In Confidence

Office of the Associate Minister for the Environment

Chair

Cabinet Business Committee

Mandatory phase out of single-use plastic shopping bags

Proposal

1. This paper seeks approval to publicly release the consultation document *Proposed mandatory phase out of single-use plastic shopping bags* (Appendix 1).

Executive summary

2. The production and use of plastics is acknowledged and confirmed as a national and global issue. The impacts of plastics on biodiversity and the risks of micro plastics in the food chain is a serious concern.[1] [2] Plastics in the ocean have a long time span, decades if not hundreds of years. Our land-based and maritime activities directly contribute to the problem.

3. New Zealand has an important role to play at home, in the Pacific, and alongside other countries, including in international fora. Many Pacific countries lack the capacity to deal with plastics they use and the debris that infests their coastlines.[3]

4. Ultimately, the Government's objective is to achieve a zero waste, circular economy where all functional resources (manufactured, produced, and utilised) are able to be reused, and when disposed of, result in zero adverse environmental impact.

5. Addressing the impacts of plastic requires tackling the issue at source, gaining the cooperation of other countries, incentivising domestic re-use of plastic products, and eliminating over time all types of single-use plastics.[4]

6. To achieve this, the Government's objective is to bring together parties to develop credible solutions that target each stage of the supply chain. The Government is

1 GESMAP, (2015) Sources, fate and effects of microplastics in the marine environment: a global assessment

2 United Nations Environment Programme. (2016). UNEP Frontiers 2016 Report Emerging Issues of Environmental Concern. 2016: 2016 United Nations Environment Programme.

3 (SPREP), S. o. (2016). CLEANER PACIFIC 2025 Pacific Regional Waste and Pollution Management Strategy 2016–2025. Apia, Samoa: Secretariat of the Pacific Regional Environment Programme (SPREP).

4 United Nations Environment Programme. (2018). The state of plastics, world environment day outlook 2018. United Nations Environment Programme.

seeking to influence public behaviours regarding the use and disposal of plastic, and to inform the public about the impact of plastics on the environment.

7. The Ministry for the Environment's long term stewardship role includes driving positive change, and providing confidence to business and the public that there is a coherent pathway forward.

8. In recent years, plastic waste as a whole, and plastic bags in particular, have captured the attention of the media and the public in New Zealand. The Colmar Brunton Better Futures 2017 report found that the build-up of plastic in the environment was among the top 10 concerns of New Zealanders in a list of 38 prompted concerns (Colmar Brunton, 2017). Petitions to Parliament calling for controls on single-use plastic bags have attracted over 103,000 signatures in recent years. In 2015, 89 per cent of Local Government New Zealand members supported a remit calling for a plastic bag levy. In 2017, 97 per cent of mayors (65 of 67) supported the same remit in an open letter.

9. In this context we propose, as a first step in a larger waste and resource efficiency work programme, to address the current existence and use of single-use plastic shopping bags. The larger work programme to transform how New Zealand manages waste is outlined in a companion Cabinet paper: *Improving waste management: Supporting New Zealand's transition to a circular economy*. The full work programme will need a coordinated national effort by central government, business, and the public. The proposed work includes the development of a circular economy approach to plastic.

10. The proposed single-use plastic shopping bag consultation is about an everyday item that everyone can do something about. The consultation will help engage the public in wider debate on reducing waste to landfill and greenhouse gas emissions. This in turn will lay the groundwork for accelerating the transition to a low emissions circular economy.

11. I want to receive feedback from the public on the overall merits of a proposed mandatory phase out, the thickness of the bags to be phased out, and whether all retailers or only major retailers should be included in a mandatory phase out. To be clear, the bags given or sold at checkouts are the bags that would be targeted by a mandatory phase out.

12. To ensure that all single-use plastic shopping bags are covered, I propose to consult on phasing out plastic shopping bags under 50 microns, or under 70 microns. The level of thickness will be determined after feedback is received on these options during consultation. In practice, this will mean that in future retailers can provide alternatives at the check-out, which can be used multiple times, and less likely to escape into the environment. We understand from major retailers their preference, over-time, will be to shift customer behaviour towards bringing their own bags.

13. Several leading retailers in New Zealand have announced bans on single-use plastic shopping bags. Major retailers Countdown, New World and The Warehouse Group (The Warehouse, Warehouse Stationery, Noel Leeming and Torpedo 7) have announced they will ban bags by the end of 2018. Other

retailers like Z Energy and Mitre 10 are already phasing bags out. By the end of this year, we expect that nine major retailers will have voluntarily removed single-use plastic shopping bags from their stores.

14. Officials have been engaging key stakeholders on this matter, in-confidence. Countdown has expressed to officials that it would welcome and support a Government ban on plastic bags, to create a level playing field across industry. Foodstuffs (New World, Pak n' Save) have told officials they are anticipating a formal ban by Government, and do not object to it. Retail NZ have informed officials that they see Government playing an important role to create a level playing field, and give guidance to the market around standards, including whether degradable bags are an appropriate alternative.

