

Discussion Paper

Plastic Bags

August 2016

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1. Introduction

The extent of plastic pollution occurring in terrestrial and marine environments has become a serious problem recognised at the international level. There is now a substantial body of evidence, on the impact that plastic is having on the environment. Concerns have also been raised on the impact of plastic, on human health.

This Discussion Paper has been developed to investigate the approaches taken by Australian and international Governments to address plastic bags as one contributing factor to plastic pollution. The key motivations for Local Government in seeking to act on plastic bags are to:

- **Reduce litter in the terrestrial and marine environment:** this reduces impacts on the environment and the need for resource intensive clean-ups
- **Reduce plastic bag contamination of alternative waste treatment plants and composting facilities:** this increases the value of the compost and reduces the amount of pre-treatment necessary
- **Engage the community:** to challenge established social norms relating to consumption.

The second point is particularly important, given the State Government's preference for a three bin collection system that allows for the recovery of organics. Holistic action on plastic bags and flexible packaging is required, to improve the quality of compost products, and in turn begin to address market acceptance.

2. Scale of Plastic Pollution

Research published by the CSIRO¹ has found that approximately three-quarters of the rubbish along the Australian coastline is plastic. In coastal and offshore waters, most floating debris is plastic. The density of plastic ranges from a few thousand pieces of plastic per square kilometre to more than 40,000 pieces of plastic per square kilometre. Debris is more highly concentrated around major cities. It is likely that the high levels of debris on the southwest coast (Figure 1), are due to strong onshore winds and the origins of the currents that run along the coast.

¹ Hardesty, BD, C Wilcox, TJ Lawson, M Lansdell and T van der Velde (2014). Understanding the effects of marine debris on wildlife. A Final report to Earthwatch Australia. Available online. <https://publications.csiro.au/rpr/pub?pid=csiro:EP147352>



Figure 1: Relative density of anthropogenic debris along the Australian coast. Predicted densities are scaled with respect to the location with the highest density of debris (warmer colours [red] depicting relatively high densities of debris, corrected for shape, substrate, gradient and backshore sampling error terms). The map includes the combined terrestrial and marine anthropogenic debris inputs².

3. Plastic Bags: History, Generation, Recycling and Disposal

The concept of using a disposable, petroleum based product to transport purchases was established in the 1950's, with the invention of the plastic bag. By the late 1960's, retailers across the globe were providing this commodity to consumers³. The most recent data on plastic bag consumption (from 2007) suggests that Australians are using 3.9 billion High Density Polyethylene (HDPE) plastic bags annually⁴. Plastic bags are considered to be a 'free' commodity but in reality, add an additional cost to the price of goods purchased by householders.

² Hardesty, BD, C Wilcox, TJ Lawson, M Lansdell and T van der Velde (2014). Understanding the effects of marine debris on wildlife. A Final report to Earthwatch Australia. Figure 5. Available online. <https://publications.csiro.au/rpr/pub?pid=csiro:EP147352>

³ Packaging Knowledge (2014). Product History. Great Moments in Plastic Bag History. Available online. http://www.packagingknowledge.com/plastic_bags.asp

⁴ Hyder Consulting for the EPHC (2008). Plastic Retail Carry Bag Use. 2006 and 2007 Consumption. Available online. <http://www.scew.gov.au/sites/www.scew.gov.au/files/resources/0c513e54-d968-ac04-758b-3b7613af0d07/files/ps-pbags-hyder-consulting-bag-use-2006-07-consumption-200805.pdf>

Table 1 outlines the estimated rates of lightweight plastic bag consumption, during a period where retailers were required to report this data to the Environment Protection and Heritage Council (EPHC). It should be noted that there is no recent, national, data on plastic bag generation rates.

Table 1. Estimated HDPE plastic bag consumption (2002-2007)⁵.

Year	Plastic Bags (billions)	% Change From Previous Year
2002	5.95	-
2003	5.24	-11.9%
2004	4.73	-9.6%
2005	3.92	-17%
2006	3.36	-14%
2007	3.93	+17%

Although as much as two thirds of plastic bags are reused once or twice prior to disposal⁶, very few are recycled and some become litter. The information gathered by Clean Up Australia through its annual clean up days, suggests that between 30-50 million plastic bags could be entering the Australian environment as litter every year⁷. The number of littered plastic bags means that collections carried out by volunteers, Local and State Government agencies are unable to capture all littered bags – the National Litter Index identified that plastic bags make up 1.6% of litter items⁹. Aside from the obvious impact this has on animals when they become entangled, or ingest it, littered plastic bags are contributing to the accumulation of micro-plastics in the environment, as they break down into smaller pieces.

