



Government of **Western Australia**
Department of **Water and Environmental Regulation**

Implementing a lightweight plastic bag ban in Western Australia

Decision Regulatory Impact Statement

Department of Water and Environmental Regulation

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1 Executive summary

The Department of Water and Environmental Regulation (DWER) released a consultation regulatory impact statement, *Implementing a lightweight single-use plastic bag ban in Western Australia*, on 20 December 2017 for an 11 week public comment period.

The consultation regulatory impact statement sought feedback on how the Government can reduce the impact of lightweight plastic bags. It focused on the Government's preferred option, a state-wide ban, and sought stakeholder and community views on the potential impacts and how they would prepare for the proposed changes.

DWER received a total of 4,441 responses during the comment period:

- 2,260 written submissions, including 94 unique submissions and 2,166 pro forma submissions (some of which also included individual responses);
- 2,181 online survey responses; and
- 431 participants attended the 15 public information sessions.

There was strong support for taking action on single-use plastics:

- 94.7 per cent of respondents support a ban on lightweight plastic bags;
- 92.7 per cent of respondents support including degradable, biodegradable and compostable lightweight plastic bags in the ban; and
- 92.0 per cent of respondents support future action to extend the ban to thicker department store bags.

Of the options considered by Government, the responses indicated strong support for a state-wide ban on lightweight plastic bags (the Government's preferred option) and for an education campaign. Maintaining the status quo was strongly opposed, while a levy on plastic bags and voluntary agreements with retailers each attracted some support.

This decision regulatory impact statement confirms the Government's preferred option, which is to implement a state-wide ban.

2 Statement of the Issue

Background

In 2007, Australian lightweight plastic shopping bag consumption was estimated to be around 3.9 billion¹ or 184 bags per person². Between 2007 and 2017, lightweight plastic bags were banned in South Australia, Tasmania, the Northern Territory and the Australian Capital Territory.

A lightweight plastic bag is defined as one made wholly or in part of plastic, has handles, is 35 micrometres or less (or microns, which is one-millionth of a metre) in thickness and is provided by a retailer for the purpose of carrying purchases.

Western Australians used up to 673 million lightweight plastic bags³ or 261 bags per person in 2017⁴. The majority of lightweight plastic bags are disposed of responsibly, however more than seven million bags become litter in Western Australia each year. Less than two per cent of lightweight plastic bags are recycled⁵.

Plastic bags make up a small percentage of the waste and litter streams but they have disproportionate impacts on the environment, particularly marine wildlife. States and territories with plastic bag bans have seen a marked reduction in plastic bag litter (with the exception of the Northern Territory)⁶.

Rationale for Government Intervention

There is growing national and international evidence about the cumulative impact that plastic has on soils, waterways, marine environments and fauna (see below). Under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), marine debris is recognised as a 'key threatening process' that 'threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community'.

As such, Government recognises that reducing the number of plastic bags is an important measure to reduce the amount of plastic entering our environment and is considering the most effective options to address this (see Section 2). Previous attempts to reduce plastic bag consumption in Australia, such as the 2003-2005 national lightweight plastic shopping bag voluntary code of practice, have failed to have a long-term effect on plastic bag consumption.

Analysis of the Government's preferred option suggests it would remove approximately 673 million plastic bags from circulation annually.

Litter

Lightweight plastic bags are designed to be single use and have an average useful life of 12 minutes –the time it takes to transport purchased items home from where they are bought. While most plastic bags end up in landfill, the Keep Australia Beautiful Council estimates that one to two per cent (over seven million) are littered⁷ each year

Not all litter is deliberate. An estimated 47 per cent of wind-borne litter escaping from landfills is plastic with the majority of this being plastic bags⁸. Lightweight flexible plastics are highly mobile and easily blown from areas on land into waterways and the ocean.

Many plastic bags are used away from the usual supermarket-to-home route, such as takeaway food and drink. Inappropriate disposal of rubbish away from home can lead to lightweight plastic bags becoming litter and entering the marine environment.

As well as the impact on wildlife, plastic bags are unsightly in the environment, creating visual pollution.

Community support for action on plastic bags

Community support for action on plastic bags has been growing as people increasingly understand the environmental impacts of plastic waste and the impact of millions of bags entering the waste stream every year. Public campaigns such as *#banthebag* and the ABC TV's *War on Waste* have raised awareness and generated significant public support for a ban on lightweight plastic bags.

A survey of a random sample of the Western Australian adult population (consisting of 402 residents of all ages, household types and employment status across Regional and Metropolitan areas) conducted in November 2017⁹ found that:

- 95 per cent of respondents are concerned about the impacts of plastics on our waterways, oceans, wildlife and landfill sites;
- 77 per cent use alternatives to lightweight plastic bags at least some of the time;
- 84 per cent support a ban on lightweight plastic bags; and
- 85 per cent support extending that ban to include biodegradable and compostable lightweight bags.

A Discussion Paper, *Implementing a lightweight single-use plastic bag ban in Western Australia*, was released in December 2017 for an 11 week public consultation period, during which 4,441 submissions were received. There was a high level of support for taking action on single-use plastics, including:

- 95 per cent of respondents supporting a ban on lightweight plastic bags;
- 93 per cent support for immediately extending the ban to include degradable, biodegradable and compostable lightweight plastic bags; and
- 92 per cent of respondents supporting future action to extend the ban to thicker department store bags.

A number of Western Australian local governments have moved to ban plastic bags under local laws, including the City of Fremantle and the Town of East Fremantle. Additionally, a number of towns have taken localised voluntary actions to reduce plastic bags, including Coral Bay, Esperance, Exmouth and Port Hedland.

