

#### NSW Parliamentary Research Service April 2013 e-brief 03/2013

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# e-brief

## Plastic bags: an update

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#### 1. Introduction

Two main types of 'single use' plastic bags are used in Australia:

- 'Singlet' bags, or lightweight plastic bags, made of high density polyethylene (HDPE) – used mainly in supermarkets, fresh produce, convenience stores and take-away food outlets, and other non-branded applications; and
- 'Boutique' bags made of low density polyethylene (LDPE) generally branded and used by stores selling higher value goods such as department stores, clothing and shoe outlets.<sup>1</sup>

Political attention over the past decade has focused on reducing the use of lightweight plastic bags for several reasons. They cause harm to animals and habitats and decrease the visual amenity of urban, rural and natural vistas. Plastic bags and fragments of bags may persist in the environment for many hundreds of years. Plastic bags have also become a symbol of unnecessary consumption.<sup>2</sup> Suggestions proposed for reducing or ending plastic bag usage, including banning plastic bags, introducing a levy and using alternatives, have strengths and weaknesses. For example, recent life cycle analyses of plastic bag alternatives, such as the current generation of biodegradable bags, have found that some alternatives have a larger environmental impact than lightweight plastic bags.<sup>3</sup>

This e-brief does not cover research on the strengths and weaknesses of different options for reducing lightweight plastic bag usage. These are dealt with in an earlier Research Service publication, <u>*Plastic Bags*</u>, and in several recent papers.<sup>4</sup> Following an overview of lightweight plastic bag use in NSW and Australia, this e-brief outlines the management of lightweight plastic bags in NSW, by the Council of Australian Governments, and in the other States and Territories.

#### 2. Plastic bag use in NSW and Australia

Comprehensive accounting of plastic bag use in Australia finished in 2007.<sup>5</sup> Between 2002 and 2007, according to industry data, per annum plastic bag consumption in Australia declined by 2 billion (see Table 1). This coincides with the voluntary retailer program of reducing plastic bags by 50% that ended in

2005. After the program finished, plastic bag use increased between 2006 and 2007 by 17.0%.

Year	Plastic bags (billions)	Plastic bags (tonnes)	% change from previous year
2002	5.95	32,720	-
2003	5.24	28,815	-11.9%
2004	4.73	26,038	-9.6%
2005	3.92	21,540	-17.0%
2006	3.36	18,085	-14.0%
2007	3.93	21,232	+17.0%

Table 1: Estimated lightweight plastic bag consumption: 2002 to 2007<sup>6</sup>

According to the *Sydney Morning Herald*, the figures in Table 1 may significantly underestimate the number of plastic bags consumed in Australia. In 2009 it reported that confidential industry data showed that plastic bag usage may be up to 30% higher than the reported figures.<sup>7</sup>

While lightweight plastic bags are designed for 'single use', roughly twothirds of these plastic bags are reused, often as bin liners. Once used, according to a 2007 Australian study, plastic bags end up in landfill (84%), being recycled (15%) or as litter (1%).<sup>8</sup>

Recycling rates rose substantially between 2002 and 2007, from 3%<sup>9</sup> of all plastic bags to 15%. A large number of major supermarket outlets provide plastic bag recycling collection bins.<sup>10</sup> Plastic bag recycling is generally not offered by council kerbside services. In 2013, a study commissioned by the Australian Packaging Covenant Council found that "one of the biggest quantities of (potentially) recyclable packaging not being recovered at households is flexible plastic in the form of bags and outer packaging."<sup>11</sup> The study estimated that, of the 100,000 tonnes of flexible plastic packaging disposed of by households annually in Australia, an extra 30-50,000 tonnes annually could be diverted in the next few years by introducing flexible plastic recycling to all kerbside services.

While several polls indicate public support for a reduction in lightweight plastic bags by such means as a ban,<sup>12</sup> consumer behaviour suggests a more complex picture.<sup>13</sup> Despite progressive introduction of alternatives by retailers between 2002 and 2007, almost 4 billion plastic bags were still used in Australia in 2007. According to the 2012 edition of <u>Who Cares</u> <u>about the Environment?</u>, less people in NSW often avoided plastic bags in 2012 compared with 2009 (46%, down from 54%). This represents a return to the 2006 level.