15. Overseas experience has shown that voluntary retailer initiatives can at most reduce single-use plastic shopping bag use by 30 to 45 per cent, compared to reductions of 70 to 90 per cent with a ban or mandatory charge (Appendix 2). New World has previously attempted to remove single-use plastic shopping bags from its stores in 2009. They reversed this decision within months, given the lack of wider action and some customers choosing to shop elsewhere. While public momentum has shifted on this issue since then, it demonstrates that voluntary action is vulnerable to market forces.

16. I propose to build on progress and underpin this industry initiative by creating a level playing field for all retailers by applying a mandatory phase out. This will signal that the Government intends to work alongside industry leaders to reduce waste and transition to a low emissions circular economy. A mandatory phase out on single-use plastic shopping bags will create an opportunity for increased uptake of alternatives by the public. It will also remove the risk of regressing to single-use plastic shopping bags by retailers or industry in the future.

17. Addressing single-use plastic shopping bags is an early, visible step to:

    - reduce wider harms from plastic waste, particularly marine debris
    - shift away from a linear economic system that creates plastic waste and towards a circular economy where waste is designed out
    - signal to business and consumers the importance of reducing waste.

18. Options considered for phasing out single-use plastic shopping bags were:

    - ban on distribution by retailers
    - increased price (by tax, charge, or levy)
    - deposit refund scheme
    - mandatory product stewardship scheme
    - formal agreement with industry
    - ad hoc voluntary measures (status quo).

19. These options were assessed against five weighted assessment criteria. These included the ability to substantially advance reduction of impacts be implemented without placing undue costs on the community, business, or public funds; and be

able to be implemented under existing legislation. I propose to consult on the highest ranked option, a ban, as required under section 23 of the Waste Minimisation Act 2008 (the Act).

20. Another source of marine plastics, plastic microbeads, was banned in certain products in New Zealand from June 2018.

21. More than 60 countries have introduced bans and levies to curb single-use plastic waste.[5] By the end of 2019 all Australian states, except for New South Wales, will have banned single-use plastic shopping bags. Overseas examples of the effectiveness of different methods in phasing out plastic bags are set out in Appendix 2.

Background

Plastic in New Zealand and the marine environment

22. Plastics are prevalent throughout the economy, including in packaging, consumer goods, construction, and transport. The majority of plastics are durable and long-lasting, and the accumulation of plastic waste in marine environments is a global issue. Plastic is estimated to make up about 80 to 85 percent of marine litter. If trends continue, it has been projected that by 2050 our oceans could contain more plastic than fish, by weight.

23. Once in the environment, plastic breaks down into microplastics (small pieces of plastic less than 5 millimetres in size). Microplastics, and the risk of associated toxins entering the food chain, are a serious concern. There is early evidence of the toxicity of plastic particles in the environment. However, more research is needed to investigate possible long-term risks for humans and ecosystems.

24. The lightness of single-use plastic shopping bags makes them highly mobile in wind and water, and easily distributed in the environment. Plastic bags are typically among the top 10 items found in beach litter globally and in New Zealand.

25. International and media attention has focused on the issue of single-use plastic shopping bags, possibly in part because they are highly visible. Single-use plastic shopping bags are convenient, but lead to unnecessary waste when alternatives are readily available.

26. In a recent Colmar Brunton public survey (Better Futures Report 2017), respondents considered reducing waste to be one of the top three most important challenges facing New Zealanders in the next 20 years. Petitions to Parliament calling for controls on single-use plastic shopping bags have attracted over 103,000 signatories in recent years.

27. In 2015, a remit calling for a plastic shopping bag levy was supported by 89 per cent of Local Government New Zealand members. In 2017 this was supported by an open letter from 65 of New Zealand's 67 mayors.

5 UNEP (2018). SINGLE-USE PLASTICS:A Roadmap for Sustainability

International response to single-use plastic shopping bags

28. Controls on single-use plastic shopping bags have been implemented by a variety of jurisdictions overseas – representing over 60 countries. Evidence shows that significant results can be achieved by a range of methods including bans, levies, minimum charges, and voluntary agreements with industry. Policy objectives have included protecting marine species and ecosystems, litter reduction, aesthetic appeal of public and natural spaces, resource efficiency, and public health concerns (blocked drains and flooding).

29. Data on the impacts of these measures varies in quality and availability. While examples of significant and well-documented success exist, others report less success or have no data available (see Appendix 2 of this paper and section 4 of the consultation document for examples).

New Zealand response to single-use plastic shopping bags

30. Most retailers provide single-use plastic shopping bags free of charge. We do not have a definitive number of how many are used in New Zealand per year. However, the current industry estimate is up to 1.6 billion bags per year.

31. Most kerbside recycling collection schemes do not offer plastic bag recycling due to the low market value of used bags, and the lack of onshore recycling infrastructure. Unwanted single-use plastic shopping bags are likely to go to landfill, escape into the environment via litter, or contaminate collections of other recyclables.

