very high standard and they have to prove that the tyres that they collect in recycle are actually going to an environmentally responsible end market at the end of the day. It brings a greater level of accountability and transparency to those operators and reduces the chance of rogue operators in the tyre space. While it doesn't fund them directly, it does provide that kind of market force.⁷²

6.69 Tyrecycle, however, argued that the TSA has not had the desired impact on addressing illegal landfilling and dumping because of the voluntary nature of the scheme.⁷³

6.70 The committee was advised that New South Wales is addressing the problem of tyres with a tracking regime for all end-of-life tyres. Tyrecycle stated that there is minimal risk of tyres avoiding this system and being illegally disposed of.⁷⁴

70 Authorisation is required as the scheme involves conduct that might otherwise breach the *Competition and Consumer Act 2010*.

71 Australian Competition and Consumer Commission, *Determination: Application for authorisation AA1000409 lodged by Tyre Stewardship Australia in respect of the national Tyre Stewardship Scheme*, May 2018, p. 2.

72 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 16.

73 Tyrecycle, *Submission 21*, p. 2.

74 Tyrecycle, *Submission 21*, p. 2.

Mr Kelman, ATRA, described the New South Wales tyre regulatory regime as 'leading the way'. Mr Kelman noted that recently, a number of New South Wales retailers were fined for failing to comply with regulatory requirements.⁷⁵

6.71 Finally, Mr Spedding, NWRIC, suggested that innovative solutions could be utilised for the recycling of tyres such as a 'pyrolysis process' where tyres are heated to produce oil, carbon black and metal. The oil can then be reprocessed and used by vehicles 'within days'.⁷⁶

Stockpiling

6.72 Stockpiling, or the practice of storing large quantities of collected recyclable material was raised as an issue by a number of submitters. In particular, the environmental and health risks associated with stockpiled material were noted. Some submitters called for stockpiling to be made illegal, while others argued that stockpiling is a commercial necessity for the recycling industry and which should be managed rather than made illegal.

6.73 Mr Alex Serpo, National Secretary, NWRIC, told the committee that stockpiles are 'a major concern'. Mr Serpo noted that beyond market conditions, other causes of stockpiling include:

...rogue operators who will just collect material, like construction material, put it somewhere and then close down their company. They're what we call phoenix companies.⁷⁷

6.74 Other submitters stated that the causes of stockpiling include market forces and commercial gain, transportation and geographic distances, limited interest from recyclers to commercially service remote communities, and a lack of appropriate infrastructure available.⁷⁸ Stockpiling can also occur when councils store material prior to collection and removal offsite by appropriate recyclers.⁷⁹

6.75 Mr Max Spedding, NWRIC, noted the danger associated with stockpiling combustible material and stated that despite the implementation of safety measures such as heat sensors, spacing of stockpiles, and fire barriers between stockpiles and buildings, there have been a number of serious fires. Mr Spedding described the risk as 'high' when combustible material is stockpiled.⁸⁰

75 Mr Robert Kelman, ATRA, *Committee Hansard*, 14 March 2018, p. 59.

76 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 8.

77 Mr Alex Serpo, NWRIC, *Committee Hansard*, 20 November 2017, p. 5.

78 Local Government Association of the Northern Territory, *Submission 9*, p. 4.

79 Adelaide Hills Region Waste Management Authority, *Submission 33*, p. 4.

80 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 5.

6.76 Submitters commented that, although stockpiling can become problematic, there are also commercial needs which make stockpiling necessary. For example, the South Australian Government commented that in regulating stockpiling, there is a need to balance the genuine need of many businesses and local governments to undertake some degree of stockpiling (for example, for reasonably anticipated sales) against excessive stockpiling that can create environmental, abandonment or unfair competition risks.⁸¹ Mr Max Spedding, NWRIC, explained that:

The difficulty is that recycling markets are not static. They rise and fall quite dramatically. When they fall, you accumulate stock, but, when the market recovers, it needs stock to be able to supply it; otherwise, you miss out and the market's not reliable. Stockpiling is an inevitable part of recycling, so a facility needs to have enough space. If it does stockpile materials, it needs to be done in a proper manner, with the necessary security, spacing et cetera.⁸²

6.77 The Victorian Waste Management Association (VWMA) submitted that 'stockpiles are a necessary part of recycling to ensure constant supply for processing'. It explained that the 'just in time' business model does not work in the recycling industry. VWMA also noted that since the 2017 fire at the SKM Recycling facility at Coolaroo, Victoria, the Victorian EPA and fire services have enacted guidelines to prescribe storage requirements.⁸³

6.78 Similarly, LGNSW submitted that the NSW EPA sets limits on the stockpiling of waste products to prevent negative environmental consequences. It noted that there is a view amongst some of its member councils that for some inert and low risk recyclable materials, it may be desirable to allow stockpiling to account for fluctuations in the market.⁸⁴

6.79 Mr Serpo, NWRIC, told the committee that industry has proposed a number of solutions to manage stockpiling including audits, enforcement action and reporting tools. Mr Serpo stated:

In regard to stockpiles, industry has put forward a number of solutions. One of them is mass balance reporting, a regulatory tool used extensively in New South Wales and in South Australia, which basically says what goes in should come out. Also, we've asked for audits of stockpiles. But we also think enforcement is important, and that's to shut down the companies which aren't acting ethically and, in some cases, are acting illegally and just getting rid of waste in any way they can.⁸⁵

81 South Australian Government, *Submission 36*, p. 19.

82 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 5.

83 Victorian Waste Management Association, *Submission 27*, pp. 3–4.

84 Local Government New South Wales, *Submission 13*, p. 4.

85 Mr Alex Serpo, NWRIC, *Committee Hansard*, 20 November 2017, p. 5.

6.80 However, ResourceCo submitted that stockpiling should be made illegal in all jurisdictions. It argued that where there is no market for a material, it should be diverted to landfill and levies paid. Operators should not be allowed to stockpile material for a 'rainy day' with no market in sight as a way of avoiding a waste levy.⁸⁶

Infrastructure for processing recyclable material

6.81 Submitters highlighted the importance of investment in infrastructure for the collection and processing of recycled material and diverting waste from landfill. This infrastructure is needed both to enable regions to participate in recycling programs and to reduce contamination rates. For example, the South Australian Government submitted that:

More than \$17 million in recycling infrastructure grants has been provided towards over 150 projects across South Australia. In metropolitan areas this has supported recycling infrastructure targeting plastics, organics, mixed waste and e-waste. Funding in regional areas has supported upgraded and new transfer stations using state-of-the-art technologies and sorting equipment....in 2002-03, South Australia was diverting approximately 61% of material from landfill. With the above investment, this has increased significantly to 81.5% in 2015-16 and total resource recovery tonnages have nearly doubled. Waste to landfill has reduced by 29% this period.⁸⁷

6.82 The Shire of Exmouth highlighted the need for infrastructure to enable recycling in regional areas. The Shire explained that 'as an isolated regional area not on a standard transport route there are challenges with being able to participate and support a recycling program'. It submitted that the cost of transporting recyclables the necessary 1200 kilometres to a recycling collection point negates any income produced by collecting the material, and therefore recycling becomes 'unsustainable'. As such, it supported initiatives which recycle and reuse material within the town but highlighted the need for funding and research into opportunities for small scale recycling initiatives that create products which can be used within the local area.⁸⁸

6.83 The Shire of Exmouth also stated that certain regional areas could be identified as 'recycling nodes' to collect and receive material from other non-metropolitan areas. It submitted:

These nodes scattered throughout the state could be areas identified as potential locations to receive and process recyclable goods outside of the metro areas. They could then be supported to build the infrastructure to take and/or process the recyclables.⁸⁹