#### 3. NSW regulatory framework

In 2004, the NSW Government stated that it would either ban plastic bags or compel supermarkets to charge for plastic bags if the States and Territories could not agree on introducing either measure.<sup>14</sup> On 3 March 2011, the then NSW Environment Minister, Frank Sartor, announced an effective ban on plastic bags through gradual replacement by compostable bags under the <u>Reducing Waste: Implementation Strategy 2011-2015</u>.<sup>15</sup> To date, the NSW Government has not introduced either a ban or levy on

plastic bags.<sup>16</sup> Plastic bags are instead managed through a mix of legislative, policy, education and economic tools. None of these tools are specific to plastic bags.

At a local level, several towns in NSW banned plastic bags in 2003 and 2004: Huskisson; Kangaroo Valley; Mogo; and Oyster Bay.<sup>17</sup>

#### 3.1 Waste Avoidance and Resource Recovery Strategy 2007

Part 3 of the <u>Waste Avoidance and Resource Recovery Act 2001</u> (WARR Act) provides for the creation of a State Waste Strategy. First introduced in 2003, the <u>Waste Avoidance and Resource Recovery Strategy</u> was updated in 2007. The Strategy contains four goals, numbers 1, 2 and 4 of which relate to plastic bags:

- 1. Preventing and avoiding waste;
- 2. Increasing recovery and use of secondary materials;
- 3. Reducing toxicity in products and materials; and
- 4. Reducing litter and illegal dumping.<sup>18</sup>

The relevant associated targets are as follows:

- To hold level the total waste generated for 5 years from the release of Waste Strategy 2003;
- 2. By 2014, to:

Increase recovery and use of materials from the municipal waste stream, from 26% (in 2000) to 66% and

4. Reduce total amount of litter reported annually ...<sup>19</sup>

As of February 2013, progress on meeting the targets was as follows:

- 1. The amount of waste generated in NSW rose from 11.8 million tonnes in 2002-03 to 17.1 million tonnes in 2010-11;
- 2. Recycling of municipal waste rose from 26% in 2000 to 52% in 2010-11;
- 4. NSW 2021 set a new target: having the lowest litter count per capita in Australia by 2016<sup>20</sup>

#### 3.2 Extended Producer Responsibility schemes

Extended Producer Responsibility (EPR) schemes are one of several NSW programs that implement the Waste Avoidance and Resource Recovery Strategy. Since first introduced in 2004 under Part 4 of the WARR Act, the NSW Government Extended Producer Responsibility Priority Statement has identified plastic bags as a "waste of concern".

The first EPR scheme was implemented by the Protection of the Environment Operations (Waste) Amendment (Used Packaging Materials) Regulation 2006, which inserted a new Part 5B into the <u>POEO (Waste)</u> <u>Regulation 2005</u> to implement the National Environment Protection (Used Packaging Materials) Measure (NEPM). The NEPM (Used Packaging Materials) is the regulatory underpinning for the <u>Australian Packaging</u> <u>Covenant 2010</u> (see below) – a national co-regulatory EPR scheme. Under the Australian Packaging Covenant, the POEO (Waste Regulation) 2005

applies to all brand owners of products as well as retailers who provide plastic bags to consumers. It does not apply to persons who:

- Have signed, and are complying with, the Australian Packaging Covenant;
- Have made an arrangement with the EPA which will produce equivalent outcomes; or
- Have a turnover of less than \$5 million per annum.<sup>21</sup>

Persons to whom the POEO (Waste) Regulation 2005 apply must:

- Recover, re-use and recycle waste materials and review packaging design in accordance with targets set by the EPA (cl 46K); and
- Prepare and submit a waste action plan to the EPA (cl 46L).

#### 3.3 Waste Less, Recycle More initiative

On 23 February 2013, the NSW Environment Minister, Robyn Parker, announced a new waste and recycling agenda: <u>Waste Less, Recycle More</u>.<sup>22</sup> It is a five-year \$465.7 million initiative directed towards meeting the goals set out in the Waste Avoidance and Resource Recovery Strategy 2007.<sup>23</sup> The initiative includes a number of elements, three of which are particularly relevant to plastic bags:

- The Waste and Recycling Infrastructure fund \$60 million allocated over five years to communities that pay the waste levy for new and renovated waste and recycling infrastructure;
- The Business Recycling program \$35 million allocated over five years to small and medium sized businesses for small scale infrastructure and equipment; and
- The Recycling Innovation fund \$15 million allocated over five years for renovating infrastructure, research and development, and increased recovery of residual waste from recyclers.<sup>24</sup>

#### 4. Council of Australian Governments

The Council of Australian Governments (COAG), initially through the Environment Protection and Heritage Council (EPHC) and now the <u>Standing Council on Environment and Water</u> (SCEW), has been involved in regulating lightweight plastic bags since 2002. In 2002, the EPHC set out to reduce the environmental impact of plastic bags. Under a voluntary retailer <u>Code of Practice</u>, major retailers reduced plastic bags by about 41-44% by 2005, just short of the 50% target.