32. Currently, there is no government policy or framework to manage the impacts of single-use plastic shopping bags in New Zealand, but actions underway include:

    - The Packaging Forum's Soft Plastics Recycling Project, which targets all varieties of post-consumer soft plastics in New Zealand including single-use plastic shopping bags. In 2015, $700,000 from the Waste Minimisation Fund was allocated to expand the scheme, and now an estimated 70 percent of the population live within 20 kilometres of a collection bin. The most recent data shows the scheme is collecting about 1.7 percent of the estimated total 6,000 tonnes of soft plastic per year from fast-moving consumer goods. Its target is to achieve a 10 percent recycling rate this year and a 35 percent recycling rate by 2024. Some of the plastics are being recycled in Australia, but the majority are being stored while local recycling options are pursued.

    - Ministry for the Environment officials have worked with major retailers to encourage voluntary action. A number of retailers have committed to phasing out single-use plastic shopping bags (Countdown, New World, and the Warehouse Group by the end of 2018, and Z Energy and Mitre 10 by mid-2018). Other retailers have put in place alternatives to the free provision of single-use bags (eg, Pak'nSave, Bunnings, and some organics shops).

- The industry is aware of several Australasian examples where voluntary initiatives by retailers have been undercut by lack of government leadership. We understand from industry sources that currently in New South Wales, the only Australian state to not have passed or announced intent to pass a ban, Woolworths is experiencing some difficulty with implementing a voluntary ban. In New Zealand in 2009, New World attempted a ban on single-use plastic shopping bags and gave up after experiencing significant loss of business to other supermarkets.

33. If the current approach of voluntary commitments by major retailers to phase out single-use plastic shopping bags follows overseas examples, use rates for single-use plastic shopping bags may be reduced by 30 to 45 per cent. Where a ban or increased price (levy or mandated charge) has been effected, 70 to 90 per cent reduction rates may be achieved. Development of a circular economy and new plastics design may eventually resolve the issue over the longer term. However, serious concerns about plastics in the environment warrant earlier decisive action.

34. The current approach of voluntary commitments by major retailers to phase out single-use plastic shopping bags, and a longer-term development of a circular economy, may eventually resolve the issue over the longer term. However, serious concerns about plastics in the environment warrant earlier decisive action.

Comment

Options for reducing impacts of single-use plastic shopping bags

35. I considered six options (see Appendix 3) for reducing the impacts of single-use plastic shopping bags, against the following criteria:

    - substantially advance phase out of a single-use product that contributes to litter and the risks associated with marine plastics while in the longer term helping transition to a circular economy (primary purpose: triple weighting)
    - be implemented without placing undue costs on the community, business, or public funds (key regulatory principle: double weighting)
    - be progressed under existing legislation
    - provide a financial incentive to return used shopping bags for reuse or recycling
    - transfer funds for community or environmental benefit.

36. As a result of that assessment, the options were ranked from the highest to lowest score. The highest ranking options were a ban under existing legislation, and increased price (a levy or charge) requiring new legislation. The ranking order was as follows:

    - ban on distribution by retailers - by regulation
    - an increased price (by tax, charge, or levy) – by new legislation
    - regulations to impose a deposit refund scheme – by regulation
    - regulations to support implementation of a mandatory product stewardship scheme – by regulation

- a formal agreement with industry
- ad hoc voluntary measures (status quo).

Detail of this assessment can be found in Appendix 3.

37. I have considered all these options, and decided to proceed solely with consultation on a mandatory phase out. The reasons for this are:
    - Several major retailers are already leading the market with voluntary bans, and their customers are becoming accustomed to the idea that single-use plastic shopping bags will be replaced by alternatives. This is already happening in some supermarkets. Imposing a tax, charge or levy over the top of this existing market-led action would be inconsistent and create confusion.
    - Introducing a tax, charge or levy against this backdrop could also create some perverse outcomes. For example, it may incentivise retailers that have banned these bags to return single-use plastic shopping bags to stores and charge for them instead.
    - A mandatory phase out could be progressed under existing legislation through regulations under the Act, whereas an increased price through a tax, charge or levy would require new legislation and the associated parliamentary process. Using regulations, under existing law, is the quickest and most efficient way to bring a ban into effect.
    - A mandatory phase out would follow the same regulatory mechanism under the Act that was used to ban plastic microbeads, providing consistency of approach.
    - Legislation to increase price would require further policy work to consider questions about practical implementation, and how the revenue would be spent. This would delay bringing action on bags into effect.

Mandatory phase out of single-use plastic shopping bags

38. I propose to consult publicly on a mandatory phase out of single-use plastic shopping bags to:
    - reduce impacts on New Zealand's terrestrial and marine environments, and potential risks to marine ecosystems and human health
    - begin a broader programme to significantly reduce waste, outlined in the Cabinet paper: *Improving waste management, Supporting New Zealand's transition to a circular economy*
    - reinforce voluntary steps taken by industry and build on that progress
    - take a symbolic first step to introducing a circular economy based strategy to address plastic waste.

39. In achieving these objectives, I propose to minimise costs for New Zealand businesses, consumers, and government. The consultation document seeks submissions to satisfy statutory consultation obligations for regulations under the Act. Specifically, the consultation is intended to:

- gauge public support, including iwi/Māori views
- test the scope, including the definition of the types of products to be affected
- identify any products that may require an exemption.