86 Resource Co, *submission 26*, p. 5.

87 South Australia Government, *Submission 36*, p. 16.

88 Shire of Exmouth, *Submission 34*, p. 2.

89 Shire of Exmouth, *Submission 34*, p. 2.

6.84 The committee received evidence that to reduce the contamination rate of recyclable materials, investment in material recovery facilities (MRFs) is required. Reducing contamination rates reduces the amount of product being sent to landfill, supports domestic markets for product, and ensures that material meets international regulatory requirements for the export to countries such as China. Mr Stuart Garbutt, Director, Operations, Re.Group, told the committee that in order to upgrade material recovery facilities (MRFs) funding of between \$5 million and \$30 million would be required. Mr Garbutt explained:

A brand-new 10,000 to 15,000 tonne MRF is \$5 million to \$6 million; the 100,000 to 200,000 tonne MRFs are \$25 million to \$30 million. I believe the one in Melbourne is reported to be somewhere in the vicinity of \$40 million to \$50 million. I would dare say that these newer MRFs probably don't need as much capital as some of these older regional MRFs. You would be probably looking at packages of \$1 million to \$2 million in regional areas, \$3 million to \$5 million in the cities.⁹⁰

6.85 Mr Garbutt, Re.Group, also noted that upgrades are a relatively short-term project with an implementation period of between four and eight months.⁹¹

90 Mr Stuart Garbutt, Re.Group, *Proof Committee Hansard*, 30 April 2018, p. 4.

91 Mr Stuart Garbutt, Re.Group, *Proof Committee Hansard*, 30 April 2018, p. 4.

Chapter 7

National leadership

7.1 Throughout the inquiry, the committee heard calls for increased national leadership in managing the issues which have arisen in the waste and recycling industries. As submitted by the Waste Management Association of Australia (WMAA), it is 'not possible for industry to solve all challenges without government support, just as government cannot solve all challenges without industry support'.¹

7.2 As such, 'shared responsibility' must be taken for ensuring the future of the recycling industry with clear roles for the Australian Government, for state and territory governments, for customers, and for industry operators. The WMAA submitted:

The Australian Government has an important role in encouraging the development of domestic markets for recycled materials, noting that this effort can be well aligned with current focus areas of creating jobs and economic growth, especially in regional areas. State governments have a responsibility to set and enforce minimum standards for market participation, and ensure a level playing field. Customers have a responsibility to ensure the operators they engage will provide acceptable services, in accordance with market standards (including regulatory standards, as well as commercial standards such as product offtake specifications). It is the responsibility of industry operators to set their pricing at levels where they are able to meet their commitments in terms of the quality of the recycling service provided.²

7.3 This chapter will canvass the evidence received in relation to the role of governments in ensuring the future of the recycling industry, and the best practice management of the waste sector. The following issues will be explored:

- the need for a circular economy to be established;
- the development of a reinvigorated National Waste Policy;
- the need for national mandatory stewardship schemes to be introduced for a range of materials;
- the need for the establishment and invigoration of markets for recycled material through a range of measures including government procurement policies; and
- the need for investment in waste avoidance and resource recovery initiatives, including investment in the development of technology and infrastructure.

1 Waste Management Association of Australia, *Submission 52*, p. 9.

2 Waste Management Association of Australia, *Submission 52*, pp. 9–10

Circular economy

7.4 As previously noted the recycling sector is under considerable pressure due to a lack of sustainable markets for Australian recycled material, both domestically and internationally. Submitters advocated for national leadership in the development of an Australian circular economy with strong domestic markets for recyclable materials, and products made from recycled material. Circular economies require investment in infrastructure and market development, and the integration of Commonwealth, state and territory and local legislation, policy and programs.³ Mr Mark Venhoek, Chief Executive Officer, SUEZ Australia and New Zealand stated:

Government and industry both need to play their part in driving change towards the true circular economy and closing the loop of wasting resources. For that, we need more ownership, we believe, more accountability and audacity to change legislation and regulation, in terms of waste management, produce responsible schemes, and procurement. However, a waste and recycling strategy does require the necessary, what we would call, carrot-and-stick principles and proper governance and enforcement of the law, as without it those principles will, unfortunately, fail.⁴

7.5 Submitters stated that Australia is 'being left behind the rest of the developed world, in transitioning to the circular economy, and utilising waste as a resource'. It was noted that a circular economy provides economic and employment opportunities with the Waste Management Association of Australia (WMAA) submitting that 'for every 10,000 tonnes of waste recycled, 9.2 jobs are created'.⁵

7.6 Equilibrium noted that the European Commission has adopted an 'ambitious new Circular Economy Package to help European businesses and consumers to make the transition to a stronger and more circular economy where resources are used in a more sustainable way'.⁶

7.7 The Southern Metropolitan Regional Council submitted that establishing a circular economy:

...requires the appropriate integration of Commonwealth, state and territory and local government legislation, policy and programs which would require national targets for resource recovery, remanufacturing, infrastructure planning and market development.⁷

3 Southern Metropolitan Regional Council, *Submission 59*, p. 2.

4 Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018, p. 48.

5 Waste Management of Australia, *Submission 52*, p. 2.

6 Equilibrium, *Submission 35*, p. 4.

7 Southern Metropolitan Regional Council, *Submission 59*, p. 2.

7.8 It was also suggested that to establish a circular economy, the following must occur:

- the regulation of waste must be harmonised to ensure a 'level playing field';
- the *National Waste Policy: Less waste, more resources* must be reinvigorated;
- the development of domestic markets should be supported through the prioritisation of sustainable procurement of recycled content in all levels of the government supply chain; and
- new products (including packaging) must meet recyclability and recoverability requirements with clear pathways for the movement of materials back into the economy.⁸

Policy approach

7.9 It was also argued that Australian policy development in the area of waste and recycling has been disconnected from the 'practical realities of what's actually happening in our society and economy with regard to production and consumption'. In particular, it was argued that there is a 'lag' between policy and practice which results in 'suboptimal outcomes' for waste and recycling.⁹

7.10 Mr Peter Shmigel, Chief Executive Officer, Australian Council of Recycling, told the committee that the lag between policy and practice has resulted from a focus on weight i.e. how much material is being diverted from landfill being measured by weight. Mr Shmigel stated:

All of our measures are constructed in that regard. All of our targets are constructed in that regard. As a result, much of our programmatic effort also flows from that. When you only look at waste and recycling by weight, you get pretty good outcomes in some areas, because you design instruments like landfill levies that are weight based, and then you get much lower outcomes around products, materials, streams and activities that are inherently lighter and that are more complex. So I encourage senators to think about those things that are heavy—construction material, cardboard out of businesses—and that are homogeneous, meaning single stream and essentially clean to use in a recycling process. We do those pretty well as a society. Then you look at things that are heterogeneous and lighter—for instance, kerbside recycling, e-waste and tyres—and we do much less well.¹⁰

7.11 Mr Nicholas Harford, Managing Director, Equilibrium, similarly told the committee that policy responses that treat waste and recycling as one industry have

8 Waste Management of Australia, *Submission 52*, p. 2.

9 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 25.

10 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 25.

created negative and unintended consequences for both industries. Mr Harford noted that the waste industry is generally a volume-based business focused on the movement of material from one point to another, while recycling is focussed on the processing of material.¹¹

7.12 Mr Shmigel recommended that policy should move away from a 'weight-only dynamic' and instead focus on developing waste and recycling as an industry. This policy focus should include examining how to 'maximise' job opportunities and social benefits associated with the sector.¹²

National Waste Policy

7.13 Submitters called for the Australian Government to play a greater role in coordinating waste policy in Australia, improving consistency in waste policy and developing a consistent approach to levies nationally.¹³ One option supported by submitters was the reinvigoration of the National Waste Policy.¹⁴

7.14 As noted in Chapter 1, the *National Waste Policy: Less waste, more resources 2009* was intended to set the national policy direction up to 2020 with 16 priority strategies to manage waste. Submitters stated that despite there being a clear role for the federal coordination of waste and recycling management, there 'appears to have been very little action if any to implement this Plan [Policy] since 2014'.¹⁵ Equilibrium described the National Waste Policy as now being 'defunct' despite its aims and strategies remaining valid. Equilibrium submitted:

...since about 2012–2013 there has been minimal on-going support for the Policy, its refinement and implementation. Successive State and Territory Governments have largely ignored it as a national framework and pursued individual agendas. This fails to acknowledge that significant players in the waste and recycling industry are national businesses, who typically prefer and advocate a nationally uniform approach to policy and regulation.¹⁶

11 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 13.