A survey of local governments by the Western Australian Local Government Association (WALGA) found widespread support for a state-wide ban on plastic bags. WALGA has since passed a resolution in support of a Western Australian ban¹⁰.

What are the consequences of not taking action?

Impacts on the marine environment

All plastics, including plastic bags, are persistent in the environment. Plastic bags are particularly attractive to marine wildlife as they look similar to jellyfish, a preferred food of seabirds, turtles, sharks, and fish. Once ingested, a plastic bag does not breakdown and can block the intestinal tract of the animal consuming it, causing the animal to die of starvation. They also fill with air and the animal cannot dive to escape collisions or predators. For smaller animals, the impact is primarily due to entanglement. Animals become tangled or stuck in plastic bags and drown because they cannot free themselves.

Since 2003, the EPBC Act has listed 'injury and fatality to vertebrate marine life caused by ingestion of, or entanglement in, harmful marine debris' as a key threatening process¹¹.

Globally, the impact of plastics on the marine environment is significant. It is estimated that one million seabirds and over 100,000 mammals die every year as a result of plastic ingestion or entanglement. The 2014 CSIRO Marine Debris Report 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 in oceans 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 cities¹², suggesting that the majority of litter in Australian waters comes from Australian consumers and industries.

Plastics break down into small fragments and create microplastics, and do not biodegrade. Small fragments can be ingested by lower order marine animals, which in turn are eaten by larger fish. Persistent organic pollutants found in the ocean adsorb onto plastics and microplastics. Concentrations of persistent organic pollutants on microplastic particles are several orders of magnitude higher than the surrounding seawater. If ingested by marine species, they present a potential route for these chemicals to enter the human food chain¹³.

A Senate inquiry into the threat of marine plastic pollution in Australia and Australian waters found there were few estimates of costs of marine plastic pollution available, and noted the Asia-Pacific Economic Cooperation's estimated cost of ocean plastics to the tourism, fishing and shipping industries was \$1.3 billion in our region¹⁴.

3 Options to address the issue

1. Business as usual

The business as usual approach to lightweight plastic bags means that there is no coordinated approach to the growing problem of plastic bag pollution.

Aldi and Bunnings do not provide plastic bags, and the major retailers Coles, Woolworths and IGA have committed to the removal of lightweight plastic bags from their stores by 1 July 2018 regardless of Government policy. Trials have already commenced in selected stores in advance of the scheduled phase out. Consequently lightweight plastic bags will no longer be available at most supermarkets regardless of a Government decision. The major retailers account for around 55 per cent of lightweight plastic bag consumption.¹⁵

The Government does not consider this option as a preferred option because it does not create an incentive for shoppers to reduce their use of lightweight plastic bags away from the major retailers and may lead to shoppers preferentially seeking out retailers who will provide a free plastic bag. It also does not meet community expectations to take effective action on plastic pollution.

2. Legislative ban on lightweight plastic bags

Option 2 is the Western Australian Government's preferred approach to dealing with lightweight plastic bags.

A ban on lightweight plastic bags is consistent with action taken by other Australian states and territories, and has been shown to be effective in other jurisdictions (nationally and internationally). This approach is supported by the major retailers, which will significantly assist with implementation.

There will be adjustments required by plastic bag suppliers, retailers and consumers:

Plastic Bag Suppliers: These businesses will need to run down current stocks of lightweight plastic bags and inform their customers (retailers) of alternatives to their usual ordering choices. Plastic bag suppliers need to be fully informed of the definition of a banned plastic bag and have early notification of ban implementation timing.

Retailers: This option will directly affect retailers who will be prohibited from selling or supplying lightweight plastic bags. There are significant savings available to retailers who will no longer be expected to provide free plastic bags to customers. Alternative shopping bags are likely to cost more and retailers may pass these costs on to customers, although customers will not be obliged to purchase.

Consumers: Most retail customers keep a supply of re-usable plastic shopping bags that can be used instead of lightweight plastic bags. However, significant behaviour change will be necessary for consumers to remember to take their reusable bags with them while shopping and to have them ready for occasional or impulse

shopping. The purchase of alternative shopping bags (in the event that the consumer forgets to bring reusable bags) will mean additional costs to consumers. However, this would be expected to diminish over time as new behaviours become normalised.

3. Lightweight plastic bag levy

A plastic bag levy operates as a tax on the sale of lightweight plastic bags. This tax is then passed onto the consumer. Levies encourage behaviour change (through increased costs) and raise money that could be used towards government priorities. The successful Irish plastic bag levy raised over EUR nine million in 2002 and reduced plastic bag consumption by 89 per cent. Unfortunately, evidence indicates that the behaviour changes triggered by a plastic bag levy are not permanent. Consumers start to normalise the additional costs and plastic bag use increases. In 2006, the Irish government significantly increased the plastic bag levy to maintain its effectiveness.

Introducing plastic bag levy legislation is more complicated than the introduction of a simple ban on lightweight plastic bags. There are significant administrative overheads for government in managing the implementation and ongoing effectiveness of a levy and these costs would also be borne by retailers. Retailers would increase prices to cover the cost of the levy from customers and the funds collected would be paid to government.

Constitutional issues: The capacity to impose a levy on products is a central issue addressed in the Australian Constitution. Section 90 of the Constitution allocates the right to impose excises to the Commonwealth. Any tax, levy or other monetary charge that is calculated by reference to the value of products or the number sold is likely to be an excise. While it is feasible to construct legislation at State level seeking to avoid a charge being interpreted as an excise, in recent times, the High Court of Australia has consistently viewed such charges as excises and in a number of high profile cases has disallowed them.¹⁶

Option 3 has none of the advantages of national consistency and public support inherent in the proposed ban on lightweight plastic bags and poses significant implementation costs for retailers and government.