In June 2006, the EPHC committed to phasing out lightweight plastic bags by the end of 2008. However, after receiving the report into options to reduce the impacts of plastic bags, the EPHC resolved in April 2008 "to not endorse uniform regulatory action at this time to ban or place a charge on plastic bags".<sup>25</sup> Management of plastic bags has since become subsumed within broader waste regulatory and policy measures.

#### 4.1 National Waste Policy 2009

In November 2009, the EPHC agreed to the <u>National Waste Policy</u>. The Policy sets Australia's waste management and resource recovery direction to 2020. It has two aims, the first of which is most relevant:

1. Avoid the generation of waste, reduce the amount of waste (including hazardous waste) for disposal, manage waste as a resource and ensure that waste treatment, disposal, recovery and re-use is undertaken in a safe, scientific and environmentally sound manner.<sup>26</sup>

The Policy sets 16 priority strategies, numbers 1 and 3 of which are relevant for the management of plastic bags:

- 1. Product stewardship framework legislation to allow the impacts of a product to be responsibly managed during and at end-of-life; and
- 3. Better packaging management.<sup>27</sup>

Strategy 3 is being implemented under the Australian Packaging Covenant 2010, the National Environment Protection (Used Packaging Materials) Measure 2011 and the Packaging Impacts Consultation Regulation Impact Statement 2011. Strategy 1 is being implemented under the *Product Stewardship Act 2011 (Cth)*.<sup>28</sup>

#### 4.2 Australian Packaging Covenant 2010

The Australian Packaging Covenant (APC) commenced on 1 July 2010. First introduced in 1999 as the National Packaging Covenant,<sup>29</sup> it is a voluntary, self-regulatory agreement between companies in the supply chain and all levels of government, featuring specific targets and performance indicators based on the principles of shared responsibility through product stewardship. The APC follows the principles of the 'waste hierarchy', giving highest priority to avoiding and minimising packaging waste, followed by reuse, recycling, recovery and disposal of waste. It is open-ended and subject to five-yearly reviews. The first review will focus on the possibility of establishing the APC under the new *Product Stewardship Act 2011 (Cth)*.<sup>30</sup>

The APC sets out to reduce the environmental impacts of consumer packaging, including lightweight plastic bags, by:

- Designing packaging that is more resource efficient and recyclable;
- Increasing the recovery and recycling of used packaging from households and away-from-home sources; and
- Taking action to reduce the incidence and impacts of litter.<sup>31</sup>

The APC contains three performance goals, to be achieved through the collaborative efforts of the Australian Packaging Covenant Council and the individual signatories:

- 1. Design: optimise packaging to use resources efficiently and reduce environmental impact without compromising product quality and safety.
- 2. Recycling: efficiently collect and recycle packaging.
- 3. Product Stewardship: demonstrate commitment by all signatories.<sup>32</sup>

### 4.3 National Environment Protection (Used Packaging Materials) Measure 2011

Participation in the APC is not mandatory. However, brand owners who do not become signatories are regulated by the <u>National Environment</u> <u>Protection (Used Packaging Materials) Measure 2011</u>. In NSW, the NEPM

(Used Packaging Materials) is implemented through the POEO (Waste) Regulation 2005 (see section 3.2 of this paper).

One goal of the NEPM (Used Packaging Materials) is to reduce environmental degradation arising from the disposal of used packaging. Another is to conserve virgin materials through the encouragement of waste avoidance and the re-use and recycling of used packaging materials by supporting and complementing the voluntary strategies in the Covenant and by assisting the assessment of the performance of the Covenant (cl 6). The Measure is limited to the recovery, re-use and recycling of used consumer packaging materials, focusing on:

(a) materials used for packaging retail products consumed in industrial, commercial and domestic premises and public places; and

(b) materials used for packaging food and beverages intended for consumption in public places or in commercial provision of food services to individuals in hotels and restaurants; and

(c) distribution packaging that contains multiples of products intended for consumer use (cl 7).