12 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 25.

13 Australian Local Government Association, *Submission 47*, p. 3; SKM Recycling, *Submission 50*, p. 3; Suez, *Submission 51*, p. 4.

14 MRA Consulting, *Submission 25*, p. 11.

15 Waste Management Association of Australia, *Submission 52*, p. 11.

16 Equilibrium, *Submission 35*, p. 3. See also Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 12; TIC Group (Mattress Recycling), *Submission 8*, p. 5.

7.15 Ms Gayle Sloan, Chief Executive Officer, WMAA, pointed to the failure to progress the National Waste Policy as the cause for the continued reliance on export markets, and noted that that the recent policy change in China has only served to highlight the lack of national unity and leadership on the issue. Ms Sloan stated:

If, for example, the national waste strategy had genuinely significantly progressed, even two of the 16 priority strategies—that is, sustainable procurement and prepackaging management—in the last eight years, Australia may well have progressed in creating secondary markets and a circular economy in Australia, like the EU and like China is now making happen, and we would not have the continued reliance we have, to an extent, on global trading markets, such as China, for our commodities.¹⁷

7.16 Ms Sloan further stated that waste and recycling 'has failed to receive the recognition and support that it should from the federal government in recent times'.¹⁸ Ms Sloan explained:

The federal government to date has played a very little role in waste policy, essentially limiting itself to the extent of producing responsibilities schemes. This is wholly inadequate when considering the importance of this essential industry to community, as well as its important role in the economy and the environment. The issue is simply too important for the federal environment and energy minister, Josh Frydenberg, to continue to repeat his mantra: 'It's up to the states.' This is one that the federal government needs to start stepping up to the plate on.¹⁹

7.17 Mr Jeffrey Angel, Total Environment Centre/Boomerang Alliance, explained that despite having a National Waste Policy, there has been 'no national implementation, and there are a number of key things federal government must do'.²⁰

7.18 The Western Australian Local Government Association (WALGA) noted that the Council of Australian Governments (COAG) Council on Environment and Water provided a formal conduit for states and territories to discuss key issues. This was disbanded in 2013 and replaced by the Meeting of Environment Ministers. WALGA submitted that the resourcing for the Department of the Environment and Energy 'appears to have been reduced, with the 2016 review of the *Product Stewardship Act 2011* still a work in progress'. WALGA concluded that there is an opportunity for the Australian Government in providing leadership, but also noted that this must be properly resourced, and have political support.²¹ The South Australian

17 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 12.

18 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 11.

19 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 12.

20 Mr Jeffrey Angel, Total Environment Centre/Boomerang Alliance, *Committee Hansard*, 14 March 2018, p. 56

21 Western Australian Local Government Association, *Submission 58*, p. 6.

Government also noted the disbandment of the COAG Council on Environment and Water.²²

7.19 Submitters pointed to the differences in the regulation of the waste and recycling industry across jurisdictions as a reason for renewed national leadership and harmonisation. The Australian Sustainable Business Group (ASBG) stated that 'Australia's jurisdictional control of waste management has resulted in highly different waste management regulation, environmental standards and infrastructure'.²³

7.20 Similarly, the WMAA noted that many participants in the waste and recycling industry operate across the country and that inconsistencies in the regulation of the industry between jurisdictions 'demonstrate the opportunity for the Australian Government to require a more consistent approach'.²⁴ The South Australian Government also submitted that:

...the Australian Government should take a stronger coordination role and that it has an essential role to play in addressing matters that cannot readily be tackled by any State acting alone to achieve coherent, efficient and environmentally responsible approaches for solid waste management.²⁵

7.21 The WMAA argued that a nationally consistent approach 'must be designed to "lift the bar" and result in better performance across all jurisdictions, rather than resulting in all jurisdictions being consistently poor performers'.²⁶ The Hunter Joint Organisation of Councils likewise called on the Australian Government to 'coordinate a consistent national approach to supporting best practice management of landfill and resource recovery sites in all states, through an updated National Waste Policy'.²⁷

7.22 A range of suggestions were made for the best way to achieve national leadership. For example, Mr Nicholas Harford, Managing Director, Equilibrium, offered his support for the use of COAG as a means to achieve consistent and uniform regulation of the waste and recycling industries.²⁸

7.23 The ASBG recommended that 'the best way forward is for the Commonwealth to play a more active role in developing and promoting a national waste framework via the NEPC [National Environment Protection Council]'. It also recommended that the Australian Government:

22 South Australian Government, *Submission 36*, p. 24.

23 Australian Sustainable Business Group, *Submission 41*, p. 3.

24 Waste Management Association of Australia, *Submission 52*, p. 11.

25 South Australian Government, *Submission 36*, p. 24.

26 Waste Management Association of Australia, *Submission 52*, p. 11.

27 Hunter Joint Organisation of Councils, *Submission 22*, p. 5.

28 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 14.

...increase its funding and influence under the National Waste Policy to progress its current work and potentially work towards more nationally consistent minimum standards for waste facilities and their management to be run by state jurisdictions.²⁹

7.24 ResourceCo also supported the use of the NEPC to create and update the National Environmental Protection Measures (NEPM). ResourceCo stated that 'reform to the existing NEPMs will bring major benefit to the industry through regulatory streamlining and reduction and hopefully state harmonisation'.³⁰

7.25 A number of submitters also argued that the National Waste Policy remains a sound policy document for establishing a federal approach to waste and recycling management in Australia. Equilibrium stated that the National Waste Policy 'warrant[s] re-visiting when considering a facilitated federal approach'.³¹ Similarly Mr Peter Shmigel, Chief Executive Officer, Australian Council of Recycling, described the National Waste Policy as a 'completely adequate document in terms of its scope and in terms of its coverage of issues'. Mr Shmigel added that 'there is a logic' to reviewing the Policy to determine what circumstances have changed since its development, and to establish new targets and accountability.³²

7.26 Similarly, Mr Mike Ritchie, MRA Consulting, told the committee:

The federal government has all sorts of authorities to intervene in the waste space. Most people who have given evidence to you today would agree with the federal government taking up a stronger role. Senator, you mentioned the National Waste Policy and you've heard today that most people would agree with that as a good platform to go forward—it simply hasn't been resourced. It's there—you mentioned the 16 actions. It's been endorsed by everyone in the waste industry as a good platform. It just requires energy and enthusiasm at the federal level and some money.³³

7.27 The WMAA concluded that:

The Australian Government needs to reinvigorate the *National Waste Policy: Less waste, more resources* and take an active role in waste management policy in Australia, in order that this essential service is protected for the community, and the full opportunities of investment and job creation can be realised by industry.³⁴

29 Australian Sustainable Business Group, *Submission 41*, p. 3.

30 ResourceCo, *Submission 26*, p. 6.

31 Equilibrium, *Submission 35*, p. 3.

32 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018.