There is very limited information available on the degree to which plastic bag recycling is occurring in Australia. It is thought that the introduction of plastic bag recycling bins at some of the major retailers during the ‘push’ to meet targets, resulted in an increase in the recycling rate from <3%¹⁰ in 2002 to approximately 15% in 2007^{11,12}. Initially funded by the

⁵ Hyder Consulting for the EPHC (2008). Plastic Retail Carry Bag Use. 2006 and 2007 Consumption. Available online. <http://www.scew.gov.au/sites/www.scew.gov.au/files/resources/0c513e54-d968-ac04-758b-3b7613af0d07/files/ps-pbags-hyder-consulting-bag-use-2006-07-consumption-200805.pdf>

⁶ Australian Bureau of Statistics (2012). 4602.0.55.002 - Environmental Issues: Recycling, Reuse and Disposal. Available online. <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4602.0.55.002Main+Features30Mar+2012>

⁷ Clean Up Australia (2014). Say No to Plastic Bags Campaign. Available online. <http://www.cleanup.org.au/au/Campaigns/plastic-bag-facts.html>

⁸ Hyder Consulting for the EPHC (2008). Plastic Retail Carry Bag Use. 2006 and 2007 Consumption. Available online. <http://www.scew.gov.au/sites/www.scew.gov.au/files/resources/0c513e54-d968-ac04-758b-3b7613af0d07/files/ps-pbags-hyder-consulting-bag-use-2006-07-consumption-200805.pdf>

⁹ NSW EPA (2016). Plastic Shopping Bags Options Paper. Available online. <http://www.epa.nsw.gov.au/waste/plastic-shopping-bags.htm>

¹⁰ Hyder Consulting for the EPHC (2002). Plastic Shopping Bags in Australia National Plastic Bags Working Group Report to the National Packing Covenant Council. Available online. <http://www.scew.gov.au/system/files/resources/0c513e54-d968-ac04-758b-3b7613af0d07/files/ps-pbag-rpt-npbwg-report-npcc-200212.pdf>

¹¹ Department of Environment (2014). Plastic Bags. Available online. <http://www.environment.gov.au/node/21324>

¹² NSW Parliamentary Research Service (2013). Plastic bags: an update. Available online. <https://www.parliament.nsw.gov.au/researchpapers/Documents/plastic-bags-an-update/Plastic%20bags%20-%20an%20update.pdf>

Australian Packaging Covenant, Redcycle collection points for plastic bags and soft plastic packaging recycling are now located in many Coles and Woolworths stores in metropolitan areas¹³. As of 2015, the REDcycle Program was collecting on average 6 tonnes or 1.5 million pieces of flexible plastic per week¹⁴.

4. Plastic Bags: Environmental Impact and Replacement

Several studies have been completed on the environmental impact of alternative products to plastic bags. These studies typically focus on the type of resources used, the manufacturing process, transport to end markets and disposal routes. The UK Environment Agency carried out an assessment in 2011¹⁵. The most recent Australian analysis was completed by Nolan-ITU in 2003¹⁶. These studies do not include the impact of plastic, collectively, in the marine environment.

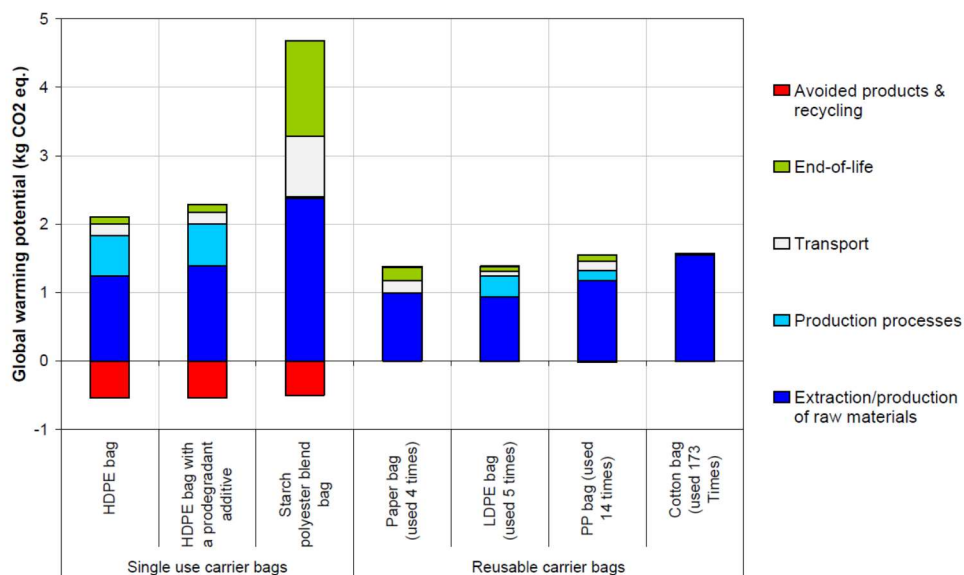


Figure 2. The global warming potential impacts of carrier bags (reproduced from UK Environment Authority (2011) figure 5.2)¹⁷.