Implementation options for phasing out single-use plastic shopping bags

Types of plastic bag

40. The simple term 'plastic bags' includes many types of bags used in retail and wholesale packaging, including some designed for multiple use. The proposed definition of 'single-use plastic shopping bag' in the consultation document is 'a new plastic bag (including those made of degradable plastic) which has handles and is below a maximum level of thickness'. The proposed mandatory phase out would apply to these bags when they are sold or distributed for the purpose of carrying sold goods.

41. Degradable single-use plastic shopping bags includes those made of biodegradable, compostable and oxo-degradable plastic. These are included in the proposed mandatory phase out as they are presently not a viable replacement to non-degradable plastic. Some bags claim to be 'biodegradable' when they are actually 'oxo-degradable', designed to break down into smaller pieces when exposed to heat and UV light. These can still contribute to microplastics and add no nutrients to the soil. The conditions necessary to fully break down biodegradable or compostable plastic bags are not generally present in natural environments, landfills, or in the digestive system of animals. In addition, all types of degradable plastic may still entangle marine life or be mistaken for food by aquatic organisms before they break down into smaller pieces. Biodegradable and compostable plastic bags are appropriate in a few applications, such as to line food waste collection bins where the material goes directly into high temperature composting.

42. There are two main types of single-use plastic shopping bags in use in the retail sector. These are the 'singlet' type bag made of high density polyethylene (HDPE) and the 'boutique style' bag, made of low density polyethylene (LDPE). The HDPE singlet bag is used mainly in supermarkets, take-away food and produce outlets, and is usually below 35 microns in thickness. The LDPE boutique style bags are used by stores selling higher value goods and are generally between 50 and 70 microns. New replacement 'emergency bags' being prepared by major retailers imposing voluntary bans in New Zealand are boutique style multi-use bags between 55 and 65 microns. These can be used multiple times by customers. Illustrations of bag types can be found in Appendix 4.

43. Concerns have been raised about a shift to thicker single-use bags. Australian state bans on single-use plastic shopping bags target bags under 35 microns in thickness (the standard supermarket bag). England targets bags under 70 microns. I propose to consult on banning single-use plastic shopping bags under 50 microns, or under 70 microns. The level of thickness will be determined after feedback is received on these options during the consultation.

44. Re-design of single-use plastic shopping bags, and improvement of onshore infrastructure, may lead to better options in the long term, and the scope of a mandatory phase out could be adjusted accordingly.

Coverage of a mandatory phase out

45. The majority of ban and levy models from overseas require retailers to implement these changes. This is premised on a significant share of single-use plastic shopping bags being distributed by large retailers by virtue of their sales volumes. However, many bags entering the litter stream may originate from smaller shops. Larger retailers may be better able to absorb the cost of changes imposed by single-use plastic shopping bag controls, but any such costs are likely to be passed on to consumers regardless of the size of the retailer. With a mandatory phase out, retailers will also obtain savings from no longer giving away free bags (estimated at $15 million in 2017) and revenue from selling multiple-use bags.

46. The English levy on single-use plastic shopping bags imposed in 2015 originally applied to all 'large' retailers, defined as those employing 250 or more full-time equivalent employees in a year across the whole company. In early 2018, the British Government was considering extending the levy to all retailers. A Hong Kong levy commenced in 2009 for 3,300 large retailers, and in 2015 this was converted to a charge and extended to all 60,000 retailers.

47. I want to receive feedback from the public on the overall merits of a mandatory phase out, the thickness of the bags to be phased out, and whether all retailers or only major retailers should be included in a mandatory phase out. A question in the consultation document will seek feedback on whether to exempt smaller retailers, defined by the number of their employees – under 250, under 50, or other. To be clear, the bags given or sold at checkouts are the bags that would be targeted by a mandatory phase out.

48. Another question in the consultation document will seek feedback on whether to extend the phase out to the manufacture or sale of the specified bags (the definition of 'sale' under the Act including free provision).

49. Alternatives to single-use plastic shopping bags have been increasingly available in retail outlets over recent years, and customers of those retailers leading a phase-out have access to those alternatives. Other consumers, and those on lower incomes who may not feel able to afford longer-life bags, may require assistance during the transition. We have highlighted this in the consultation document and will engage with retailers on practical opportunities. An example could be for holders of Community Service Cards and Gold Cards to receive assistance or concessions. We anticipate relevant agencies will be consulted to explore ideas and detail.

50. Many of the larger retailers already offer customers a range of alternatives including selling low-cost multi-use bags and providing boxes for re-use. Retailers are in a good position to help their customers to transition.

Consultation

51. Agencies consulted were the Department of the Prime Minister and Cabinet, Treasury, Ministry of Business, Innovation and Employment, Department of Conservation, Ministry of Foreign Affairs and Trade, Ministry of Health, Ministry for Primary Industries, Environmental Protection Authority, Department of Internal Affairs, and Te Puni Kōkiri. This paper reflects the comments received.