33 Mr Mike Ritchie, MRA Consulting, *Committee Hansard*, 14 March 2018, p. 65.

34 Waste Management Association of Australia, *Submission 52*, p. 11.

Product Stewardship

7.28 Product stewardship is a policy tool used globally to improve waste and recycling outcomes by focusing on product design, material selection, consumer use, and end-of-life disposal in order to maximise economic and environmental benefits.³⁵ The Australian Capital Territory Government commented that product stewardship ensures the price signals are made apparent to those parties that have the power to redesign their products or to import and sell different products, and that waste management and recycling costs are internalised in the product costs—such that consumers see appropriate price signals at the time of purchase.³⁶

7.29 Product stewardship also makes the cost of disposal apparent to consumers at the point of purchase. This is distinctly different to conventional recycling concepts such as kerbside collection schemes where the costs of disposal are more broadly borne by the local community through rates. Mr Andrew Tytherleigh, Executive Officer, Victorian Waste Management Association, stated:

...it comes back to a personal responsibility. We've talked about adding the cost of disposal on to the cost of the product when people buy it and getting people to understand that, ultimately, they are responsible for the end disposal or the end use of that product, and it comes at a cost. Too much in Australia we socialise the cost of disposal.³⁷

7.30 The committee received evidence of widespread support for national product stewardship schemes, and many submitters called for the expansion of existing schemes, and making schemes mandatory rather than voluntary.

Support for and success of existing schemes

7.31 Australia's *Product Stewardship Act 2011* was developed as a result of the National Waste Policy. It was described as being 'largely focused on the end-of-life solution rather than tackling the full lifecycle of products'.³⁸ Commonwealth product stewardship schemes set material recovery levels for those areas it directly regulates. For example, under the National Televisions and Computer Recycling Scheme, from 1 July 2014 accredited recycling businesses must demonstrate a material recovery target of 90 per cent. This target ensures that at least 90 per cent of the weight of the material processed for e-waste is sent for further processing into useable materials.³⁹

35 Equilibrium, *Submission 35*, p. 4.

36 ACT Government, *Submission 20*, p. 5.

37 Mr Andrew Tytherleigh, Victorian Waste Management Association, *Committee Hansard*, 20 November 2017, p. 23.

38 Equilibrium, *Submission 35*, p. 4.

39 Department of the Environment and Energy, *Submission 55*, p. 6.

7.32 Equilibrium offered its support for product stewardship schemes established under the *Product Stewardship Act 2011* and noted that in lieu of other national approaches to waste and recycling issues, the Act provides an approach that is working.⁴⁰ Mr Nicholas Harford, Managing Director, Equilibrium stated that:

Product stewardship and the Product Stewardship Act, I think, has been quite successful to date. There are a number of schemes that have got up under the auspices of the act—mostly voluntary schemes, not regulated. But there are also a whole range of other schemes that have been developed, and are under development, that aren't even looking to be auspiced under the scheme; they are just doing it because it is a good corporate and commercial activity for different products and different groups of companies to do.⁴¹

7.33 TIC Group (Mattress Recycling) similarly stated that the *Product Stewardship Act 2011*, and the schemes established as a result, demonstrate that 'collaboration between industry, government and other stakeholders can provide cost-effective and efficient processes to recover and recycle more materials'.⁴²

7.34 Mr Harford, Equilibrium, also supported the suggestion that the coverage of the *Product Stewardship Act 2011* could be expanded. Mr Harford, Equilibrium, told the committee:

There is also an opportunity to look at whether the Product Stewardship Act can be used not just as an end-of-pipe solution for products so it is not just about the waste and recycling but the design of the product in the first place—from material changes to have a more environmentally beneficial material used in the product in the first place through to 'design for recycling' concepts. The general rule of thumb from designers is that about 70 to 80 per cent of the environmental impact of a product is locked in at the design phase. Product stewardship can be used to incentivise that greater supply chain thinking that it would be of value.⁴³

7.35 However, some submitters stated that there has been little support provided by the Australian Government for product stewardship schemes since their establishment. Both LGNSW and the Hunter Joint Organisation of Councils noted that 'there has been little or no action to address waste issues at a national level' since the National Television and Computer Recycling Scheme was established.⁴⁴

40 Equilibrium, *Submission 35*, p. 4. See also Adelaide Hills Region Waste Management Authority, *Submission 33*, p. 5.

41 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2018, p. 12.

42 TIC Group (Mattress Recycling), *Submission 8*, p. 6. See also Equilibrium, *Submission 35*, p. 4.

43 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 12.

44 Hunter Joint Organisation of Councils, *Submission 22*, p. 10. See also Local Government New South Wales, *Submission 13*, p. 5.

7.36 LGNSW submitted that:

It seems the 2009 National Waste Policy, promising Product Stewardship (beyond just TVs and computers), better packaging and sustainable procurement has gone silent and a national approach targeting producers has ceased. The review of the *Product Stewardship Act 2011* (Cth) provides an opportunity to ensure the framework is fit for purpose and to reinvigorate action in this area.⁴⁵

7.37 Mr John Pritchard, Executive Director, Policy and Research, Australian Local Government Association (ALGA) told the committee that 'many product stewardship programs have been significantly underfunded; therefore their reach and the way in which they operate is difficult'.⁴⁶ Mr Pritchard stated that rural and regional jurisdictions are not always able to participate in product stewardship programs as services are not available. Mr Pritchard described this inability to participate as a 'function of both geography and funding'.⁴⁷

7.38 However, the Department of the Environment and Energy told the committee that the Commonwealth has been 'instrumental' in establishing product stewardship schemes. Mr James Tregurtha, Acting First Assistant Secretary, Environmental Standards Division, Department of the Environment and Energy stated:

...the Commonwealth has been instrumental with the states and territories in driving the Australian Packaging Covenant and in terms of setting up the product stewardship arrangements, which both seek to minimise the amount of waste created at the end of a product's use, or once the packaging has been removed and discarded. Interventions like that help to reduce the overall amount of waste that needs to be dealt with, whether it goes into recycling or otherwise.⁴⁸

Expansion of schemes

7.39 Submitters noted that while there are schemes for a range of items including mobile phones, paint and tyres, submitters called for schemes for other products including mattresses; hand-held batteries; whitegoods and air conditioners; and household and commercial furniture.⁴⁹ For example Mr Arron Lee, Waste and Resource Recovery Services, Brisbane City Council, told the committee that the

45 Local Government New South Wales, *Submission 13*, p. 5.

46 Mr John Pritchard, Australian Local Government Association, *Committee Hansard*, 21 March 2018, p. 15.

47 Mr John Pritchard, Australian Local Government Association, *Committee Hansard*, 21 March 2018, p. 15.

48 Mr James Tregurtha, Department of the Environment and Energy, *Committee Hansard*, 21 March 2018, p. 5.

49 Brisbane City Council, *Submission 4*, p. 5. See also Tasmanian Government, *Submission 11*, p. 4.

kerbside hard waste collection stream includes large bulky items such as mattresses, furniture, and e-waste. Mr Lee stated:

Product stewardship for these bulkier items is essential, and we need support in this area to manage them into the future. Whilst it got off to a rocky start, the television and computer product stewardship scheme is now running nicely, and most of the material that is brought into council resource recovery centres is processed, including smaller schemes for heavier and bulkier items such as mattresses, to ensure the end-of-life management of the product is built into the purchase price. It is key. We need this to occur.⁵⁰

7.40 Mr Vaughan Levitzke, Chief Executive, Green Industries SA, told the committee that the South Australian Government is 'looking forward' to more stewardship schemes.⁵¹ Similarly, Mr Jim Corrigan, Deputy Director-General, City Services Division, Transport Canberra and City Services Directorate, stated that the Australian Capital Territory Government would 'like to work with the federal government' on the further expansion of product stewardships schemes.⁵²