¹³ Redcycle (2016). How can you play your part? Available online. <http://redcycle.net.au/redcycle/>

¹⁴ Australian Packaging Covenant (2015). REDcycle Recovery and Recycling of Postconsumer Flexible Plastic. Available online. <http://www.packagingcovenant.org.au/projects.php/96/the-redcycle-program-a-product-stewardship-initiative-to-recover-recycle-post-consumer-retail-soft-p>

¹⁵ UK Environment Agency (2011). Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006. Available online. <http://www.environment-agency.gov.uk/research/library/publications/129364.aspx>

¹⁶ Nolan-ITU, RMIT (2003). The impacts of Degradable Plastic Bags in Australia. <http://www.environment.gov.au/archive/settlements/publications/waste/degradables/impact/pubs/degradables.pdf>

¹⁷ UK Environment Agency (2011). Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006. Available online. <http://www.environment-agency.gov.uk/research/library/publications/129364.aspx>

Both studies found that using sturdy reusable plastic bags (such as the 'green bags' supplied by major retailers) resulted in the greatest environmental gains over a full life cycle. The UK Environment Agency found that paper bags would need to be reused at least 4 times, and cotton bags at least 173 times, to have a lower environmental impact than single-use plastic bags in terms of resource use, energy and greenhouse outcomes.

What these studies highlight is that in pure economic terms, determining the 'price' of the environmental impact of littered plastic bags in the environment is problematic. The following assumptions were used in the Nolan 2003 study:

"... an estimate of an average time a piece of litter may remain in the litter stream was needed. The data used for different materials was as follows:

- *Plastics (both single use and multiple use but not biodegradable polymers) – 5 years.*
- *Paper and biodegradable polymers – 6 months.*
- *Calico bags – 2 years."*

Understanding of the impact of plastic pollution has changed in the past 13 years and these estimates do not include the impact of small particles of plastic in marine environments. Environmental groups state that it could take years¹⁸ before plastic bags begin to degrade into smaller pieces. In terms of biodegradable bags, products are now available that comply with AS 4736-2006, and can completely break down within six to eight weeks in commercial composting processes¹⁹. These bags are also referred to as compostable bags, to clearly identify that the bags do not just break down into smaller bits of plastic but fully decompose.

Bin Liners

In addressing consumption of plastic bags, it is essential to explore the use of bin liners. This is because:

- a) 9 out of 10 households line their general waste bins with either plastic bags, or specific bin liners
- b) Industry groups opposing a ban on plastic bags know this, and use it as one of their key arguments when carrying out lobbying activities.

The review of the South Australian plastic bag ban, found that the sale of bin liners had substantially increased during the ban. 15% of consumers were purchasing bin liners before the ban, compared with 80% after the implementation of the ban²⁰. This shift in consumer behaviour means that Local Governments considering action on plastic bags must also

¹⁸ Surf Rider Perth (2016). Rise Above Plastics. Available online. <http://www.surfriderperth.org/rise-above-plastics.html>

¹⁹ Cardia Bioplastics (2014). Wholesale and Retail Products. Available online. <http://www.cardiabioplastics.com/>

²⁰ ZeroWasteSA (2012). Review of the Plastic Shopping Bags (Waste Avoidance) Act 2008. Available online. http://www.zerowaste.sa.gov.au/upload/resource-centre/publications/plastic-bag-phase-out/PBActReview_maspin_Nov2012_2%20-%20final.pdf

communicate acceptable methods of lining household bins that are compatible with waste processing requirements. Whilst bio-degradable plastic bin liners that meet AS 4736-2006 may be an appropriate solution in some situations, it should be noted that they do not break down well in modern, highly compacted landfills.

Other practical solutions include²¹²²:

- Composting leftover food
- Wrapping food scraps in sheets of newspaper prior to disposal (if this is done properly, the waste will not 'sweat' and begin to smell as it does in plastic bags)
- Lining bins with layers of newspaper
- Freezing food scraps prior to the scheduled collection day.

5. Government Activities

5.1 Australian Federal Government

Following the decision in December 2013 to simplify the COAG structure and remove the Standing Council on Environment and Water, the Federal Government does not have a formal Ministerial Council structure in place to make decisions on environmental issues. However, Federal and State Environment Ministers continue to meet on an ad hoc basis to progress initiatives such as a voluntary phase out of microbeads. Microbeads are tiny particles of plastic that are typically added to products such as cosmetics. Examples include toothpaste, facial scrubs and body washes.

The voluntary phase out has been driven by the growing body of evidence on the impact these products are having on the environment²³²⁴. In February 2016, a commitment was made by the Federal Environment Minister to implement a ban on microbeads by 1 July 2017, if the voluntary phase out has not delivered a widespread ban. Plastic microbeads and products containing them have been listed for consideration in 2016-17 for possible action under the *Product Stewardship Act 2011*²⁵.