52. The Ministry of Foreign Affairs and Trade advised that the policy options under consideration can be implemented in a way that would be consistent with New Zealand's international obligations.

53. The Ministry of Business, Innovation and Employment advised that any further policy development following consultation needs to detail any implications for local manufacture and employment, the ability of retailers to comply with weights and measures legislation in relation to in-store bags, and alignment with the Commerce Act including industry agreements or actions that may be considered 'output restrictions'.

54. The Environmental Protection Authority noted that its role in enforcing the plastic microbeads ban under the Act has raised matters which will require further resolution if it is to also have a role in enforcing a mandatory phase out of single-use plastic shopping bags. These include an amendment to the Environment Protection Act 2011 to make it one of its legal functions.

55. The Ministry for the Environment will continue to consult with these agencies during the policy development process.

56. The Minister for the Environment must obtain and consider the Waste Advisory Board's (the Board) advice before recommending the making of regulations under s 23 (1) of the Waste Minimisation Act 2008. I have not yet asked for the Board's advice on this topic, and intend to do this concurrently with the public consultation round. They advised the previous Minister that they considered that a small step in the direction of plastic environmental harm minimisation could be made by either banning plastic bags or introducing a levy or fee per bag.

57. I have consulted with the Coalition partners on this paper, which now reflects their comments.

Financial implications

58. There are no immediate financial implications. There would be financial impacts for the Ministry for the Environment or the Environmental Protection Authority should they host additional enforcement officers appointed under the Act. Funding will also be required for education and publicity during an implementation period. Further detail on financial implications will be provided following public consultation.

Human rights

59. The proposal in this paper and the attached consultation document are consistent with the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993.

Legislative implications

60. There are no regulatory implications until consultation is completed and decisions are made by Cabinet on potential regulations. Further detail on the scope and timing of legislative change will be developed in conjunction with final policy proposals following public consultation. Should Cabinet approve a recommendation to phase out the manufacture and sale of single-use plastic shopping bags, regulations would be developed under section 23(1)(b) of the Act. If the Environmental Protection Authority is to have an enforcement role, change to the Environment Protection Act 2011 to make this one of its legal functions would also be addressed.

Regulatory impact analysis

61. The Regulatory Quality Team at the Treasury has determined that the regulatory decisions sought in this paper are exempt from the requirement to provide an Impact Assessment, as the relevant issues have been addressed in the discussion document.

62. The Ministry for the Environment's Regulatory Impact Analysis Panel has reviewed the attached consultation document prepared by the Ministry for the Environment. The document includes the relevant information and analysis commensurate with the size and complexity of the problems identified in the paper and the magnitude of the impacts. It notes that there are limitations around the availability of quantitative information to help underpin some of the impact analysis and estimates of potential benefits and costs.

63. The panel advises that the consultation document could be more convincing in outlining the likely impact of the proposed option. However, the consultation process should elicit further information about the impact and effectiveness of the proposal, and possible breadth of coverage in terms of the types of plastic bags and the size/type of businesses. The post-consultation regulatory impact analysis will need to include greater consideration of the impacts and costs of the proposal, and how to best mitigate those, including on households.

64. The consultation document will facilitate effective consultation and elicit information to further inform Government decisions on the issue.

Gender implications

65. There are no particular gender implications associated with this paper.

Disability perspective

66. There are no particular disability implications associated with this paper.

Publicity

67. Should Cabinet agree, the attached consultation document, and an abbreviated version of the consultation document, will be released on the Ministry for the Environment's website, with a media release. The Ministry for the Environment will also proactively contact stakeholder groups that have an interest in this proposal. The consultation will run for a five-week period.

Recommendations

The Associate Minister for the Environment (Hon Eugenie Sage) recommends that the Committee:

1. **note** that the use of single-use plastic shopping bags in New Zealand contributes to harm to our natural environment.

2. **note** that the Waste Minimisation Act 2008 requires that adequate consultation is undertaken with persons or organisations who may be significantly affected by regulations (s 23(3)(b)(i)).

3. **agree** to consult on a proposed mandatory phase out of single-use plastic shopping bags through the consultation document *Proposed mandatory phase out of single-use plastic shopping bags* for a five-week period.

4. **agree** in principle to a mandatory phase out of single-use plastic shopping bags, subject to the outcome of consultation.

5. **agree** to consultation on a proposed mandatory phase out of single-use plastic shopping bags through the consultation document *Proposed mandatory phase out of single-use plastic shopping bags* for a five-week period.

6. **note** the consultation document will be published on the Ministry for the Environment's website.

7. **agree** to delegate authority to the Associate Minister for the Environment, (Hon Eugenie Sage), to make changes needed to the consultation document in line with the policy intent outlined in the paper, *Proposed mandatory phase out of single-use plastic shopping bags,* and subject to minor changes to improve the readability and format of the document prior to release.

8. **note** that the Associate Minister for the Environment (Hon Eugenie Sage) intends to release a media announcement to accompany the public consultation.