#### 4.4 Packaging Impacts Consultation Regulation Impact Statement 2011

On 5 July 2010, the EPHC agreed to develop a Consultation Regulation Impact Statement (RIS) on a limited number of measures designed to increase packaging resource recovery rates and decrease packaging litter. In December 2011, the <u>Packaging Impacts Consultation RIS</u> was released. The RIS sets out several objectives:

- Reduce packaging waste and increase packaging resource recovery;
- Reduce the need to landfill recyclable packaging materials;
- Reduce the negative amenity, health and environmental impacts of packaging waste and litter in line with community expectations; and
- Promote a consistent national approach to regulating packaging.<sup>33</sup>

A limited set of options were investigated to address these objectives:

Option 1: National Waste Packaging Strategy;

Option 2: Co-regulatory Packaging Stewardship, with three specific suboptions

- a) The Australian Packaging Covenant replaced by co-regulation under the *Product Stewardship Act 2011*;
- b) Industry Packaging Stewardship;
- c) Extended Packaging Stewardship;

Option 3: Mandatory Advance Disposal Fee;

Option 4: Mandatory Container Deposit Scheme (CDS), with two specific sub-options:

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

The Consultation RIS did not indicate a preferred option, given uncertainty around the assumptions and estimates used when evaluating each option.

Following public consultation, a <u>consultation summary report</u> was released on 8 June 2012. On 24 August 2012, SCEW agreed to develop a Decision RIS to undertake more detailed analysis, including examination of regional and other distributional impacts. Three further options will be explored in the Decision RIS:

- an industry co-regulatory stewardship scheme focussing on beverage containers only;
- an approach similar to the Australian Packaging Covenant, with a substantial increase in industry funding for initiatives, and
- a container deposit model based on the South Australian system.<sup>34</sup>

As of April 2013, the Decision RIS is yet to be released.<sup>35</sup>

#### 4.5 **Product Stewardship Act 2011**

The <u>Product Stewardship Act 2011 (Cth)</u> came into effect on 8 August 2011. It provides a formal structure for the regulation of product stewardship in Australia. The object of the Act is to reduce the impact that products have on the environment throughout their life cycle, including the environmental, health and safety impact of substances contained in products. This object is to be achieved by encouraging or requiring manufacturers, importers, distributors and others to take responsibility for these products by avoiding, reducing or eliminating waste throughout the product's life cycle.

The Act provides a framework for three kinds of product stewardship: voluntary product stewardship; co-regulatory product stewardship; and mandatory product stewardship. It is the second of these options that product stewardship for plastic bags could fall under, should SCEW replace the Australian Packaging Covenant with a scheme established by regulations under the Act.

#### 5. Plastic bag regulation in the States & Territories

Lightweight plastic bags have been banned in the ACT, Northern Territory and South Australia. A Bill to ban plastic bags is currently before the Tasmanian Parliament. Plastic bags have also been banned in a number of towns and local government areas across the country, including Birregurra, Cannon's Creek, Metung and Murtoa in Victoria.<sup>36</sup> On 30 January 2013, the City of Fremantle became the first Local Government to ban plastic bags when it adopted the <u>City of Fremantle Plastic Bag Reduction Local Law</u> <u>2012</u>.<sup>37</sup> Management of plastic bags in the other States is generally implemented via a combination of the Australian Packaging Covenant and other policy options.

#### 5.1 South Australia

On 4 May 2009, following a four-month transition period, SA became the first jurisdiction to ban lightweight plastic bags. Under section 5 of the *Plastic Shopping Bags (Waste Avoidance) Act 2008*, a retailer commits an offence if they provide a plastic shopping bag to a customer as a means of carrying goods purchased, or to be purchased, from the retailer. A plastic bag is defined as a carry bag with handles, the body of which comprises (in whole or in part) polyethylene with a thickness of less than 35 microns (s3).