Previous Federal Governments have initiated high level changes on plastic bags. Figure 1 shows a timeline of various initiatives and the associated results. The implications of the EPHC decision not to pursue uniform action on plastic bags in 2008, is quite possibly the reason that in the year after the Code of Practice expired, there was an increase of 17% in

²¹ Plastic Free July (2016). Available online. <http://www.plasticfreejuly.org/>

²² Treading My Own Path (2013). How to...line your rubbish bin without a plastic bag. Available online. <http://treadingmyownpath.com/2013/04/20/how-to-line-your-rubbish-bin-without-a-plastic-bag/>

²³ Hardesty, BD, C Wilcox, TJ Lawson, M Lansdell and T van der Velde (2014). Understanding the effects of marine debris on wildlife. A Final report to Earthwatch Australia. Available online. <https://publications.csiro.au/rpr/pub?pid=csiro:EP147352>

²⁴ ABC (2014). Invisible threat: Microplastic contamination discovered on bottom of Sydney Harbour. Available online. <http://www.abc.net.au/news/2014-08-21/microplastics-found-in-sydney-harbour-floor/5686472>

²⁵ Department of Environment (2016). 2016-17 Product List. Available online. <https://www.environment.gov.au/protection/national-waste-policy/product-stewardship/legislation/product-list-2016-17>

the amount of plastic bags consumed by Australians (refer to Table 1). To date, further action on plastic bags at a national level has not progressed.

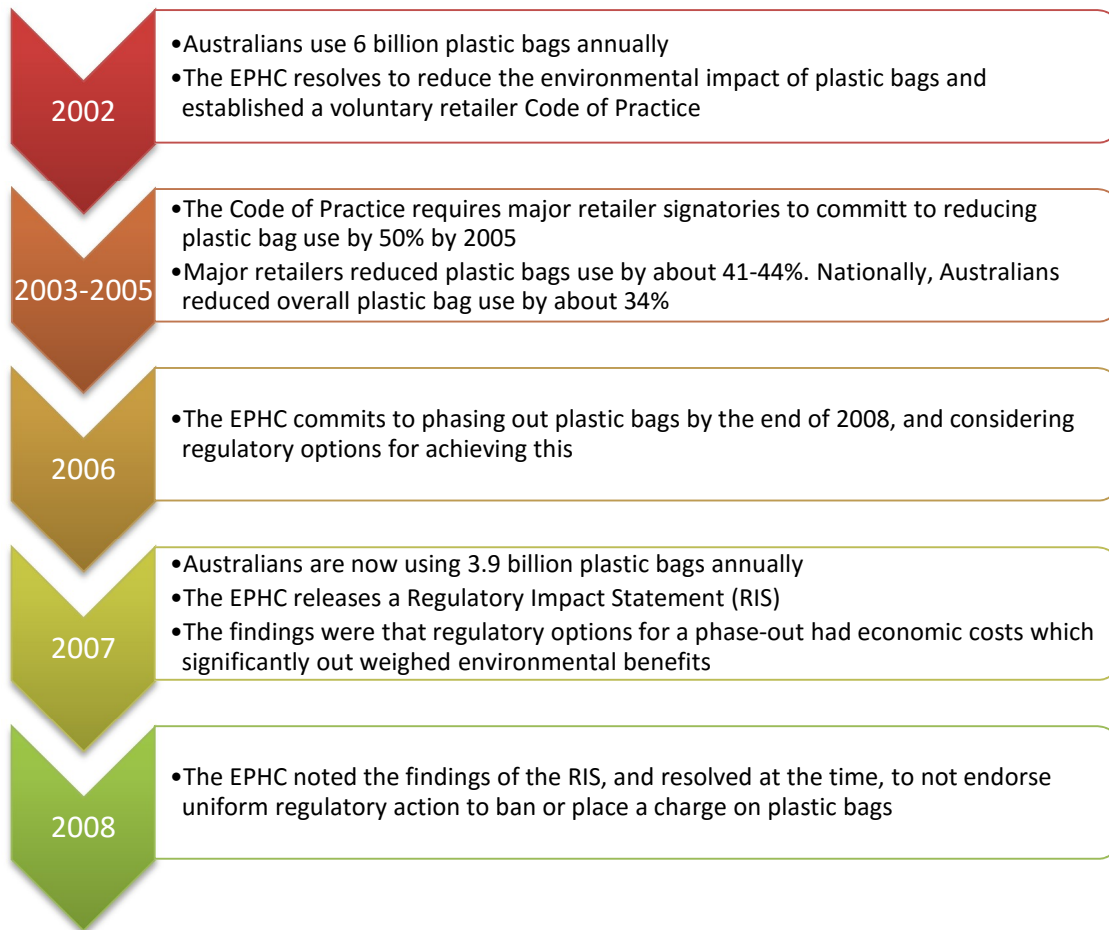


Figure 3: Timeline of Federal initiatives and results²⁶²⁷.