9. **note** that the Associate Minister for the Environment (Hon Eugenie Sage) will report back to Cabinet on the outcomes of the consultation and, if appropriate, seek policy decisions.

Authorised for lodgement

Hon Eugenie Sage
Associate Minister for the Environment

Appendix 1: Consultation document – *Proposed ban on single-use plastic shopping bags*

Proposed ban on single-use plastic shopping bags

Consultation document

New Zealand Government

This document may be cited as: Ministry for the Environment. 2018. *Proposed ban on single-use plastic shopping bags: Consultation document*. Wellington: Ministry for the Environment

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Scientists estimate that eight million tonnes of plastic enter the ocean every year, adding to plastics that have been accumulating since the 1950s. If nothing changes, this means there could be more plastic in our oceans (by weight) than fish by the year 2050. There is also early evidence of the toxicity of these plastic particles to marine species, and potentially the human food chain.

One of the top five items in coastal litter is single-use plastic bags.

The impact of plastic bags in the sea was graphically illustrated recently by media reports of the discovery of dead whales as far apart as Spain and Thailand, which had eaten large amounts of plastic bags.

Plastic contamination of the oceans is a complex, global problem which many countries and industries must address. New Zealand can play its part as responsible global citizens. Our marine Exclusive Economic Zone is fifteen times the size of our land mass – one of the largest in the world and contains some of the world's most precious marine environments.

Single-use plastic bags also are often lost to landfill instead of being recycled or contribute to litter in our communities, natural areas and waterways.

The Government's long term approach to this problem is to help reduce the amount of plastic waste we generate and move towards a "circular economy" where we can 'unmake' virtually everything we make. In a circular economy waste, pollution and greenhouse gas emissions are designed out of the system.

We have examined a number of options to help reduce the impacts of single-use plastic shopping bags. This consultation document proposes a ban through regulations under the Waste Minimisation Act to build on voluntary initiatives by industry leaders.

Please provide your views on ways to reduce single-use plastic shopping bags entering the environment, and the role that communities and businesses can play.

Eugenie Sage
Associate Minister for the Environment

1 Executive summary

Plastic is prevalent throughout the economy, including in packaging, consumer goods, construction and transport. The accumulation of plastic in the environment is of serious concern. Plastic is estimated to make up about 80 to 85 per cent of marine litter and, if trends continue, by 2050 our oceans could contain more plastic than fish by weight.

Once in the ocean, plastics break down into microplastics (small pieces of plastic less than five mm in size). There is early evidence of the toxicity of these plastic particles to marine species, and potentially the human food chain. More research is required to investigate possible long-term risks for humans and ecosystems.

One documented source of marine plastics, plastic microbeads, was banned in certain products in New Zealand effective June 2018.

Like other plastics, single-use plastic shopping bags are persistent, mostly non-biodegradable, accumulate over time in the natural environment, and they travel easily to our coasts and oceans through storm water pipes, rivers, and by wind.

⏩ Single-use plastic shopping bags are … a small subset of all the sources of marine plastics … The choice of these bags as a starting point for engaging the community is appropriate given that they touch every consumer, and many practical and affordable alternatives exist. ⏪

Because single-use plastic shopping bags are ubiquitous and can be replaced by accessible alternatives, addressing their use is an early step to addressing the wider issues of harm from plastic waste, particularly marine debris, and shifting away from a linear economic system that creates waste towards a circular economy where plastic stays in circulation indefinitely.

The range of phase-out options available include non-regulatory approaches (a formal agreement with industry or the status quo), those requiring new legislation or regulation (a ban, levy, charge, tax, or deposit-refund) and intermediate models (product stewardship).

The main goals are to advance a phase-out of single-use plastic shopping bags and support transition to a circular economy, while avoiding undue costs on community, business, or public funds. It would also be desirable to minimise new legislation, encourage reuse or recycling, and generate funds for community or environmental benefit.

On the above basis the highest ranked option is a ban on the sale of single-use plastic shopping bags, which includes giving them away at no cost. The other options were ranked lower in the following order: a point of sale charge (levy or mandated charge), a formal agreement, deposit refund, product stewardship and a pre-consumer tax. This assessment was based on information from overseas experience, which has many gaps in relation to these assessment criteria.

We are now consulting on whether a ban is the best option for New Zealand.

2 Introduction

About this consultation

The Government is considering phasing out single-use plastic shopping bags in New Zealand as one of many steps to reduce the negative environmental impacts of plastic. At the same time, it will progress toward a longer-term goal of establishing a circular economy for New Zealand, in which plastics and other resources are cycled back into the economy.

Currently no Government policies or regulations are specifically aimed at reducing the impacts of single-use plastic shopping bags. The Government is now considering how to manage the environmental, economic, social and cultural impacts of these bags and is seeking feedback on the proposed option of a ban.

The term 'single-use plastic shopping bag', as it is used in this discussion document means a new plastic bag (including one made of biodegradable or compostable plastic) which has handles and is below a maximum level of thickness. The terms 'plastic', 'biodegradable' and 'compostable' would be defined in regulations with reference to international standards. The proposed ban would apply to these bags when they are sold or distributed for the purpose of carrying sold goods.