4. Voluntary agreements

A national plastic shopping bag voluntary code of practice for retailers operated between 2003 and 2005. The code reduced shopping bag consumption by 45 per cent during its operation and cost approximately \$50 million to implement¹⁷. The code is no longer in effect and shopping bag consumption has increased since 2005.

Voluntary agreements can be effective, but they are less likely to be adopted by smaller retailers that sell goods to be used or consumed away from home. Lightweight plastic bags provided for goods consumed away from home are more likely to become litter.

The voluntary nature of Option 4 would place fewer restrictions on retailers and consumers but would not reduce the consumption of lightweight plastic bags by the same amount as Options 2 or 3 as long-term plastic bag reductions would be dependent on retailers committing to the code indefinitely. The Western Australian Government considers that this option does not meet its objective of taking significant action to reduce plastic bags.

Free Riders: A key problem that can undermine voluntary agreements is the risk of 'free riding'. This situation arises when a business expects that it will be better off if others take action, and it does not. A business may gain an advantage in moving more slowly than its competitors or it may establish a competitive point of difference by not taking action at all. Free riding is a real risk in the effort to reduce plastic bags, particularly as the large supermarkets have committed to removing lightweight bags from their businesses. A small retailer may find they can establish a point of difference by continuing to supply free lightweight plastic bags to customers.

5. Education campaign

Education campaigns to reduce plastic (and plastic bag) use have been implemented by governments, non-government organisations and retailers. These campaigns attempt to change consumer behaviour by:

- increasing awareness of the environmental impact of plastic bags; and
- offering low cost alternatives, making alternatives to plastic bags more convenient and lowering the associated cost.

The availability of free lightweight plastic bags at the checkout allows consumers the opportunity to avoid changing their behaviour.

The recent survey of Western Australian households found that 54 per cent of people reported that they refused lightweight plastic bags almost always or most of the time. This suggests that most people know that using a reusable bag is a more environmentally responsible option. Despite good consumer understanding of the problem, Western Australians continue to use hundreds of millions of lightweight plastic bags every year.

Significant ongoing investment, in the order of \$25 million over five years, would be required to ensure an education campaign resulted in changed behaviour by the target audience.

Ninety per cent of respondents to the Western Australian household survey agreed that more needs to be done to address plastic pollution. An education campaign is unlikely to deliver Western Australian Government's objective of taking significant action to reduce plastic bags or meeting the public's expectations about action to reduce plastic pollution.

4 Impact analysis

Costs and Benefits

The Western Australian Treasury Corporation assessed the costs and benefits for the five plastic bag reduction options considered by the Western Australian Government. DWER provided the assumptions necessary for the development of the cost model.

Table 1 presents the net benefit (combined benefits minus combined costs) of each plastic bag reduction option over one year and five years. The table also presents the cost per avoided plastic bag under each of the options.

The Government's preferred option of a state-wide ban on lightweight plastic bags (Option 2) is the lowest cost option of the five plastic bag reduction options (\$833,565 in year one, \$167,827 by year five) followed by the education campaign option (\$4.6 million in year 1 and \$12.02 million in year five). This is the only option where the net cost of removing plastic bags decreases over time.

Distribution of costs and benefits

The Western Australian Treasury Corporation's analysis considered the distribution of costs and benefits between Government (Western Australia only), retailers, plastic bag suppliers, consumers and the environment.

Government

Government costs include the costs of implementing the various options and the cost of ensuring compliance. The Government anticipates that it will cost \$1 million in 2018 to implement the state-wide ban on lightweight plastic bags. This figure was adopted as the Government's implementation cost for all options except the business as usual option (Option 1) and the state-wide levy on plastic bags (Option 3)¹. The Government would have no implementation costs in a business as usual scenario as all costs will be borne by the major retailers that have committed to removing lightweight plastic bags from their stores by 1 July 2018. Costs and benefits to large retailers have not been included in the model as their decision underpins the business as usual option.

Government costs increase significantly under Option 3 (state-wide levy on plastic bags) due to the costs of implementing a new state levy. The revenue collected by government under this option would not be expected to exceed the government's implementation costs due to the decrease in plastic bags used under this option. The analysis also assumed that a levy could be fully implemented.

Retailers

The cost benefit analysis indicates that the ban will have a net financial benefit for retailers. This was calculated based on the avoided cost of purchasing lightweight

¹ The analysis evaluates effectiveness of options 4 and 5 for this level of Government cost.

plastic bags as well as the sale of bin liners. Additional benefits could include the sale of higher-margin reusable bags and the avoided cost of commercial recycling if they provide free produce boxes to customers. Feedback from retailers during stakeholder meetings indicated that additional costs of providing reusable bags would be passed onto customers. As a result of this advice, the costs of purchasing reusable bags and bin liners has been allocated as a consumer cost in the analysis of impacts.

Suppliers

Supplier costs include lost sales of lightweight plastic bags at \$0.01 per bag. This cost is offset by sales of thicker plastic bags (\$0.15 per bag) and reusable bags (\$1.00 per bag). Although suppliers lose lightweight plastic bags sales under all options except Option 1, they are likely to see an increase in sales of thicker plastic and reusable bags. The sales volume of thicker plastic and reusable bag assumptions¹⁸ include:

- 30 per cent of lightweight plastic bags will be replaced by thicker plastic bags;
- 60 per cent of lightweight plastic bags will be replaced by consumers purchasing between two and three reusable bags per year; and
- 10 per cent of lightweight plastic bags will be replaced by free boxes provided by retailers.

Consumers

Consumers bear the highest costs in all bag removal scenarios as they are faced with the cost of buying alternative shopping bags in addition to the costs of bin liner sales. The cheapest option for consumers is Option 5 (Education campaign) because this option removes the lowest number of lightweight plastic bags after 1 July 2018. In Option 5 only 20 per cent of bags are removed in addition to the business as usual option, presenting a higher pollution cost for the environment.