5.2 State and Territory Governments

The national discussion on microbeads is closely linked to the impact that products such as plastic bags have on the environment. There are a number of towns across Australia that have banned plastic bags, through localised collaborative efforts. Organisations such as the

²⁶ Department of the Environment (2014). Plastic Bags.

²⁷ Standing Council on Environment and Water (2014). EPHC Archive - Product Stewardship. Available online. <http://www.scew.gov.au/resource/ephc-archive-product-stewardship>

Boomerang Alliance²⁸, Wildlife Queensland²⁹, Plastic Bag Free Victoria³⁰, Greenpeace³¹, and Plastic Bag Free NSW³² are all advocating for action to be taken on plastic bags. In 2016, the NSW EPA released an Options Paper that identifies practical actions that can be taken on plastic shopping bags in terms of litter, consumption and recycling contamination³³. The following sections provide an overview of the approaches implemented by the Australian Capital Territory, Northern Territory, South Australia and Tasmania in introducing legislated bans on plastic bags³⁴.

These bans have the following common themes:

- A primary focus on light weight, single use bags and light weight plastic bags marked as 'degradable'
- They Don't include heavier department store plastic bags, biodegradable or compostable bags, barrier bags (e.g. for fruit and vegetables)
- There is a high level of public support for bans.

Australian Capital Territory ³⁵		
Head of Power	<i>Plastic Shopping Bags Ban Act 2010</i>	
Implementation	November 2011	
Approach	The ban prohibits retailers from providing single-use, lightweight polyethylene plastic bags of 35 microns or less.	
	What is Banned?	What is not Banned?
	Lightweight, single use plastic bags	Heavier department store plastic bags
	Lightweight plastic bags marked 'degradable'	Compostable bags that comply with AS 4736
		Barrier bags (e.g. fruit and vegetables)
		Paper bags
		Green bags
Review (2014)	- 65% of primary shoppers support the ban - 71% of shoppers prefer that the ban stays in place but (68%) do not wish to widen the ban to include all plastic bags	

²⁸ Boomerang Alliance (2016). The Facts on Plastic Bags. Available online.

http://www.boomerangalliance.org.au/the_facts_on_plastic_bags

²⁹ Wildlife Queensland (2016). Plastic Bag Free Queensland. Available online.

<http://www.wildlife.org.au/conservation/PlasticBagFreeQueensland.html>

³⁰ Plastic Bag Free Victoria (2016). <http://www.plasticbagfreevictoria.org/>

³¹ Greenpeace (2016). Ban the Bag: Western Australia. Available online. <https://act.greenpeace.org.au/petitions/ban-the-bag-western-australia-1>

³² Plastic Bag Free NSW (2016). <http://plasticbagfreesw.squarespace.com/>

³³ NSW EPA (2016). Plastic Shopping Bags Options Paper. Available online. <http://www.epa.nsw.gov.au/waste/plastic-shopping-bags.htm>

³⁴ Hon. Greg Hunt MP Minister for the Environment (29 February 2016) Federal Government strengthens efforts to tackle plastic waste. Available online. <https://www.environment.gov.au/minister/hunt/2016/mr20160229a.html>

³⁵ ACT Government (2014) Review of the Plastics Shopping Bags Ban. Available online.