After considering six options for reducing the impacts of single-use plastic shopping bags we are consulting on banning the sale or free distribution of single-use plastic shopping bags in New Zealand.

We welcome your views.

We are also seeking more information from New Zealand businesses and consumers to better understand the costs and benefits of this proposal.

This consultation is intended to:

- Gauge public support, including iwi/Māori views, on banning single-use plastic shopping bags
- Test the scope of a proposed ban on single-use plastic shopping bags, including the definition of types of products to be affected
- Identify any activities that may involve the use of single-use plastic shopping bags that may require an exemption to the proposed regulation
- Identify manufacturers and importers of single-use plastic shopping bags
- Identify any retailers that should be exempt the proposed ban

For information on how to make a submission, including questions to guide your feedback, see section 7.

Submissions close at 5.00 pm on Friday 31 August 2018.

3 Environmental and social impacts

The problem with plastic and marine litter

Plastics are widespread throughout the economy – for example, in packaging, consumer goods, construction and transport. Most plastics are durable and long-lasting. Once thrown away or lost, they enter the environment and a proportion eventually enter the sea. The build-up of plastic waste in marine environments is a global issue.

What we do on land directly impacts the amount of plastic in the ocean. Plastic bags, plastic bottles and other plastic waste travel easily to our coasts and oceans through stormwater pipes, rivers and wind. Synthetics worn from paints and roadways, small fibres from washing synthetic fabrics, spills from manufacturing plants, and marine dumping are other sources of marine plastic debris.

Plastics make up an estimated 80 to 85 per cent of marine litter. Once in the environment, they eventually break down into microplastics (small pieces of plastic less than 5 millimetres in size). The risk of microplastics and the toxins they bring entering the food chain is a growing concern. Toxins may be original additives in the plastic (e.g., plasticisers and dyes) or chemicals absorbed and carried by them later (e.g., persistent organic pollutants).

Early evidence indicates plastic particles can be toxic in biological systems from marine invertebrates to mammals; more research is required on likely long-term risks for human, animal and plant life (e.g., Auta et al, 2017; Gall and Thompson, 2015; Ministry for the Environment, 2017a; Tanaka et al, 2013).

Evidence suggests impacts of plastic litter and resulting microplastics on New Zealand's freshwater are similar to the marine environment. Overseas research has shown microplastics in lake and river sediments, and any plastics not captured in wastewater treatment would flow through fresh water on their way to the ocean (Ministry for the Environment, 2017a).

Microplastics in marine and freshwater environments are likely to be present in both the water column and sediment. Aquatic organisms can mistake the particles for food and swallow them or shellfish can take them in passively during filter feeding, with negative impacts such as internal damage and starvation.

A recent study found some young fish prefer tiny particles of plastic to natural food sources so they starve before they can reproduce (Ministry for the Environment, 2017a). A survey of exposed-beach, harbour and estuarine environments in New Zealand found microplastics in 8 of 10 samples. The majority were polystyrene (55%), polyethylene (21%) and polypropylene (11%) (Clunies-Ross et al, 2016). Single-use plastic shopping bags are usually polyethylene.