Environment

The cost of environmental pollution of plastic bags is based on Marsden Jacobs' (2016) cost benefit analysis of plastic bag ban options for the Victorian Government. Marsden Jacobs calculated a willingness to pay value for the cost of avoided plastic bag litter of \$0.01 for a plastic bag on land and \$0.20 for a plastic bag in the marine environment. The Marsden Jacob (2016) analysis used National Litter Index data to estimate that 52 per cent of littered plastic bags remain on land and 48 per cent enter the marine environment. The ongoing environmental pollution costs under Options 1, 3, 4 and 5 are based on the assumption that one per cent of all bags are littered (unchanged from the current estimate) and the estimated reduction of lightweight plastic bags provided under each option.

Table 1: Implementation costs for plastic bag reduction options 2018/19 – 2022/23

| Plastic Bag Reduction Options | Reduction in bags | Net benefit Year 1 | Cost per avoided bag Year 1 | Net benefit Year 5 | Cost per avoided bag Year 5 |
|--|--|--------------------|-----------------------------|--------------------|-----------------------------|
| 1. Business as usual Assumes that major retailers phase out lightweight plastic bags on 1 July 2018 as announced. This becomes the "base" case. | 55 % reduction 45 % remain (new base) ¹ | -\$ 17,542,530 | \$ 0.0474 | -\$ 87,712,649 | \$ 0.0592 |
| 2. State-wide ban on lightweight plastic bags All lightweight plastic bags are removed from 1 July 2018. | 100 % of base | -\$ 833,565 | \$ 0.0028 | -\$ 167,827 | \$ 0.0001 |
| 3. State-wide levy on lightweight plastic bags Assumes business as usual option with a \$ 0.15 levy on every lightweight plastic bag provided by a retailer. | 89 % of base ² | -\$ 5,373,856 | \$ 0.0199 | -\$ 16,869,282 | \$ 0.0156 |
| 4. Voluntary agreement with retailers Assumes business as usual option with additional resources to promote adoption of retailer code of practice. | 45 % of base ³ | -\$ 8,029,346 | \$ 0.0589 | -\$ 39,146,729 | \$ 0.0718 |
| 5. Education campaign Assumes business as usual option with additional resources to encourage consumers and retailers to reduce plastic bag use. | 20 % of base ⁴ | -\$ 4,594,700 | \$ 0.0759 | -\$ 12,019,996 | \$ 0.0496 |

Table 1 Assumptions:

1. National retailers are assumed to account for 55 per cent of all lightweight plastic bags. Coles, Woolworths and IGA have committed to removing lightweight bags from their stores (nationally) from 1 July 2018 regardless of government action.
2. Ireland imposed a plastic bag levy in 2002, which achieved an 89 per cent reduction in bag consumption.
3. The plastic bag code of practice implemented by national retailers (2002-2005) achieved a 45 per cent reduction in bag consumption.
4. Education campaigns are only as successful as the amount of investment. Given the same level of investment by government in Options 2 and 4 (\$1 million) we have assumed this could achieve a reduction in plastic bag consumption of up to 20 per cent.

Who is affected?

Retailers

In the case of a legislative ban on lightweight plastic bags (as detailed in Option 2), retailers that routinely provide a lightweight plastic bag to customers will need to determine whether this packaging is necessary, and if so consider the following actions in the lead-up to the ban:

- Stop ordering lightweight plastic bags and run-down stocks in the lead-up to the ban.
- Decide whether the business will sell or supply alternative bags.
- Discuss alternatives with suppliers. Current plastic bag suppliers may be able to provide suitable alternative bags.
- Decide whether the business will offer alternatives such as the reuse of cardboard boxes.
- Discuss implementation of the ban with staff, for example, how to assist customers who may not know about or support the ban.
- Consider placing signage around the business to inform customers in the lead-up to the ban.

Consumers

The introduction of a ban will mean consumer shopping behaviours will need to change after 1 July 2018.

The 2017 survey of households indicated that most have a supply of reusable shopping bags, but many people forget to take them when they shop (46 per cent). After 1 July 2018 retailers may choose to sell alternative bags at the checkout as an alternative to lightweight plastic bags. If consumers do not change behaviours by switching to using reusable bags, they may need to purchase bags every time they shop. This increases the risk that thicker plastic bags will be used as a direct replacement for the banned bags. A review of the South Australian legislation in November 2012 found that the ban on lightweight plastic bags has been highly effective at reducing the supply of lightweight plastic bags in South Australia and changing consumer behaviour to alternatives to lightweight plastic bags.

The majority of Western Australians (84 per cent) support a ban on lightweight plastic bags, with seven per cent opposed to such a measure. When lightweight plastic bags are banned in Western Australia, the majority of respondents to the online survey indicated they would use reusable cotton or calico bags (80.8 per cent). Reusing a cardboard box (62.3 per cent) and using “green” bags (48.7 per cent) and paper bags (38.0 per cent) were the next most common responses. An effective consumer

education campaign is important to assist consumers move in this preferred direction.

In order to avoid inconvenience and the need to buy bags after 1 July 2018, consumers will need to consider making the following changes to their shopping behaviours:

- Check that their household has a supply of reusable shopping bags – enough to carry a regular weekly shop.
- If shopping trips are usually made by car, store shopping bags in the car.
- Keep a reusable bag in a handbag, backpack or satchel for small purchases on the go.
- Consider how bags are used around the home and if/how they will be replaced after the ban.