http://www.environment.act.gov.au/waste/plastic_bags

	<ul style="list-style-type: none"> - 79% of shoppers now take re-usable bags always or most of the time when shopping. Prior to the ban 59% of primary shoppers were not using their own shopping bags - 59% all respondents believe banning plastic bags would help the environment, and make the surroundings look better. 34% do not, and consider having plastic bags are more convenient, and the ban as not efficient in reaching its purpose. - In the six months prior to the ban an estimated 266 tonnes of plastic bags (including single-use plastic bags, reusable plastic bags, bin liners and a proportion of reusable woven bags) was sent to landfill. For the 6 months to 31 October 2013 this appears to have decreased to by an estimated 36%.
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Northern Territory ³⁶													
Head of Power	<i>Environment Protection (Beverage Containers and Plastic Bags) Act 2011</i>												
Implementation	September 2011												
Approach	<p>Retailers can no longer supply lightweight, “checkout” style plastic bags, including degradable bags. Consumers are encouraged to use alternative products when shopping.</p> <table> <tr> <th>What is Banned?</th><th>What is not Banned?</th></tr> <tr> <td>Lightweight, single use plastic bags</td><td>Heavier department store plastic bags</td></tr> <tr> <td>Lightweight plastic bags marked 'degradable'</td><td>Biodegradable or compostable bags that comply with AS 4736</td></tr> <tr> <td></td><td>Barrier bags (e.g. fruit and vegetables)</td></tr> <tr> <td></td><td>Paper bags</td></tr> <tr> <td></td><td>Green bags</td></tr> </table>	What is Banned?	What is not Banned?	Lightweight, single use plastic bags	Heavier department store plastic bags	Lightweight plastic bags marked 'degradable'	Biodegradable or compostable bags that comply with AS 4736		Barrier bags (e.g. fruit and vegetables)		Paper bags		Green bags
What is Banned?	What is not Banned?												
Lightweight, single use plastic bags	Heavier department store plastic bags												
Lightweight plastic bags marked 'degradable'	Biodegradable or compostable bags that comply with AS 4736												
	Barrier bags (e.g. fruit and vegetables)												
	Paper bags												
	Green bags												
Review (2014)	<ul style="list-style-type: none"> - The ban has an average support rating of 7.3/10. 39% of shoppers rated their support level 10/10 - The ban has a rating of 2.2/10 on average for inconvenience. 48% of respondents rated the Ban ‘not at all inconvenient’ (‘0’ out of 10) - On average shoppers claim to bring their bags with them 5.5/10 trips since the introduction of the Ban. Prior to the Ban, this was 1.7/10 trips - 61% of shoppers were aware of the ban’s public awareness campaign, which may be low due to the transient population of the Northern Territory - 37% of respondents stated that the ban is ‘better for the environment.’ 34% of shoppers stated that the ban had led to a reduction in litter, 19% of shoppers claimed that the ban had led to a reduction in landfill - The total plastic bags (single-use plastic bags, reusable shopping bags, bin liners and kitchen tidy bags) are estimated to have reduced by 10.3 million per annum since the introduction of the ban. Given the diversity of 												

³⁶ NT Environment Protection Agency (2014). Northern Territory Plastic Bag Ban Review. Available online. http://www.ntepa.nt.gov.au/_data/assets/pdf_file/0009/353907/plastic_bag_ban_review_report_rawtec.pdf

	bag types of varying thickness that are available, this high-level analysis may not necessarily indicate a reduction in overall plastic usage.
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South Australia ³⁷		
Head of Power	<i>Plastic Shopping Bags (Waste Avoidance) Act 2008</i>	
Implementation	May 2009	
Approach	Retailers are banned from selling or giving away plastic bags with handles made of polyethylene polymer less than 35 microns.	
	What is Banned?	What is not Banned?
	Lightweight, single use plastic bags	Heavier department store plastic bags
	Lightweight plastic bags marked 'degradable'	Compostable bags that comply with AS 4736
		Barrier bags (e.g. fruit and vegetables)
		Paper bags
Result (2012)	<ul style="list-style-type: none"> - Overall, consumers are supportive of the ban (average score of 7.8/10); - 80% of consumers now take their own bags when grocery shopping; - 15% of consumers bought bin liners pre-ban and 80% bought bin liners post-ban; - The percentage of the litter stream consisting of plastic bags fell by 45% between 2008-09 and 2011-12; - 1 in 3 consumers now claim to recycle their reusable bags; and - 56% of consumers were supportive of extending the ban to include heavy and thick plastic bags. 	

Tasmania ³⁸		
Head of Power	<i>Plastic Shopping Bags Ban Act 2013</i>	
Implementation	November 2013	
Approach	Retailers can no longer supply shoppers with a plastic shopping bag for the purpose of enabling goods sold, or to be sold, by the retailer, to be carried from the retailer's premises.	
	What is Banned?	What is not Banned?
	Lightweight, single use plastic bags	Heavier department store plastic bags
	Lightweight plastic bags marked 'degradable'	Compostable bags that comply with AS 4736

³⁷ Aspin, M (2012). Review of the Plastic Shopping Bags (Waste Avoidance) Act 2008. Available online. http://www.zerowaste.sa.gov.au/upload/resource-centre/publications/plastic-bag-phase-out/PBActReview_maspin_Nov2012_2%20-%20final.pdf

³⁸ Tasmanian Government (2014). About Tasmania's Plastic Bag Ban. Available online. <http://www.plasticbags.tas.gov.au/about>

	Barrier bags (e.g. fruit and vegetables)
	Plastic bags that are an integral part of packaging (e.g. bread, frozen foods)
	Re-sealable zipper storage bags
Result (TBC)	A review is yet to be completed.