Biodegradable bags compliant with Australian Standard 4736-2006,<sup>38</sup> plastic bags integral to the packaging in which goods are sealed prior to sale, barrier bags for fruit and vegetables, paper bags and heavier department store bags are exempt from the ban.<sup>39</sup>

On 21 February 2013, a <u>statutory review</u> of the Act was tabled in the South Australian Parliament. Key findings include:

- Consumers supported the ban (average score of 7.8 out of 10, where '0' was 'not at all supportive' and '10' was 'completely supportive')<sup>40</sup>
- 8 out of 10 consumers take their own bags when grocery shopping;
- 51% of non-grocery shoppers take their own bags;
- Retailers were generally positive about the implementation of the ban;
- The Act was effective in restricting the supply of lightweight plastic bags, with only one EPA-issued notice over a period of three years;
- 9 out of 10 households line their bins. 15% of consumers bought bin liners pre-ban and 80% bought bin liners post-ban;
- The percentage of the SA litter stream consisting of plastic bags fell by 45% between 2008-09 and 2011-12;
- 1 in 3 consumers claim to recycle their reusable bags;
- 56% of consumers were supportive of extending the ban to include heavy and thick plastic bags; and
- There are significantly more heavy bags in the SA litter stream than in any other State.

The study concluded that:

The ban on lightweight single-use plastic bags has been highly effective at reducing the supply of lightweight single-use plastic bags from South Australia and changing consumer behaviour to alternatives to plastic shopping bags. Moving forward, consideration should be given to extending the ban to address the new alternatives including thick and heavy plastic bags as well as providing further education and advocacy to promote greener overall behaviour of consumers.<sup>41</sup>

#### 5.2 Northern Territory

On 1 September 2011, following a four-month transition period, a plastic bag ban commenced in the NT under Part 3 of the <u>Environment Protection</u> (<u>Beverage Containers and Plastic Bags</u>) <u>Act 2011</u>. The provisions of the Act mirror the SA legislation.<sup>42</sup> A review of the Act must be completed as soon as practicable after the ban's two-year anniversary (s59).

#### 5.3 Australian Capital Territory

On 1 November 2011, following a four-month transition period, plastic bags were banned in the ACT under the <u>Plastic Shopping Bags Ban Act 2010</u>. The provisions of the Act mirror the SA legislation. The Act was implemented in combination with a comprehensive community and retailer engagement and education campaign.

In November 2012, an <u>interim review</u> of the plastic shopping bag ban was published. Key findings<sup>43</sup> include:

- 84% of shoppers take re-usable bags to the supermarket, up from 44%;
- 58% of shoppers support the ban, 33% do not and 9% were unsure;
- 41% decrease in total units of plastic bags;<sup>44</sup>
- 31% decrease in total plastic material to landfill;
- 31% increase in bin liner sales;
- There was insufficient data to determine whether the ban had an effect on the number of plastic shopping bags in the ACT's litter stream; and
- There was a very high level of retailer compliance with the Act.<sup>45</sup>

The study notes that "the long term impact of the Ban on plastic generation and plastic to landfill will be more apparent at the time of the two year review".<sup>46</sup>

#### 5.4 Tasmania

In May 2012, the Tasmanian Government allocated funds to implement a ban over three State Budgets: 2012-13 to 2014-15. In December 2012, the EPA Division of the Department of Primary Industries, Parks, Water and Environment released a <u>Minor Assessment Statement</u> (MAS) on the proposed *Plastic Shopping Bag Ban Act 2013* for public consultation. On 16 April 2013, the <u>Plastic Shopping Bags Ban Bill 2013</u> was introduced to the Tasmanian House of Assembly. It awaits debate in the Legislative Council. The provisions of the Bill mirror the SA legislation. If passed, the Bill is expected to commence on 1 November 2013, thereby providing for a sixmonth transition period.

#### 5.5 Western Australia

The Western Australian Government manages lightweight plastic bags under the Australian Packaging Covenant. It provides funding together with industry for programs that target packaging waste. Following the recent release of a new <u>Waste Strategy</u>, the Government has committed to reviewing the reliance on the APC as the primary mechanism for managing the impacts of packaging waste in Western Australia in light of ongoing poor recovery of packaging waste in rural and remote areas of the State.<sup>47</sup>

Provision is made under Part 5 of the <u>Waste Avoidance and Resource</u> <u>Recovery Act 2007</u> for the establishment of Extended Producer Responsibility (EPR) schemes.<sup>48</sup> While the Waste Strategy notes that EPR schemes may be developed as required, none have been established to date.

In 2010, the Labor Opposition introduced the <u>Plastic Shopping Bags</u> (<u>Waste Avoidance</u>) <u>Bill 2010</u>. This Bill was modelled on the SA legislation and was defeated on 22 March 2012.