Secondary uses of bags

The recent survey of consumers in Western Australia¹⁹ shows that lightweight plastic bags are re-used around the home, especially for the hygienic collection of waste (72 per cent of households). The survey also found that households readily identified alternative solutions such as using paper to line bins, washing them out or storing food scraps in a sealed container. While consumers are keen to reuse lightweight plastic bags for waste, landfills are a significant source of litter.

Householders also re-use lightweight plastic bags to collect dog waste, and dispose of household sanitary, incontinence and nappy waste. A number of people receive medical care in their home. Waste from dressings is often wrapped in lightweight plastic bags prior to disposal.

Consumers will need to find alternative solutions for these secondary uses after 1 July 2018. Direct replacement, that is, purchasing plastic bags in place of the free shopping bags, will have a financial cost. Avoiding these costs will require consumers to think about the most appropriate methods of disposing waste:

Bin liners: Although bin liners will not be banned, consumers currently avoid the cost of purchasing bin liners by using lightweight plastic bags. There are many types of plastic bags that can be used instead including bread bags, salad bags, and other packaging plastic.

Food waste can be wrapped in newspaper and deposited directly into the outside general waste bin. Alternatively, kitchen and bathroom bins can be lined with newspaper or paper bags.

Dog waste: Many local governments provide dog waste bags in areas such as parks and beaches. These bags will not be banned and will be available after 1 July 2018. Alternatively, disposable dog waste bags can be purchased in supermarkets and pet shops.

Sanitary, incontinence, nappy waste: Nappies and other bags that are purchased for the disposal of this waste will not be included in the proposed ban. Consumers

looking for a non-plastic alternative can wrap this waste in newspaper or other types of bags prior to disposal.

Medical waste: The prohibition on the sale or supply of a banned plastic bag only applies to retailers. The ban does not extend to doctors' surgeries or care services in the home. People who require plastic bags to dispose of waste as a result of a medical condition should discuss their requirements with their doctor or care provider.

If heavier weight plastic bags are used as an alternative to lightweight plastic bags for the disposal of waste (i.e. as a bin liner), the amount of plastic in the waste stream may initially increase. A shift from lightweight to heavy weight plastic bags, if sustained, would increase the costs of waste services provided by local governments. The community survey undertaken in November 2017 indicates respondents' propensity to nominate alternatives to using lightweight plastic bags as bin liners, suggests that the community will adapt quickly to a plastic bag ban. This is consistent with reports from other jurisdictions where the purchasing of bin liner bags increased initially, in response to a bag ban, and then declined.

Plastic bag suppliers

DWER has identified a number of Western Australian businesses that import and distribute lightweight plastic bags. These businesses also trade in other types of plastic packaging. According to a phone survey of businesses in November 2017, the supply of lightweight plastic bags to retailers accounts for between five and 50 per cent of the day to day business of these companies. There is no manufacture of lightweight plastic bags in Western Australia. Most of these bags are imported from Asia.

For the purposes of this analysis, any business that supplies lightweight plastic bags will be referred to as a plastic bag supplier, even though trade in plastic bags may account for a small proportion of the organisation's business.

Plastic bag suppliers attended stakeholder meetings, community workshops or made submissions to the discussion paper. Suppliers were also contacted by DWER to notify them of the ban and to invite them to one of six peak-body workshops in November 2017. Six plastic bag suppliers attended either a peak body workshop or one of the community information sessions, with two additional suppliers making a submission to the discussion paper. Suppliers indicated that they require sufficient notice of the ban commencement date and a clear definition of the bags included in the ban to allow them to make appropriate plans. This will give them time to run-down stock and order supplies of appropriate bags. Feedback indicates the lead time for ordering bags varies among retailers, and is between 12 and 24 weeks.

The cost benefit analysis assumed an average retail cost per lightweight plastic bag of \$0.01 based on feedback from suppliers and retailers in stakeholder meetings. The cost of lost bag sale revenue for Western Australian suppliers was calculated at \$3.03 million. This cost will be somewhat offset by the sale of thicker bags (assumed \$0.15) and reusable bags (assumed \$1.00) up to \$15 million based on projected bag

replacement rates²⁰. The cost benefit analysis accounts for the allocation of revenue from the sale of bags throughout the model rather than the profit margin from sales.

5 Consultation

The Western Australian Government engaged community organisation Boomerang Alliance to co-deliver community engagement and research elements of the plastic bag ban with DWER, outlined below.

Household Survey

A telephone survey of 400 Western Australian adults was conducted to provide a statistically reliable measure of community concern and behaviours. Measures of awareness were unprompted, to avoid leading bias. The survey was designed to provide measures accurate to +/-4.9 per cent with 95 per cent confidence that the results are accurate and repeatable.

The survey found that that:

- More than 90 per cent of the community is concerned about the environmental issues associated with plastic waste (i.e. the impacts on oceans, litter, wildlife, recycling and landfill).
- Actions such as refusing lightweight plastic bags, avoiding pre-packed produce and avoiding bottled water are practiced 'always' or 'most of the time' by more than 50 per cent of consumers.
- 65 per cent of consumers experience barriers to avoiding lightweight plastic bags (e.g. forgetting their reusable bags or purchasing too many items).
- The majority of Western Australians (84 per cent) support a ban on lightweight plastic bags, with seven per cent opposed to such a measure.
- Support for banning biodegradable and compostable bags increased, from 69 per cent to 85 per cent when informed that these bag types remain a marine pollution and landfill problem (by not breaking down rapidly).
- Support for bans on all types of lightweight plastic bags was consistent across all regions of Western Australia and all age groups.

The community survey report, *Western Australian Household views on Plastic Waste 2017*, is available on DWER's website at www.dwer.wa.gov.au/plastic_bag_ban.

Stakeholder meetings

Six stakeholder workshops were held in Perth between 24 and 30 November 2017. The workshops were attended by 40 stakeholders representing 30 organisations.