7.41 In addition to expanding product stewardship initiatives to include new types of material, there were suggestions that the *Product Stewardship Act 2011* could be used to make changes in the design of products to achieve better environmental outcomes. Extended Producer Responsibility (EPR) is a policy approach that requires producers to take responsibility (either financial or physical) for the disposal or treatment of post-consumer products. Assigning producers responsibility for products has been recognised as providing incentives to prevent waste at the source through better product design. Mr Harford, Equilibrium, told the committee:

There is also an opportunity to look at whether the Product Stewardship Act can be used not just as an end-of-pipe solution for products so it is not just about the waste and recycling but the design of the product in the first place—from material changes to have a more environmentally beneficial material used in the product in the first place through to 'design for recycling' concepts. The general rule of thumb from designers is that about 70 to 80 per cent of the environmental impact of a product is locked in at the design phase. Product stewardship can be used to incentivise that greater supply chain thinking that it would be of value.⁵³

7.42 Similarly, TIC Group (Mattress Recycling) stated that:

Factors such as rewarding more up-stream material recovery and efficiency rather than just using product stewardship as an "end-of-pipe" approach warrant close consideration. [This would]...lead to better economic,

50 Mr Arron Lee, Brisbane City Council, *Proof Committee Hansard*, 30 April 2018, p. 8.

51 Mr Vaughan Levitzke, Green Industries SA, *Proof Committee Hansard*, 30 April 2018, p. 37.

52 Mr Jim Corrigan, Australian Capital Territory Government, *Committee Hansard*, 21 March 2018, p. 11.

53 Mr Nicholas Harford, Equilibrium, *Committee Hansard*, 20 November 2017, p. 12.

environmental and social outcomes for the waste and recycling industries and the Australian community.

7.43 Ms Gayle Sloan, Chief Executive Officer, WMAA told the committee that there needs to be a paradigm shift in management of product stewardship. Ms Sloan stated that before introducing a new product to the market, producers should be required to demonstrate an item's 'end-of-life home'. Ms Sloan noted that in South Australia, contractors are required to demonstrate end-of-life processes prior to undertaking large solar panel installations. Ms Sloan stated that the waste and recycling industry must be involved in discussions of product stewardship and that producers cannot be left to develop schemes alone. Ms Sloan noted that the industry has the expertise in managing the disposal of items, so it needs to work in partnership with producers.⁵⁴

7.44 The Australian Capital Territory Government submitted that it supports product stewardship approaches that 'move the responsibility for managing waste and recovering resources up the supply chain to importers, manufacturers and distributors'. It stated that:

This ensures the price signals are made apparent to those parties that have the power to redesign their products or to import and sell different products. This also ensures that waste management and recycling costs are internalised in the product costs - such that consumers see appropriate price signals at the time of purchase.⁵⁵

7.45 Mr John Pritchard, ALGA, also argued that all future product stewardship schemes should be co-designed with local governments. Mr Pritchard noted that there are existing schemes which now 'present a difficulty for local government' due to a lack of consultation. Mr Pritchard stated:

There are some product stewardship programs that have been developed and designed without adequate consultation with local government and they present a difficulty for local government when the local councils become the sort of collector of last resort and have not got direct mechanisms by which they can influence the way in which those programs are implemented. So councils end up stockpiling some of the waste products that they can't get rid of in the scheme that's been set up under a waste product stewardship framework.⁵⁶

54 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 21.

55 Australian Capital Territory Government, *Submission 20*, p. 5.

56 Mr John Pritchard, Australian Local Government Association, *Committee Hansard*, 21 March 2018, p. 15.

7.46 Mr Mike Ritchie, MRA Consulting Group, also suggested that a formal consultation process should be established around the development of product stewardship schemes. Mr Ritchie stated:

...one of the criticisms of the scheme structure is that there's no engagement process about what materials get onto that list and then how the argument for developing a scheme is prosecuted through stakeholder processes et cetera. There should be a formalised process around both how you get on the list and what the process is for managing the development of the scheme, and then, if for whatever reason a product is going to be dropped off the list, why and how that happens. At the moment it's just a ministerial announcement.⁵⁷

Mandatory or voluntary participation

7.47 In discussing the success of product stewardship schemes, the committee heard evidence about the impact of mandating participation on achieving environmental outcomes.

7.48 Mr Jeff Angel, Total Environment Centre/Boomerang Alliance told the committee that the *Product Stewardship Act 2011* has 'three separate approaches: a voluntary approach, a co-regulatory approach and a mandatory approach'. Mr Angel stated that the Total Environment Centre/Boomerang Alliance has 'always supported the mandatory approach—we just think it's economically and environmentally unhealthy to have a large loophole for free riders'.⁵⁸

7.49 The Australian Capital Territory Government also commented on the effect of 'free riders'. It submitted that 'free riders are companies that produce the waste but not contribute to the costs of the relevant product stewardship scheme'. The Australian Capital Territory Government explained that companies that participate in voluntary schemes are therefore placed at a commercial disadvantage to those that do not, as they fund the stewardship costs for their competitors. It submitted that:

Voluntary product stewardship schemes are generally only effective in a situation where the industry is dominated by only a few players (an oligopoly). They fail to be effective in competitive markets with diverse suppliers or situations where the oligopolies fail to reach agreements on the product stewardship requirements.⁵⁹

7.50 Mr Lee, Brisbane City Council, advocated for the introduction of mandatory product stewardship schemes for some items as 'relying on industry to voluntarily manage their own products has not proven to be a timely approach in the past, and

57 Mr Mike Ritchie, MRA Consulting Group, *Committee Hansard*, 14 March 2018, p. 70.

58 Mr Jeff Angel, Total Environment Centre/Boomerang Alliance, *Committee Hansard*, 14 March 2018, p. 58.

59 Australian Capital Territory Government, *Submission 20*, p. 8.

perhaps industry needs a hurry-up in the form of a mandate'.⁶⁰ Mr Corrigan, Australian Capital Territory Government, similarly stated that 'voluntary schemes have their limitations'.⁶¹

7.51 Ms Sloan, WMAA, stated that it has been demonstrated that where product stewardship 'is a choice it is not as effective'. Ms Sloan further stated that 'product stewardship is fundamental, and...[it] can't be voluntary'. Ms Sloan concluded that product stewardship schemes 'need to be as far as practicable and economically viable enforceable'.⁶² Similarly Mr Mike Ritchie, MRA Consulting Group, told the committee that:

Essentially, if you're introducing a new waste stream into the Australian market, you need to have a solution for how it's going to be recovered and reprocessed. That's a role for government. Industry can't do that mandating. It can't control what is generated into our streams. We just end up handling it.⁶³

7.52 Mr Ritchie told the committee that not only should more product stewardship schemes be developed, the schemes should be mandatory. Mr Ritchie suggested that there could be a 'transitory voluntary arrangement, or a hybrid arrangement' but noted that both domestically and internationally, successful schemes are usually mandatory.⁶⁴

7.53 The NWRIC called on the Australian Government to implement 'mandatory product stewardship programs which reflect the real cost of recycling materials'. It stated that these programs should cover the priority materials identified under the Commonwealth Product Stewardship List: plastic microbeads and products containing plastic microbeads; photovoltaic systems; electrical and electronic products; and plastic oil containers.⁶⁵

7.54 Mr Shmigel, Chief Executive Officer, Australian Council of Recycling, however offered a more cautious approach to whether schemes should be voluntary or mandatory. Mr Shmigel told the committee:

On the question of 'voluntary or regulatory', one would always want to see industry given an opportunity to organise on a voluntary basis first, because you'd like to think that greater ownership can be shown and there would be

60 Mr Arron Lee, Brisbane City Council, *Proof Committee Hansard*, 30 April 2018, p. 8.

61 Mr Jim Corrigan, Australian Capital Territory Government, *Committee Hansard*, 21 March 2018, p. 11.

62 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 21.