#### 5.6 Victoria

On 16 April 2013, the Victorian Government released <u>Getting Full Value:</u> <u>The Victorian Waste and Resource Recovery Policy</u>. The Policy commits the Government to working under the National Waste Policy and Australian Packaging Covenant to manage packaging waste, which includes lightweight plastic bags.

In 2006, the Victorian Labor Government amended the <u>Environment</u> <u>Protection Act 1970</u>, providing for regulations to be made that prohibit the provision of a plastic bag by a retailer in the course of a retail transaction, unless the retailer charges at least a prescribed amount for each bag or an exemption applies (s71). In August 2008, the Victorian Government conducted a trial of a charge of 10 cents on plastic shopping bags in the towns of Fountain Gate, Wangaratta and Warrnambool.<sup>49</sup> Key findings include:

- 79% decrease in plastic bag consumption;
- 87% of customers said they would use reusable bags if the charge became permanent;
- 61% of customers said they previously used their plastic bags as bin liners;
- Customers were less concerned than staff about hygiene or checkout delay issues associated with reusable bags;
- 45% of customers said they would support a ban, 30% were indifferent and 25% opposed a ban.<sup>50</sup>

Since the trial, the Victorian Government has not made regulations under the *Environment Protection Act 1970* to mandate a charge on plastic bags.

#### 5.7 Queensland

On 24 August 2012, the Queensland Government stated that, while it did not oppose the progression of further national work on addressing packaging impacts (see section 4.4. of this paper), it would no longer be participating in this work as it had elected to work directly with the packaging industry.<sup>51</sup> The Queensland Government is working with industry and the community to develop a new waste strategy and review its current waste strategy – the <u>Waste Reduction and Recycling Strategy 2010-2020</u>, which was released in December 2012.<sup>52</sup> The current Strategy sets targets and identifies potential programs for waste reduction and recycling. Programs under which management of lightweight plastic bags may take place include product stewardship schemes, a State-wide litter prevention strategy and educational campaigns targeted at helping households reduce waste.

#### 6. Conclusion

In NSW, as with Queensland, Victoria and Western Australia, lightweight plastic bags are managed by a combination of COAG and State regulation and policy. In contrast, the ACT, Northern Territory and South Australia have banned lightweight plastic bags, and Tasmania appears set to follow.

The environmental problems posed by the prolific use of plastic bags are as significant as they are undisputed. Early data from South Australia and the ACT suggests that, to some degree, the bans in those jurisdictions on lightweight plastic bags has transferred, and not eliminated, the waste problem; that is, while waste from lightweight plastic bags has been eliminated, waste from bin bags has increased. This finding highlights the complexity characteristic of environmental issues such as waste; to be truly

effective, regulatory responses to the problem of waste in general and lightweight plastic bags in particular need to account for this complexity. Key to evaluating and comparing the effectiveness of regulatory responses is data on plastic bag usage, little of which has been collated since 2007.