The workshops were designed to build support for the consultation process and raise awareness of the policy issues and options being considered for the ban. The workshops also sought stakeholder views on the level of support for the ban as well as their challenges and barriers.

Sectoral representation included:

- plastic bag suppliers;
- national retailers;
- industry associations;
- waste recycling and disposal companies;
- seniors groups;
- community and environment groups;
- State Government agencies, and
- Western Australian local governments.

The diversity of responses to issues discussed in the workshops reflects the wide spectrum of stakeholders represented at these meetings. Key findings include:

- Plastic bag suppliers are particularly concerned about implementation timing and requested the Government introduce a phase-in period, which sought a three and six month phase-in period after 1 July 2018.
- Retailers, community groups and waste industry representatives support widening the ban to include biodegradable, degradable and compostable lightweight bags. Plastic bag suppliers can accommodate these bags being included in the ban, but need certainty to effectively communicate options to their customers.
- Community groups and waste educators were concerned that heavier weight plastic bags may directly replace lightweight bags. This would result in more plastic entering the waste stream.
- Local governments and waste industry representatives were supportive of the ban and particularly keen to see less plastic bags in the waste stream.
- All stakeholders urged early communication and education, particularly with small retailers and consumers.

Discussion paper and stakeholder workshops

DWER released a discussion paper [Implementing a lightweight single-use plastic bag ban in Western Australia²](https://www.der.wa.gov.au/images/documents/our-work/consultation/Plastic_bag_ban/Plastic-bag-ban_discussion-paper.pdf) in December 2017. The discussion paper was published on the Department website and promoted in the Western Australian media.

The discussion paper presented the case for taking action on lightweight plastic bags, particularly focussing on impacts on the marine environment.

² www.der.wa.gov.au/images/documents/our-work/consultation/Plastic_bag_ban/Plastic-bag-ban_discussion-paper.pdf

The discussion paper sought community feedback on how to reduce the impact of lightweight plastic bags. Five options were outlined in the discussion paper, including the Government's preferred option of a state-wide ban on lightweight plastic bags.

DWER and Boomerang Alliance staff hosted fifteen community workshops in the Perth Metropolitan area (seven workshops) and in regional areas (eight workshops) to promote the discussion paper and encourage community feedback.

Four hundred and thirty one people attended community workshops between 29 January and 1 March 2018. Workshop design and scheduling focussed on maximising community attendance and participation. The workshop team spent time before workshops distributing information to retailers and shoppers in each town to encourage attendance at workshops and feedback on the discussion paper.

Public submissions

The public submission period closed at 5.00 pm on 9 March 2018. DWER received 2252 written submissions including 94 individual emails and letters and 2157 pro forma email submissions. Submissions were also invited via an online survey that included all of the consultation questions. The Department received 2183 survey responses.

An analysis of responses to consultation questions is published on the Department's website.

Where possible, responders were asked to identify whether their submission represented their own opinion as a consumer/community member or that of an organisation. Responses were separated by sector as shown in Table 2.

Table 2: Non-pro forma submissions by sector

| Sector | Submissions |
|----------------------|-------------|
| Consumer | 2,153 |
| Local government | 26 |
| Plastic bag supplier | 4 |
| Retailer | 57 |
| Waste facility | 2 |
| Not disclosed | 21 |

The number of retail, local government, manufacturer and waste facility submissions are in proportion to the size of each sector (for example, Australian Bureau of Statistics data reports that Western Australia has 2.47 million consumers, 27,000 retailers, of which 5,160 are food retailers, and 138 local governments).

Ninety seven per cent of responses supported a state-wide ban on lightweight bags. The level of support decreased to 89.4 per cent for responses using the online survey and 90 per cent for non-pro forma written submissions.

Support for the ban was high among retailers at 93 per cent.

Consumers:

The vast majority of respondents were consumers. Feedback to the consultation indicates consumers:

- strongly support the ban on lightweight plastic bags;
- strongly support extending the scope of the ban to include degradable, biodegradable, and compostable bags;
- are concerned that lightweight bags will be replaced by thicker bags;
- express support for extending the scope of the ban to include thicker bags; and
- require information about options, benefits and sources of alternative bags.

Consumer responses to the behaviour questions of online survey also indicated that:

- 59 per cent of respondents reported they are prepared for the ban;
- 37 per cent indicated that they already use reusable bags;
- 10 per cent do not use lightweight bags as bin liners;
- five per cent reported that they are stockpiling plastic bags prior to the ban, to use as bin liners; and
- seven per cent reported that they intended to buy bin liners after the ban.

Sectoral-specific consultation questions

In addition to the 12 consultation questions that applied to all respondents, the public discussion paper presented a number of sector-specific questions to help inform an understanding of impact of a plastic bag ban on these groups.

Retailers:

Please list the likely impacts (benefits or costs) of the ban on your business. Are any costs likely to be passed on to consumers or absorbed?

The majority of retailers indicated they did not expect the ban on lightweight plastic bags to change the way they do business. Approximately one quarter of responding retailers indicated that there would be no impact to their business and one third were already using alternatives to plastic bags.

Thirty nine per cent of responses indicated the ban would lead to increased costs. Twenty seven per cent intended to pass these costs onto customers, with the same percentage intending to absorb these costs. Unfortunately, no respondents quantified anticipated costs.

Do you expect the ban on lightweight plastic bags to change the way you do business? How will the services you provide for customers change? How do you plan to adapt to the ban after 1 July 2018?

The majority of responding retailers indicated that they did not anticipate a change to the way they do business as a result of the ban, but a small number indicated that

education/training would be required for their staff (six per cent) and customers (12 per cent). Nearly half of the retail responses indicated that they planned to use alternatives to lightweight plastic bags (such as cardboard boxes or reusable bags) once the ban is in place.