63 Mr Mike Ritchie, MRA Consulting Group, *Committee Hansard*, 14 March 2018, p. 68.

64 Mr Mike Ritchie, MRA Consulting Group, *Committee Hansard*, 14 March 2018, p. 68.

65 National Waste and Recycling Industry Council, *Submission 10*, p. 3. See also <http://www.environment.gov.au/protection/national-waste-policy/product-stewardship/legislation/product-list-2016-17>.

greater knowledge of how to do things as a result of expertise. But, at the same time, the genuine prospect of regulation must always be there.⁶⁶

Container deposit schemes

7.55 As previously noted, a number of states and territories have implemented or are considering the implementation of container deposit schemes. Submitters also commented on the issue of harmonisation and replication of schemes and a single national scheme.

7.56 Owens-Illinois stated that in considering the application of container deposit schemes in Australia, it 'ideally supports a single national approach, rather than a fragmented jurisdictional approach which may become difficult to manage and costly within a national packaging industry'.⁶⁷

7.57 Mr Bruce Edwards, Assistant Secretary, Policy and Reform Branch, Department of the Environment and Energy (the Department), told the committee that the Council of Australian Governments (COAG) had conducted a regulatory impact assessment of a national container deposit scheme. However, 'jurisdictions couldn't reach an agreement to have a national scheme'. Mr Edwards noted however that state and territory jurisdictions continue to explore the implementation of local schemes and that there 'is some harmonisation between state schemes'.⁶⁸

7.58 Mr John Pritchard, Australian Local Government Association (ALGA) similarly stated that CDL has been 'quite a difficult issue' for the ALGA with state members offering varying levels of support for the introduction of such schemes. Mr Pritchard stated that 'at the moment we have a high level of support' for CDL but noted that the organisation has not formally considered the introduction of a national scheme in a number of years.⁶⁹

7.59 Mr Edwards, Department of the Environment and Energy, noted that though the South Australian scheme has been in operation 'for a long time', other jurisdictions have 'realised that they cannot replicate that scheme'. As such, state and territory jurisdictions are examining 'the best features' of existing schemes in developing new schemes for introduction.⁷⁰

66 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 31.

67 Owens-Illinois, *Submission 56*, p. 8.

68 Mr Bruce Edwards, Department of the Environment and Energy, *Committee Hansard*, 21 March 2018, p. 9.

69 Mr John Pritchard, Australian Local Government Association, *Committee Hansard*, 21 March 2018, p. 16.

70 Mr Bruce Edwards, Department of the Environment and Energy, *Committee Hansard*, 21 March 2018, p. 9.

7.60 This was echoed by Mr Michael Trushell, Director, ACT NoWaste, City Services Division, Transport Canberra and City Services Directorate, who told the committee that the Australian Capital Territory Government is currently in the process of establishing a CDS modelled on schemes implemented by other states including New South Wales. Mr Trushell stated:

We've modelled it on the New South Wales legislation. There are specific legal differences between the territory and the New South Wales, so those variations have been made. We've taken the opportunity, because we've been lagging, to learn some of the experiences. The structure of the legislation is very similar. They have the same sort of rules. Essentially, we have an attempt to harmonise as best as possible, given the proximity of the ACT to New South Wales, to simplify it for industry and consumers. There are some differences in some areas...We've [also] researched South Australia's and other jurisdictions' approach to it, and we're taking a slightly different approach, which we'll announce in due course around the way we will roll it out.⁷¹

7.61 Mr Terry Van Iersel, Manager, Sales and Commodity, SKM Recycling, told the committee that SKM Recycling generally supports measures that divert material from landfill. However Mr Van Iersel described the New South Wales CDL scheme as more favourable than other schemes as it 'recognises that if you introduce a system, it presupposes that material that comes out is going to come out of the kerbside bin and go into the CDL stream'.⁷²

Leading by example

7.62 As previously noted the recycling sector is under considerable pressure due to a lack of sustainable markets for Australian recycled material, both domestically and internationally. Submitters advocated for national leadership in the development of an Australian circular economy with strong domestic markets for recyclable materials, and products made from recycled material.

7.63 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 sovereign risk associated with exposure to international commodity markets. As such, 'increased local manufacture of products with significant recycled content is an important goal for Australia'.⁷³

7.64 Submitters argued that the Australian Government, along with local, state and territory governments, is able to support the development domestic markets for

71 Mr Michael Trushell, Australian Capital Territory Government, *Committee Hansard*, 21 March 2018, p. 16.

72 Mr Terry Van Iersel, SKM Recycling, *Committee Hansard*, 20 November 2017, p. 39.

73 Waste Management Association of Australia, *Submission 52*, p. 8.

recycled material. As such, 'government organisations should show a genuine commitment to sustainable procurement, which will provide confidence for recycling facility operators to make products that meet end user specifications'.⁷⁴ The South Australian Government told the committee that:

The Australian government's involvement in large-scale infrastructure projects provides it with considerable influence in relation to its procurement of recycled content materials. It may direct the use of recycled content within its own projects and through eligibility requirements being incorporated into tender specifications, bidding processes and contracts with large-scale projects. We need to pursue models where materials are recirculated back through the economy locally rather than being sent overseas. We need to ensure that Australian government decisions support these models, including in waste export decisions and promotion of product stewardship.⁷⁵

7.65 The WMAA noted that at present, there are a number of examples where government organisations introduce policies and systems to divert material away from landfill whilst simultaneously refusing to buy recycled product for government projects. WMAA stated:

Examples include councils that introduce garden organics collection services but refuse to use compost products on their own parks and gardens, as well as state governments that set out recycling targets but do not allow (or at least do not encourage) the use of recycled materials in major projects such as road construction.⁷⁶

7.66 A number of submitters particularly highlighted the use of glass sand and crumb rubber in building roads as an opportunity for government to show leadership in the procurement of recycled material.⁷⁷ Ms Gayle Sloan, WMAA, told the committee that the use of recycled material by governments would provide employment opportunities, as well as reduce problems such as stockpiling. Ms Sloan stated:

Imagine if every road, footpath and park in Australia had five per cent recycled content. We would not be seeing glass piles. That's not a safety issue. That's such a strong sustainability message around environment and job creation. The beauty of this industry, the waste and resource recovery industry, is the capacity to create jobs in the local area. We don't want to

74 Waste Management Association of Australia, *Submission 52*, p. 9. See also Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 17; ResourceCo, *Submission 26*, p. 7.

75 Mr Vaughan Levitzke, Green Industries SA, *Proof Committee Hansard*, 30 April 2018, p. 34. See also Mr Andrew Tytherleigh, Victorian Waste Management Association, *Committee Hansard*, 20 November 2017, p. 19.

76 Waste Management Association of Australia, *Submission 52*, p. 9.

77 See for example National Waste and Recycling Industry Council, *Submission 10*, p. 3; Adelaide Hills Region Waste Management Authority, *Submission 33*, p. 4, Councillor Linda Scott, LGNSW, *Committee Hansard*, 14 March 2018, p. 46.

move waste around; we want to deal with it near where it's generated, and that processing creates jobs and opportunities.⁷⁸

7.67 The Hunter Joint Organisation of Councils submitted that its member councils have 'committed to working collaboratively to identify opportunities to use recycled products in their civil works programs, particularly crushed glass for pipe bedding material and road base'.⁷⁹ Local Government New South Wales (LGNSW) also noted that some New South Wales councils use crushed glass in road base, or recycled plastic composite as a replacement for timber.⁸⁰

7.68 Ms Sloan, WMAA, also told the committee that recycled soft plastics can be used to create plastic soft fall used in playgrounds but that there is currently little market for such product. Ms Sloan explained that Redcycle, a company which uses soft plastics to manufacture outdoor furniture and soft fall 'is struggling to sell because...it's not price competitive, because of the economy of scale'. Ms Sloan suggested that emphasising the purchase of recycled product by government would create a market.⁸¹

Standards for recycled material

7.69 Submitters gave evidence that barriers to widespread use of recycled material exist. For example, LGNSW stated that it 'can be a challenge addressing perceptions of material performance compared to the "virgin" product, work health and safety concerns or price competitiveness'.⁸² The South Australian Government noted that in order to support the domestic market for recycled products, it provided funding to a local plastics re-processor so that its products could be tested to meet national standards.⁸³

7.70 ResourceCo stated that the Australian Government could particularly influence purchasing outcomes through the harmonisation of road specifications for the increased use of recycled road bases and the increased use of crumbed rubber asphalt.⁸⁴

7.71 Mr Max Spedding, NWRIC, highlighted that in Victoria large quantities of glass are able to be used in asphalt and road base. Mr Spedding pointed to Victoria's 'manageable specifications' for the use of recycled material in infrastructure as assisting in this process. Mr Spedding noted that where specification documents are

78 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 18.