- <sup>5</sup> Hyder Consulting, <u>Plastic Retail Carry Bag Use: 2006 and 2007 consumption</u>, Final Report, Environment Protection and Heritage Council, February 2008, p.5. At that stage, Hyder Consulting noted that there had been no industry reporting on plastic bag use and reduction since the conclusion of the voluntary retailer program of reducing plastic bags by 50% in 2005.
- <sup>6</sup> Hyder Consulting, <u>Plastic Retail Carry Bag Use: 2006 and 2007 consumption</u>, Final Report, Environment Protection and Heritage Council, February 2008, p.1
- <sup>7</sup> Sydney Morning Herald, <u>Plastic bag use 30% higher than retailers say</u>, 4 November 2009
- <sup>8</sup> Hyder Consulting, <u>Plastic Retail Carry Bag Use: 2006 and 2007 consumption</u>, Final Report, Environment Protection and Heritage Council, February 2008. Keep Australia Beautiful publishes an annual <u>National Litter Index</u> that tracks the amount of plastic bags in litter over time.
- <sup>9</sup> Environment Protection and Heritage Council, <u>Plastic Shopping Bags in Australia</u>, National Plastic Bags Working Group Report to the National Packing Covenant Council, 6 December 2002
- <sup>10</sup> Planet Ark, <u>*RecyclingNearYou.com.au*</u>, 20 March 2013 [online accessed 09/04/2013]
- <sup>11</sup> P Allen and D A'Vard, <u>Assessment of recycling infrastructure: current status and future opportunities</u>, Final project report, Report by Sustainable Resource Use Pty Ltd for The Australian Packaging Covenant, April 2013, p.4
- <sup>12</sup> See for example: *The Age*, <u>Vast majority want plastic bags ban: survey</u>, 22 May 2009; UniSA Ehrenberg-Bass Institute for Marketing Science, <u>*Plastic Bag Ban Research: Executive Summary*</u>, 3 November 2009
- <sup>13</sup> See for example: Productivity Commission, <u>*Waste Management*</u>, Inquiry Report, No. 38, October 2006, pp.506
- <sup>14</sup> S Smith, *Plastic Bags*, Briefing Paper No 5/2004
- <sup>15</sup> Sydney Morning Herald, <u>Sartor's parting policy is in the bag</u>, 4 March 2011
- <sup>16</sup> On 3 March 2009, Notice of Motion was given for the introduction of a Private Member's Bill entitled <u>Plastic Shopping Bags (Waste Avoidance) Bill 2009</u>. The Notice of Motion lapsed on prorogation of the 54<sup>th</sup> NSW Parliament.
- <sup>17</sup> Planet Ark, <u>Tips for Councils and Towns</u>, 29 April 2009 [online accessed 12/02/2013]
- <sup>18</sup> Department of Environment & Climate Change, <u>NSW Waste Avoidance and Resource</u> <u>Recovery Strategy 2007</u>, October 2007, p.5
   <sup>19</sup> Iticlus 202
- <sup>19</sup> Ibid., p.32
- <sup>20</sup> NSW Government, <u>Waste Less, Recycle More</u>, February 2013
- <sup>21</sup> R Lyster et al., 2012. *Environmental & Planning Law in New South Wales*, 3<sup>rd</sup> Ed., The Federation Press, pp.814
- <sup>22</sup> NSW Government, <u>Media Release: New waste and recycling agenda driven by \$465M</u> <u>funding package</u>, 23 February 2013

<sup>&</sup>lt;sup>1</sup> Hyder Consulting, <u>LCA of shopping bag alternatives: Final report</u>, Zero Waste South Australia, August 2009, p.3

<sup>&</sup>lt;sup>2</sup> Environment Protection and Heritage Council, <u>Decision Regulatory Impact Statement:</u> <u>Investigation of options to reduce the impacts of plastic bags</u>, April 2008

<sup>&</sup>lt;sup>3</sup> See for example: Hyder Consulting, <u>LCA of shopping bag alternatives: Final report</u>, Zero Waste South Australia, August 2009; UK Environment Agency, <u>Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006</u>, February 2011; CSIRO, <u>Degradable Plastics Packaging Materials: Assessment and Implication for the Australian Environment</u>, Final Report, June 2011.

<sup>&</sup>lt;sup>4</sup> See for example: Environment Protection and Heritage Council, <u>Decision Regulatory</u> <u>Impact Statement: Investigation of options to reduce the impacts of plastic bags</u>, April 2008; Hyder Consulting, <u>LCA of shopping bag alternatives: Final report</u>, Zero Waste South Australia, August 2009; M Westcott, <u>Plastic Shopping Bags</u>, Research Brief No 2010/28, Queensland Parliamentary Library, 2010; UK Environment Agency, <u>Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006</u>, February 2011.