Western Australia ³⁹⁴⁰⁴¹⁴²⁴³	
State Government	There has been limited interest from the current WA Government to address problematic packaging. In 2010, the <i>Plastic Shopping Bags (Waste Avoidance) Bill</i> was introduced by the Hon. Dr Sally Talbot into Parliament. This Bill was defeated in March 2012.
Local Government	<p>In February 2012, the City of Fremantle responded to community concerns by resolving to develop the <i>Plastic Bag Reduction Local Law 2012</i>. The Local Law came into effect on 21 August 2013, but was not implemented. In this case, the Joint Standing Committee was unable to reach a determination and referred the matter to the Legislative Council. On 29 October 2013, the Legislative Council disallowed the City of Fremantle's Local Law, based on a clause permitting retailers to charge a 10c minimum fee for a compliant biodegradable bag.</p> <p>The City of Fremantle redrafted the Local Law, to address the concerns raised with the initial Local Law. The substantive change was that retailers were no longer required to charge a minimum fee of 10 cents for each alternative shopping bag provided to shoppers. Some of the penalties were revised to maintain consistency with laws in other jurisdictions. The Local Law was resubmitted to Parliament in early 2015. The Joint Standing Committee considered the Local Law and it was then tabled in Parliament. This meant that from the Committee's perspective, the Local Law was within the powers that Local Government are delegated to implement.</p> <p>In May 2015, Liberal MLC Hon Peter Katsambanis moved a disallowance motion against the amended Local Law. The matter was discussed in Parliament on 13 October 2015 and the disallowance motion carried. During the debate, one reason given for the disallowance was that such</p>

³⁹ Parliament WA (2012). Plastic Shopping Bags (Waste Avoidance) Bill 2010. Available online. <http://www.parliament.wa.gov.au/parliament/bills.nsf/BillProgressPopup?openForm&ParentUNID=E119346494D41137482576F8000DB478>

⁴⁰ City of Fremantle (2015). (14/10) City frustrated with blocking of innovative Fremantle plastic bag law. Available online. <http://www.fremantle.wa.gov.au/news-and-media/1410-city-frustrated-blocking-innovative-fremantle-plastic-bag-law>

⁴¹ City of Fremantle (2015). (14/10) City frustrated with blocking of innovative Fremantle plastic bag law. Available online. <http://www.fremantle.wa.gov.au/news-and-media/1410-city-frustrated-blocking-innovative-fremantle-plastic-bag-law>

⁴² Hansard (Tuesday 13 October 2015). Available online. [http://www.parliament.wa.gov.au/Hansard/hansard.nsf/0/924f9b990d15a2d748257f40001136ed/\\$FILE/C39+S1+20151013+p7104b-7118a.pdf](http://www.parliament.wa.gov.au/Hansard/hansard.nsf/0/924f9b990d15a2d748257f40001136ed/$FILE/C39+S1+20151013+p7104b-7118a.pdf)

⁴³ The West Australian (19 June 2015). Bid to block plastic ban irks councils. Available online. <https://au.news.yahoo.com/thewest/wa/a/28494891/fremantle-plastic-bag-ban-challenged/>

	<p>issues are best dealt with at a State Government level. At this time, the view of the Hon Albert Jacob, Minister for Environment was that: <i>“The State Government does not regulate the use of plastic bags and has no intention of doing so. If a local government wishes to lawfully introduce and pass such a local law, that is a matter for the local government authority.”</i></p> <p>The President of WALGA, at the time, expressed concern regarding the decision at the time, given that the City of Fremantle had addressed the legislative concerns of the Joint Standing Committee and the City, after extensive consultation, was acting to deliver benefits to its residents and retailers.</p>
Community Action	<p>Despite limited legislative traction on this issue a number of towns in Western Australia have taken localised action on plastic bags, though voluntary efforts. Examples include Coral Bay, Esperance, Exmouth, and Port Hedland.</p>

6. Key Findings

From the research undertaken by CSIRO it is evident that Western Australia has one of the highest levels of plastic pollution in the country and there is a particularly high loading along the coast around the Perth metropolitan area.

- **Finding 1 Plastic Pollution:** The issue of plastic pollution is far wider than just plastic bags and holistic action is required to address the problem. Although Local Government has limited capacity to address many of the sources of plastic pollution, it can take action to reduce the amounts of littered items entering the environment.
- **Finding 2 Consistent State Bans:** Many of the bans in place for plastic bags in Australia have a relatively consistent scope.
- **Finding 3 Local Government Position:** In taking action on plastic bags, Local Government needs to have a well-reasoned position on:
 - The key objectives of any intervention – plastic bags are not a specific waste management issue but are a source of litter and an opportunity for community engagement
 - The type of legislative approach that will be taken – banning vs charging
 - How the intervention will affect existing waste treatment systems
 - The approach to be taken in engaging the community (e.g. How the issue of bin liners should be addressed).

7. Appendix - International Case Studies

Many countries have previously taken action to reduce the impact of plastic bags. The following sections provide an overview of some of the approaches taken. Please note this is not an exhaustive list.