79 Hunter Joint Organisation of Councils, *Submission 22*, p. 9.

80 Local Government New South Wales, *Submission 13*, p. 4.

81 Ms Gayle Sloan, WMAA, *Committee Hansard*, 14 March 2018, p. 18.

82 Local Government New South Wales, *Submission 13*, p. 4.

83 Mr Vaughan Levitzke, Green Industries SA, *Proof Committee Hansard*, 30 April 2018, p. 37.

84 ResourceCo, *Submission 26*, p. 7.

lengthy or where there 'are a lot more steps in the process...people just don't bother using the material because there are too many traps'. Mr Spedding unfavourably noted the length of Queensland's specification documents.⁸⁵

7.72 Mr Luke Hannan, Manager, Planning, Development and Environment, Local Government Association of Queensland, noted that the Queensland Government is undertaking an urgent review of the technical standards for both road base and asphalt.⁸⁶

7.73 Mr Gregor Riese, Director GCS Consulting, called on COAG to coordinate national standards for the use of all recycled material.⁸⁷

Energy from waste

7.74 The committee received evidence that the Australian Government should support the development of energy from waste⁸⁸ (EfW) facilities which would utilise material otherwise disposed of to landfill. It was argued that 'EfW facilities provide a real opportunity in Australia to assist with power supply, as well as manufacturing related jobs'.⁸⁹

7.75 The Hunter Joint Organisation of Councils and LGNSW submitted that EfW is a 'viable option to manage residual waste if no higher order resource recovery opportunities are available, and assuming that appropriate environmental controls are in place'.⁹⁰ LGNSW submitted that 'it is preferential for councils to process the waste and generate energy locally, under our environmental controls, rather than shipping it overseas'.⁹¹ The Hunter Joint Organisation of Councils noted that at present, in New South Wales 'a restrictive Waste to Energy Policy creates barriers to the development of EfW facilities'.⁹²

7.76 Mr Shmigel, Australian Council of Recycling, offered a more cautious approach to EfW and stated, 'we're not advocates of waste incineration, but we believe it has a place. Refuse-derived fuel is a logical thing to do if you can't get any other

85 Mr Max Spedding, NWRIC, *Committee Hansard*, 20 November 2017, p. 5.

86 Mr Luke Hannan, Local Government Association of Queensland, *Proof Committee Hansard*, 30 April 2018, p. 15.

87 Mr Gregor Riese, GCS Consulting, *Committee Hansard*, 14 March 2018, p. 8.

88 Also commonly referred to as waste-to-energy.

89 Waste Management Association of Australia, *Submission 52*, p. 15.

90 Hunter Joint Organisation of Councils, *Submission 22*, p. 10; Local Government New South Wales, *Submission 13*, p. 4.

91 Local Government New South Wales, *Submission 13*, p. 4.

92 Hunter Joint Organisation of Councils, *Submission 22*, p. 10.

value of material'.⁹³ The South Australian Government also noted that while EfW technologies may be useful in addressing niche or residual waste streams, there is a danger that opportunities for recyclable material to be re-used may be lost as material sources are locked into long-term EfW contracts.⁹⁴ Similarly Mr Jeffrey Angel, Total Environment Centre/Boomerang Alliance told the committee that using material in EfW plants, particularly as a result of changes to the international market, will 'lose the community and its commitment to recycling'.⁹⁵

7.77 The committee heard that EfW facilities have been developed in other countries such as France. The committee also heard that in order for facilities to be established in Australia there would need to be regulatory and financial support provided by the Australian Government.⁹⁶

7.78 On 27 April 2018, the Minister for the Environment and Energy announced that the Australian Government has requested the Clean Energy Finance Corporation and the Australian Renewable Energy Agency to prioritise waste-to-energy projects.⁹⁷

93 Mr Peter Shmigel, Australian Council of Recycling, *Proof Committee Hansard*, 30 April 2018, p. 26.

94 Mr Vaughan Levitzke, Green Industries SA, *Proof Committee Hansard*, 30 April 2018, p. 34.

95 Mr Jeffery Angel, Total Environment Centre/Boomerang Alliance, *Committee Hansard*, 14 March 2018, p. 56.

96 See for example, Mr Mark Venhoek, SUEZ Australia and New Zealand, *Committee Hansard*, 14 March 2018, pp. 51–52.

97 The Hon Josh Frydenberg MP, 27 April 2018, <http://www.joshfrydenberg.com.au/guest/mediaReleasesDetails.aspx?id=562>.

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.

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

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

Labor Senators' Additional Comments

1.1 Reducing waste and having viable methods of recycling is a critical part of living sustainably.

1.2 Responsibility for waste management and recycling is shared across every layer of government and the expectations of the Australian public can only be achieved if there is a clear Federal leadership.

1.3 Labor has led the fight to tackle pollution and waste management by establishing the 10 year National Waste Policy in 2009 and introducing the *Product Stewardship Act 2011*.

1.4 Labor supports moves by states, territories, local government and business to reduce waste and increase recycling.

1.5 Labor wants real action to increase recycling and to reduce pollution and plastics from entering the waterways in our cities, and eventually the ocean. International reports that there might be more plastic by weight in the ocean than fish by 2050 are alarming. The fact that microplastics are being found in our food is something that we need to stop.

1.6 Labor Senators support the Committee's report and agree in principle with the recommendations. We note that some recommendations require further consultation on detail and timeframes to be implemented effectively. Labor Senators also note that the budget implications of some recommendations need further consideration.

1.7 Labor will work with industry and other levels of government to modernise waste policy. The waste hierarchy is a framework that should be incorporated in all waste policy. Waste-to-energy is part of the hierarchy, but Labor is urging caution to ensure we aren't just swapping one form of pollution for another.

1.8 Labor supports modernising regulations and systems across Australia, as well as looking at new and innovative ways to reduce, reuse and recycle. However, technology is only part of the solution—it is critical that people are taking action. Whether it be building on the success of recycling by households to continue to reduce contamination, or by consumers taking advantage of container deposit schemes—we can't improve without the community.

1.9 Labor is taking waste and recycling policy seriously, and is consulting further on the best way to implement the findings of this important report.

1.10 Labor Senators would like to thank all stakeholders who contributed to the inquiry and the Committee for their work.