- <sup>23</sup> Office of Environment and Heritage, <u>Waste management and resource recovery</u> <u>framework</u>, 23 February 2013 [online – accessed 10/04/2013]
- <sup>24</sup> NSW Government, <u>Waste Less, Recycle More</u>, February 2013
- <sup>25</sup> Environment Protection and Heritage Council, <u>Plastic Bags</u>, 6 May 2012 [online accessed 8/04/2013]. The following publication provides a more in-depth overview of EPHC investigations into regulating plastic bag use: M Westcott, <u>Plastic Shopping Bags</u>, Research Brief No 2010/28, Queensland Parliamentary Library, 2010.
- <sup>26</sup> Department of the Environment, Water, Heritage and the Arts, <u>National Waste Policy:</u> Less Waste, More Resources, November 2009, p.6
- <sup>27</sup> Department of Sustainability, Environment, Water, Population and Communities, <u>National Waste Policy: About the policy</u>, 17 December 2012 [online – accessed 10/04/2013]
- <sup>28</sup> Department of Environment, Water, Heritage and the Arts, <u>National Waste Policy: Less</u> Waste, More Resources – Implementation Plan, July 2010
- <sup>29</sup> Australian Packaging Covenant, <u>History of the APC</u>, 2013 [online accessed 11/04/2013]
- <sup>30</sup> Department of Sustainability, Environment, Water, Population and Communities, <u>National Waste Policy: Less Waste, More Resources – Implementation Report 2011</u>, Standing Council on Environment and Water, 2011
- <sup>31</sup> Australian Packaging Covenant, <u>Australian Packaging Covenant: A commitment by</u> <u>governments and industry to the sustainable design, use and recovery of packaging</u>, 1 July 2010, Amended 10 October 2011
- <sup>32</sup> Ibid.
- <sup>33</sup> COAG Standing Council on Environment and Water, <u>Packaging Impacts Consultation</u> <u>Regulation Impact Statement</u>, December 2011
- <sup>34</sup> COAG Standing Council on Environment and Water, <u>Communiqué: Packaging on</u> <u>Ministers' Agenda</u>, 24 August 2012
- <sup>30</sup> COAG Standing Council of Environment and Water, <u>Communiqué</u>, 11 April 2013 <sup>36</sup> Planet Adv. Ting for Council of Environment 20 April 2000 Indian
- <sup>36</sup> Planet Ark, <u>Tips for Councils and Towns</u>, 29 April 2009 [online accessed 12/02/2013]
- <sup>37</sup> City of Fremantle, <u>Fremantle plastic bag reduction law sets new benchmark in WA</u>, 12 March 2013 [online – accessed 12/04/2013]
- <sup>38</sup> This Standard specifies requirements and procedures to determine the compostability, or anaerobic biodegradation, of plastics by addressing biodegradability, disintegration during biological treatment, effect on the biological treatment process and effect on the quality of the resulting compost. This Standard provides a basis to allow labelling of materials or products made from plastics as 'compostable', for use in such facilities as municipal or industrial composters. Source: SAI Global, <u>AS 4736-2006 Biodegradable plastics – Biodegradable plastics suitable for composting and other microbial treatment</u>, 2009 [online – accessed 11/04/2013]
- <sup>39</sup> Government of South Australia, *Plastic bag ban*, 2011 [online accessed 12/04/2013]
- <sup>40</sup> UniSA Ehrenberg-Bass Institute for Marketing Science, <u>Plastic Bag Ban Research:</u> <u>Executive Summary</u>, 3 November 2009
- <sup>41</sup> M Aspin, <u>*Review of the* Plastic Shopping Bags (Waste Avoidance) Act 2008</u>, November 2012, p.10
- <sup>42</sup> Northern Territory Environment Protection Authority, <u>*Plastic Bag Ban*</u>, no date [online accessed 11/04/2013]
- <sup>43</sup> With regard to figures on plastic bag consumption, the study noted that not all retailers provided data. The figures included here are therefore representative of the major shopping retailers that provided data to the study.
- <sup>44</sup> This is a measure of the change in quantity of plastic being generated for supermarket shopping bags before and after the ban. After the ban, many retailers provided reusable plastic bag alternatives to lightweight plastic bags.
- <sup>45</sup> ACT Government, <u>Interim Review of the Plastic Shopping Bags Ban</u>, November 2012
- <sup>46</sup> Ibid., p.8
- <sup>47</sup> Waste Authority, <u>Western Australian Waste Strategy: Creating the Right Environment</u>, March 2012
- <sup>48</sup> See also: Government of Western Australia, <u>Extended Producer Responsibility Policy</u>
  <u>Statement</u>, June 2005
  <sup>49</sup> The Policy Distribution of the state of t
- <sup>49</sup> The Premier of Victoria, *<u>Plastic bag trial begins in Victoria</u>*, 15 August 2008
- <sup>50</sup> KPMG, <u>Trial of a Government and Industry charge on plastic bags</u>, Report of findings, 20 October 2008

- <sup>51</sup> COAG Standing Council on Environment and Water, <u>Communiqué: Packaging on</u> <u>Ministers' Agenda</u>, 24 August 2012
- <sup>52</sup> Department of Environment and Heritage Protection, <u>Queensland's Waste Strategy</u>, 15
  March 2013 [online accessed 22/04/2013]. The new waste strategy will be developed under Chapter 2 of the <u>Waste Reduction and Recycling Act 2011</u>.

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ISSN 1838-0204