If you intend to supply heavier weight plastic bags for free, would this incur additional costs? Would you intend to pass any additional costs of providing a heavier weight plastic bag onto consumers?

Only 27 retailers responded to this question via the online survey. 70 per cent of the respondents do not intend to supply thicker plastic bags. The remaining 30 per cent who intend to supply the thicker bags also intend to pass these costs onto customers.

Local government and waste facilities:

A total of 22 written submissions were received from local governments including WALGA and two from regional councils.

Can you quantify the costs that will be avoided when the amount of lightweight plastic bags entering the waste stream is reduced and there is less contamination by lightweight plastic bags in recyclables? Are the savings likely to be passed onto ratepayers?

Local governments and WALGA identified reduced waste transport, processing and landfill costs. Local governments are responsible for managing littered plastic bags in streets, drains and at landfill sites. These costs will decrease with reduced littering of plastic bags and less plastic bags entering the waste stream.

Local governments anticipate reduced processing costs and increased prices for recovered materials at material recovery facilities due to reduced machine stoppages and contamination of recyclables.

There are also likely to be lower costs at composting facilities due to reduced contamination of green waste by plastic bags.

WALGA advised that the Southern Metropolitan Regional Council estimated a potential saving of between \$200,000 and \$350,000 per annum, a cost saving of \$3 to \$5 per household in the region that would be passed on to households through lower material recovery facility gate fees.

Local government responses advised that municipal waste savings will not be realised if lightweight plastic bags are replaced by thicker plastic bags in similar numbers.

Can you foresee any unintended consequences arising as a result of the proposed compliance and enforcement regime?

Local governments were concerned that enforcing the regulations would become their responsibility, advising that they were not resourced for this. They also indicated that they expect to receive increased numbers of questions and complaints from the community. Some local governments were concerned that they may see the dumping

of banned plastic bags by retailers and the littering of boxes by consumers once the ban is in effect on 1 July 2018.

Plastic Bag Suppliers:

Two written submissions were received from plastic bag suppliers. Both companies expressed concern about the environmental impacts of lightweight plastic bags on the marine environment. Six other plastic bag suppliers attended stakeholder workshops or community information sessions. None of these businesses made a submission to the discussion paper. In workshops and information sessions, plastic bag suppliers expressed a preference to continue to supply bags of all types, but accepted the intention of the lightweight plastic bag ban.

Can you outline how the plastic bag ban will impact your business? How will your business adapt to the ban and how long do you need in order to be ready to offer alternatives to your customers?

Both respondents indicated support for the ban on lightweight bags and one supplier supported the inclusion of degradable, biodegradable and compostable bags. Neither of the responding businesses supported a ban on thicker plastic bags.

All suppliers contacted by the Department of Water and Environmental Regulation (eight) indicated that there was not enough time to adequately prepare for the ban date of 1 July 2018. There was agreement among suppliers that they and their customers (retailers) will be left with stocks of banned plastic bags. The lead time for ordering bags varies among retailers between 12 and 24 weeks. This will be mitigated through the provision of a six month transition period (to 1 January 2019) for all retailers to run down stocks of banned bags and inform their customers of the ban.

6 Proposed option

The Government's chosen option for implementation is Option 2, a state-wide ban on lightweight plastic bags from 1 July 2018. The Government has made this decision based on the following factors:

- community support for action on plastic waste and for a ban on lightweight plastic bags.;
- it is the lowest cost option of the five plastic bag reduction options considered.;
- it is the only option where the net cost of removing plastic bags decreases over time.;
- evidence gathered during the extensive consultation process indicated a high level of public support for ban on lightweight plastic bags;
- reassurance from major retailers that they will support a ban by removing lightweight plastic bags from their businesses regardless of a Government decision to act, and
- actions to ban lightweight plastic bags in most Australian jurisdictions.

To address the comments from the retail industry and plastic bag suppliers about the timeframe for the ban's introduction, the Government intends to include a transition period of six months from 1 July 2018 to 31 December 2018. This will allow retailers to run down stocks of banned bags and prepare for the ban, and for retailer and community education programs to be implemented.

National consistency

Maintaining a consistent approach across Australian jurisdictions is important for manufacturers and suppliers of plastic bags, as well as retailers, to minimise the cost of operating under different regulatory regimes.

By July 2018, most Australian states and territories will have banned lightweight plastic bags. South Australia, Tasmania, the Northern Territory and the Australian Capital Territory already have plastic bag bans in place, and Queensland will ban lightweight plastic bags from 1 July 2018. The Victorian Government has commenced community consultation for a lightweight plastic bag ban.

The scope of the Western Australian ban will be in line with best practice and made through new regulations under the *Environmental Protection Act 1986*.