Senator Anthony Chisholm
Senator for Queensland

Senator the Hon Kristina Keneally
Senator for New South Wales

Senator Anne Urquhart
Senator for Tasmania

Appendix 1

Submissions, additional information, tabled documents and answers to questions on notice

Submissions

- 1 Envorinex
- 2 Australian Landfill Owners Association
- 3 I Like Turtles
- 4 Brisbane City Council
- 5 Government of Western Australia
- 6 Australian Mobile Telecommunications Association
- 7 Local Government Association of Queensland
- 8 TIC Group (Mattress Recycling)
- 9 Local Government Association of the Northern Territory
- 10 National Waste and Recycling Industry Council
- 11 Tasmanian Government
- 12 Local Government Association of South Australia
- 13 Local Government New South Wales
- 14 GCS Consulting
- 15 Ballina Shire Council
- 16 Plasticwise
- 17 Australian Small Business and Family Enterprise Ombudsman
- 18 Hobsons Bay City Council
- 19 Local Government Association of Tasmania
- 20 Australian Capital Territory Government
- 21 Tyrecycle
- 22 Hunter Joint Organisation of Councils
- 23 Australian Tyre Recyclers Association
- 24 Name Withheld
- 25 MRA Consulting Group
- 26 ResourceCo
- 27 Victorian Waste Management Association
- 28 Waste Contractors and Recyclers Association of NSW
- 29 Northern Sydney Regional Organisation of Councils

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| 30 | Law Council of Australia |
| 31 | City of Gold Coast |
| 32 | Re.Group |
| 33 | Adelaide Hills Region Waste Management Authority |
| 34 | Shire of Exmouth |
| 35 | Equilibrium |
| 36 | South Australian Government |
| 37 | Lake Macquarie City Council |
| 38 | South Australian Waste Industry Network |
| 39 | Northern Adelaide Waste Management Authority |
| 40 | Maitland City Council |
| 41 | Australian Sustainable Business Group |
| 42 | Recovery (Tas) Pty Ltd |
| 43 | Visy |
| 44 | Australian Local Government Association |
| 45 | Australian Bureau of Statistics |
| 46 | Australian Organics Recycling Association |
| 47 | Mr Gerry Gillespie |
| 48 | Greencell Pty Ltd |
| 49 | Greencell Research Pty Ltd – Waste Technology Research Centre |
| 50 | SKM Recycling |
| 51 | SUEZ Australia and New Zealand |
| 52 | Waste Management Association of Australia |
| 53 | Mr Stephen Koci |
| 54 | Cr John Woodward, City of West Torrens |
| 55 | Department of the Environment and Energy |
| 56 | Owens-Illinois Asia Pacific |
| 57 | Law Institute of Victoria |
| 58 | Western Australian Local Government Association |
| 59 | Southern Metropolitan Regional Council |
| 60 | Strategic Initiatives |
| 61 | Rural Australians for Refugees |
| 62 | University of New South Wales |
| 63 | Noor Dawood, Hannah Laviano, Jordan Barlow and Monica Ton |

Tabled documents

National Waste and Recycling Industry Council – Opening statement (public hearing, Melbourne, 20 November 2017)

National Waste and Recycling Industry Council – Policy Roadmap (June 2017 Edition) (public hearing, Melbourne, 20 November 2017)

National Waste and Recycling Industry Council – Organisational chart (public hearing, Melbourne, 20 November 2017)

GCS Consulting – Gregor Reise, 'Is the NSW waste disposal levy too high?' (public hearing, Sydney, 14 March 2018)

GCS Consulting – 'NSW waste levy and overall recycling rates 2002–2017' (public hearing, Sydney, 14 March 2018)

Additional information

Mr Mike Ritchie – Article, 'China's National Sword is cutting deep in the recycling sector'

Mr Mike Ritchie – Press release, MRA Consulting Group, 21 July 2017

Mr Mike Ritchie – Presentation, 'China's National Sword policy', March 2018

Answers to questions on notice

Local Government NSW – Answer to question on notice, public hearing, 14 March 2018 (received 13 April 2018)

North Sydney Regional Organisation of Councils – Answer to question on notice, public hearing, 14 March 2018 (received 13 April 2018)

Visy – Answers to written question on notice, 9 April 2018 (received 24 April 2018)

Owens-Illinois Asia Pacific – Answers to written question on notice, 9 April 2018 (received 12 April 2018)

Local Government Association of Queensland – Answer to question on notice, public hearing, 30 April 2018 (received 28 May 2018)

Department of the Environment and Energy – Answers to question on notice, public hearing, 21 March 2018 (received 13 June 2018)

Appendix 2

Public hearings

Monday, 20 November 2017 – Melbourne

National Waste and Recycling Industry Council

Mr Max Spedding, Chief Executive Officer
Mr Alexander Serpo, National Secretary

Equilibrium

Mr Nicholas Harford, Managing Director

Victorian Waste Management Association

Mr Andrew Tytherleigh, Executive Officer

Visy Recycling

Mr Tony Kane, Executive General Manager
Mr Tony Monaco, National Finance and Administration Manager

SKM Recycling

Mr Terry Van Iersel, Manager Sales and Commodity Trading

Owens-Illinois (Australia)

Mr Craig Mynott, Regional Cullet Director
Ms Elizabeth Wakefield, Regional Cullet Manager

Wednesday, 14 March 2018 – Sydney

GCS Consulting

Mr Gregor Reise, Director

Waste Management Association of Australia

Ms Gayle Sloan, Chief Executive Officer

Waste Contractors and Recyclers Association of NSW

Mr Harry Wilson, President
Mr Tony Khoury, Executive Director

Northern Sydney Regional Organisation of Councils (NSROC)

Ms Carrie Chan, Executive Director
Mr John Carse, Regional Waste Management Coordinator
Ms Janine Ricketts, Principal Contract Manager, Northern Sydney Councils Waste Service Alliance

Local Government NSW

Councillor Linda Scott, President
Ms Susy Cenedese, Strategy Manager, Environment
Ms Denise Anderson, Senior Policy Officer, Environment

SUEZ Australia and New Zealand

Mr Mark Venhoek, Chief Executive Officer

Boomerang Alliance

Mr Jeffrey Angel, Director, Total Environment Centre / Boomerang Alliance

Australian Tyre Recyclers Association – via teleconference

Mr Robert Kelman, Executive Officer

Australian Sustainable Business Group

Mr Andrew Doig, Chief Executive Officer

MRA Consulting Group

Mr Michael Ritchie, Managing Director
Ms Charlotte Wang, Environmental Engineering Consultant

Wednesday, 21 March 2018 – Canberra

Department of the Environment and Energy

Mr James Tregurtha, Acting First Assistant Secretary, Environment Standards
Division
Mr Bruce Edwards, Assistant Secretary, Policy and Reform Branch
Ms Antonella Bates, Waste Initiatives Team, Waste and Assessment Branch

Transport Canberra and City Services Directorate

Mr Jim Corrigan, Deputy Director-General, City Services Division
Mr Michael Trushell, Director, Australian Capital Territory NoWaste, City
Services Division
Dr Jessica Shepherd, Senior Policy Officer, Australian Capital Territory NoWaste,
City Services Division

Australian Local Government Association

Mr Adrian Beresford-Wylie, Chief Executive
Mr John Pritchard, Executive Director, Policy and Research

Monday, 30 April 2018 – Brisbane

Re.Group

Mr Stuart Garbutt, Director, Operations

Local Government Association of Queensland

Mr Robert Ferguson, Senior Advisor, Environmental and Public Health

Mr Luke Hannan, Manager, Planning, Development and Environment

Brisbane City Council

Mr Arron Lee, Manager, Waste and Resource Recovery Services

Ipswich City Council

Councillor Andrew Antonioli, Mayor

Mr Bruce Hines, Acting Chief Operating Officer, Works, Parks and Creation
Department

Australian Council of Recycling

Mr Pete Shmigel, Chief Executive Officer

South Australian Government – via teleconference

Mr Vaughan Levitzke, Chief Executive, Green Industries SA

Mr Ian Harvey, Director, Strategy and Policy, Green Industries SA

Mr Steven Sergi, Acting Director, Strategy and Assessment, Environment
Protection Authority

Ms Tiana Nairn, Waste Reform Policy Program Manager, Environment Protection
Authority