China ^{44,45}		
Head of Power	<i>Plastic Bag Restriction Order</i>	
Implementation	February 2008	
Approach	The production, sale or use of plastic shopping bags with a thickness of less than 25 microns is prohibited. Retailers must charge a fee when providing free plastic bags.	
	What is banned?	What is not banned?
	Plastic bags less than 25 microns thick	Fabric bags and other reusable bags
		Plastic shopping bags designed for re-use (provided the retailer charges a fee that is higher than operating costs)
Result (2011)	Plastic bag use in retail places dropped by approximately two-thirds. There have been issues with the implementation of the ban, in open-air and wholesale markets and roadside stalls.	

Ireland ⁴⁶		
Head of Power	<i>Waste Management (Environmental Levy) (Plastic Bag) Regulations, 2001</i>	
Implementation	March 2002	
Approach	A levy is applied to each bag consumed. All funds raised are submitted to an Environment Fund.	
	What is subject to the levy?	What is not subject to the levy?
	Single use plastic carry bags	Barrier bags (e.g. fruit, vegetables), that are less than 225mm wide (exclusive of any gussets), 345mm deep (inclusive of any gussets), and 450mm in length, (inclusive of any handles)

⁴⁴ China News (2011). Plastic Bag Ban. Available online. <http://www.clearchinese.com/news/2011/05/plastic-bags-ban/>

⁴⁵ Grist (2013). China's plastic-bag ban turns five years old. Available online. <http://grist.org/news/chinas-plastic-bag-ban-turns-five-years-old/>

⁴⁶ Department of Environment, Community and Local Government (2014). Plastic Bags. Available online. <http://www.environ.ie/en/Environment/Waste/PlasticBags/>

	Biodegradable polymer bags	Plastic bags for carrying goods that are sold on board ships or aircrafts, or sold in ports or airports
		Plastic shopping bags designed for re-use (provided the retailer charges at least 70c per bag)
Result	The introduction of a levy had an immediate effect on consumer behaviour with a decrease in plastic bag usage from an estimated 328 bags per capita to 21 bags per capita overnight. The levy was initially 15c per bag, and was increased to 22c per bag in 2007, in response to an increase in the use of plastic bags.	

Italy ⁴⁷⁴⁸		
Head of Power	<i>DECRETO (18 March 2013) Identification of Technical Characteristics of Bags for the Removal of the Goods. (13a02536)</i>	
Implementation	January 2011 (initially)	
Approach	Shopkeepers are banned from handing out non-biodegradable plastic bags.	
	What is subject to the ban?	What is not subject to the ban?
	Traditional single-use plastic bags	Biodegradable and compostable plastic shopping bags
		Plastic bags thicker than 200 microns thick, containing at least 30% recycled plastic if intended for food use
		Plastic bags thicker than 100 microns and containing at least 10% recycled plastic if not intended for food use
		Carry bags made of reusable paper, fabrics of natural fibers, polyamide fibers and materials other than polymers.
Result	There were major issues during the implementation of the ban, which was initially scheduled to begin in January 2011. Various groups and governments including the United Kingdom opposed the ban, on the basis that it breached EU law (i.e. packaging waste directive and free trade laws). The EU has now begun the process of investigating the impact of plastic bags, and methods of reducing this impact.	

⁴⁷ Environment News Service (2013). Italy Clarifies Plastic Bag Law, Enforcement Starts in May. Available online. <http://ens-newswire.com/2013/04/08/italy-clarifies-plastic-bag-law-enforcement-starts-in-may/>

⁴⁸ Cereplast (2013). DECRETO (18 March 2013). Available online. <http://www.cereplast.com/wp-content/uploads/Decreto.pdf>

Rwanda ⁴⁹		
Head of Power	<i>Law N° 57/2008 Relating to the Prohibition of Manufacturing, Importation, Use and Sale of Polythene Bags in Rwanda</i>	
Implementation	September 2008	
Approach	The manufacture, importation, use and sale of polythene bags that are used to package various products is prohibited. Institutions in charge of controlling the use of polythene bags include the police, customs staff, environment management authority staff, and Local Authorities. Offenders can be imprisoned from between six to twelve months and be subject to various fines.	
	What is prohibited?	What is not prohibited?
	As above	There is a list of polythene bags that can be used in exceptional cases in Rwanda (e.g. healthcare applications). This list is updated from time to time.
		Anyone wishing to manufacture, import, use, and to sell polythene bags must apply for a written authorisation from the Rwanda Environment Management Authority (outlining the need and the ways in which polythene waste will be managed)
Result	In the short term, community based associations were established to make bags from locally available, environmentally friendly materials. Private businesses re-structured their business model towards recycling or manufacturing bags. Rwanda has become a much cleaner country as a result of the ban.	

⁴⁹ The Delicious Day (2012). Rwanda First Country in the World to Ban the Plastic Bag. Available online. <http://thedeliciousday.com/environment/rwanda-plastic-bag-ban/>