Table 3. Lightweight plastic bag ban legislation in Australian jurisdictions

| State | Legislation | Applies to retailer | Minimum bag thickness | Excludes biodegradable bags |
|--------------------|--|---------------------|-----------------------|-----------------------------|
| South Australia | <p><i>Plastic Shopping Bags (Waste Avoidance) Act 2008</i></p> <p>A review of the ban in 2011 found significant community support for the ban (up to 80 per cent) and a 45 per cent reduction in plastic bag litter. More than half of the people interviewed for the review supported extending the ban to heavy and thick plastic bags²¹. The increase in bin liner purchases in South Australia after the ban (from 15 per cent to 80 per cent) indicates that community education around plastic alternatives should include the use of bin liners.</p> | ✓ | 35 µm | ✓ |
| Tasmania | <p><i>Plastic Shopping Bags Ban Act 2013</i></p> <p>Reports of retailers (particularly small businesses) providing slightly thicker plastic bags in response to the ban are the subject of an investigation by the Environmental Protection Authority in Tasmania²². Providing a plastic bag thicker than 35 microns is allowed under the Tasmanian regulations (and all existing plastic bag ban legislation in Australia).</p> | ✓ | 35 µm | ✓ |
| Northern Territory | <p><i>Environment Protection (Beverage Containers and Plastic Bags) Act 2011</i></p> <p>The Northern Territory review of the ban was impeded by a lack of pre-ban data but found over 70 per cent of 294 people interviewed supported the ban. Litter collection data indicated a slight decrease in the total amount of plastic bags in the litter stream and that the littering of heavy plastic bags (not subject to the ban) had remained relatively stable²³.</p> | ✓ | 35 µm | ✓ |
| ACT | <p><i>Plastic Shopping Bags Ban Act 2010</i></p> <p>There have been two reviews of the ACT ban. The most recent review of the ban demonstrated that support increased from 58 to 65 per cent between 2012 and 2014 and 71 per cent of shoppers indicated that they did not want the ban overturned. Significantly, 68 per cent of people did not want the ban extended to cover all plastic bags²⁴.</p> | ✓ | 35 µm | ✓ |
| Queensland | <p><i>Waste Reduction and Recycling Amendment Bill 2017</i></p> <p>The Queensland ban will be consistent with bans in other states except that degradable and biodegradable bags will be included in the ban. WA is considering whether to adopt this approach.</p> | ✓ | 35 µm | ✗ |
| Victoria | <p>The Victorian Government has announced that a lightweight, shopping bag ban will be implemented in Victoria and community consultation has opened. The form of the ban and the date of implementation has not been announced</p> | | | |

7 Implementation

What is a lightweight plastic bag?

A lightweight plastic bag is made wholly or in part of plastic, has handles, is 35 micrometres or less (or microns, which is one-millionth of a metre) in thickness and is provided by a retailer for the purpose of carrying purchases.

What bags will be banned?

The Government will ban lightweight plastic (whether or not the plastic is degradable, biodegradable or compostable) bags provided by retailers with handles that have a thickness of 35 microns or less.

Who will the ban apply to?

The ban will apply to all retailers. A retailer is defined as any person that sells goods in trade or commerce. This definition will apply to people or businesses including, but not limited to, supermarkets, corner stores, takeaway food outlets and restaurants, sports stores, department stores, hardware stores, appliance stores, butchers, bakeries, and market vendors.

It will be an offence for a retailer to provide or sell a banned bag.

A retailer will be allowed to sell or supply an alternative to a banned bag.

When will the ban be implemented?

The plastic bag ban regulations will take effect from 1 July 2018. However, a transition period will permit retailers to supply banned plastic bags until 1 January 2019 to provide retailers additional time to prepare for and implement the ban. It will be an offence for retailers to sell or supply a banned bag after 1 January 2019.

Bags that will not be banned

Any bags that do not meet the description of a banned plastic bag provided by retailers for the purpose of carrying purchases will not be included in the ban. For example, the following bags will not be banned:

- bin liners;
- dog waste bags;
- nappy bags; and
- barrier or produce bags.

How will the ban be enforced?

The ban will be enforced through regulations made under the *Environmental Protection Act 1986*.

The regulations will provide that it is an offence for a retailer to provide or sell a banned bag. Additionally it will be an offence to provide false or misleading information about a banned bag such as its composition or whether or not it is a banned bag.

The penalties imposed will be consistent with existing offences under the *Environmental Protection Regulations 1987*.

The new regulations will be administered by DWER, who will be responsible for enforcing the ban provisions including receiving and responding to complaints.

Retailer and community education

Retailer and community education will be a significant element of the plastic bag ban implementation. Education materials will be available for retailers and communities from DWER's website in May 2018.

Education materials for consumers will focus on prompting shoppers to remember to use their reusable bags.

Education activities and materials for retailers will focus on preparing staff for the ban and choosing suitable alternatives to lightweight plastic bags.

Measuring the success of the ban

It is intended that an independent evaluation of the effectiveness of the community behaviour change campaign will be undertaken to measure the extent to which the plastic bag ban has achieved its behaviours change objectives.

In addition, the success of the ban over time will be assessed through the National Litter Index (NLI) which is measured twice a year. The NLI reports on litter audits, including the volume and number of plastic bags observed at 151 sites in Western Australia.

Review of the plastic bag ban

The operation of the regulations will be reviewed as soon as practicable after the end of its third year of operation.

Glossary

| Term | Definition |
|-----------------|--|
| Alternative bag | A shopping bag sold or provided by the retailer to carry purchases that is not a banned bag. |
| Biodegradable | Capable of being decomposed by bacteria or other living organisms in a suitable environment. |
| Compost | Decayed organic material that can be added to soil. |
| Compostable | Able to be composted in a suitable environment. A substance that is compostable can be added to other biodegradable materials and will breakdown into compost. |
| Degradable | Breaks down or degrades. Degradable plastic bags break down into smaller plastic fragments. |
| HDPE | High density polyethylene. Most plastic bags are made in whole or in part of HDPE. |
| Levy | A tax imposed on the sale of a product and passed onto the consumer in order to raise funds, change consumer behaviour or fund a program. |
| LDPE | Low density polyethylene. Most heavier “department store” bags are made in whole or in part of LDPE. |
| PET | Polyethylene terephthalate. Used to make plastic bottles. Can be recycled to make post-consumer plastic products like bags. |
| Polypropylene | Similar to PET. Used to make non-woven plastic products like bags. |
| Retailer | Any person or business that sells goods in trade or commerce. |
| Secondary Use | Use of a lightweight plastic bag for something other than carrying purchases such as disposing of waste |

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