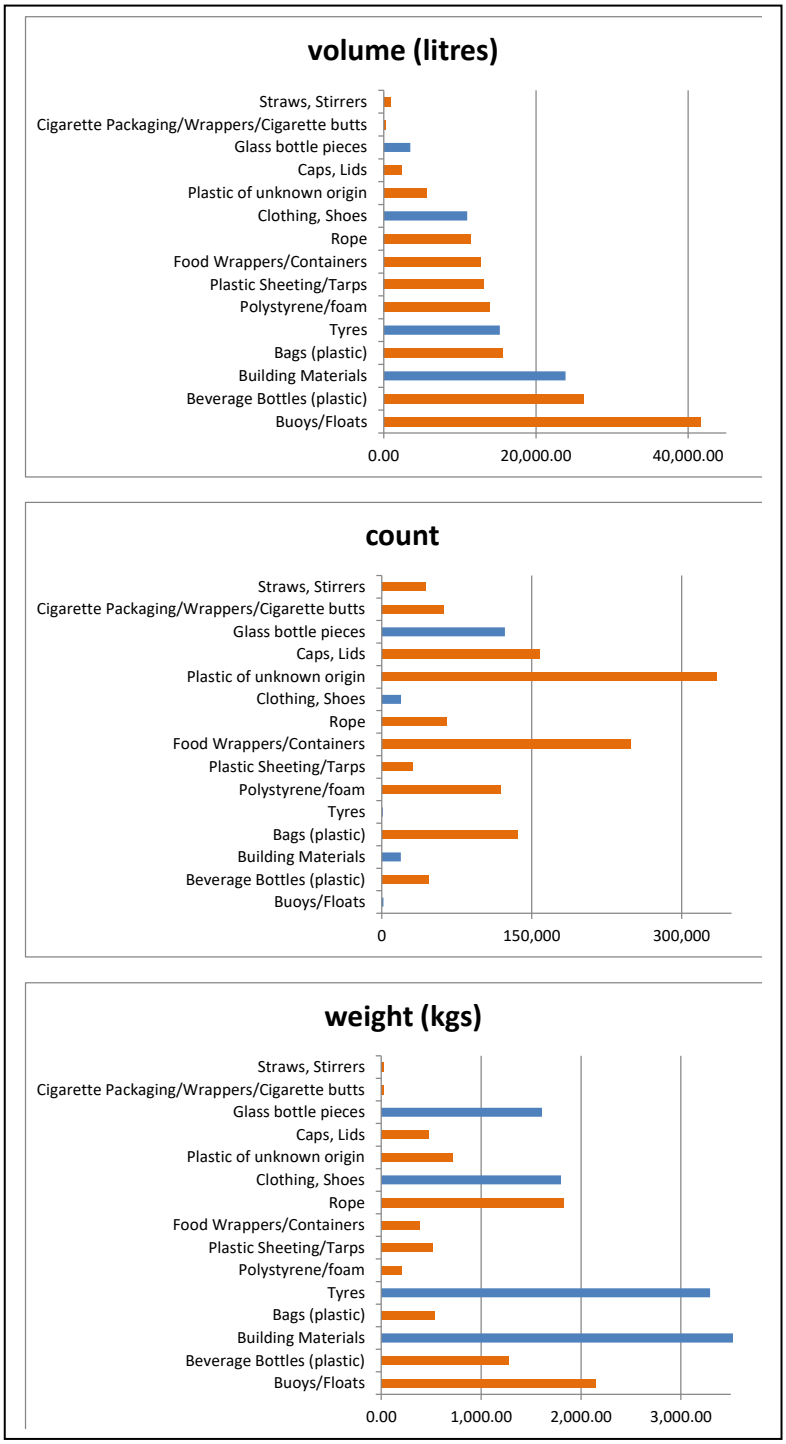
An estimated eight million tonnes of plastic waste enter the global marine environment each year. If the trends of increasing plastic production continue and while our current disposal patterns remain the same, predictions are that by 2050 the plastics in the ocean could outweigh the fish (Ocean Conservancy and McKinsey Centre for Business and Environment, 2015). Marine plastics come from many countries around the world, but the majority is thought to come from 10 large rivers with population-rich catchments (Schmidt et al, 2017).[1]

New Zealand coastal clean-up data (summarised in figure 1) show that a wide range of litter types is common , with the most common types depending on whether the data are measured

[1] The Yangtze, Hai, Yellow, Pearl and Amur Rivers in China, the Indus and Meghna Rivers in the Indian subcontinent, and the Nile, Niger and Mekong Rivers. This estimate is based on a small number of studies.

by count, volume or weight. However, categories entirely or mostly of plastic are common across all measurement methods (figure 1). The most common plastic litter by count is, in order: 'plastic of unknown origin', followed by food wrappers and containers, caps and lids, and plastic bags.

Figure 1: Coastal clean-up data, New Zealand, top litter categories by volume, count and weight



Data source: Sustainable Coastlines, pers. comm., 2017

Note: Categories made entirely or mostly of plastic are highlighted in orange; others are in blue. Data are from 69 coastal clean-up events throughout New Zealand, December 2010 to April 2016. Litter categories for all three graphs have been ordered by highest prevalence by volume so it is easier to compare them.

Plastic bag impacts

Single-use plastic shopping bags are often given free to consumers, encouraging excessive use. Industry estimates of current consumption in New Zealand of standard supermarket single-use shopping bags are 154 bags per person per year. This is about 750 million bags per year, or about 0.01 per cent by weight of total waste in levied landfills (Appendix 1). Single-use plastic shopping bags are convenient but can cause unnecessary waste and litter when alternatives are readily available.

Single-use plastic shopping bags are one of many types of plastic bag entering the environment and a small subset of all the sources of marine plastics. Measures to phase out single-use plastic bags is a first step to addressing the 'throwaway culture' of a linear economy. The choice of these bags as a starting point for engaging the community is appropriate given that they touch every consumer, and many practical and affordable alternatives exist.

Currently, discarded plastic bags in New Zealand may go to municipal landfills or voluntary recycling schemes or end up in the environment. There is no facility in New Zealand for recycling soft plastics and finding overseas markets is problematical. A proportion of plastic bags in rubbish or recycling bins will escape and become windblown litter. Landfill operators typically place wire mesh barriers around landfills to catch windblown bags, which reduces but does not eliminate litter from that source (Figure 2). Because they are so light, single-use plastic bags can become highly mobile in wind and water and highly visible and widely distributed in the environment.

Figure 2: Plastic bags in a gully near the Wellington landfill

Photo credit: Kevin Stent/ Fairfax

Published urban litter count data does not currently differentiate plastic shopping bags from 'unclassified packaging', which makes up 10.8 per cent by count in 'visible litter'. Takeaway food and drinks packaging makes up an estimated 40.2 per cent and non-packaging litter[2] 42.4 per cent by count (WasteNot Consulting, 2015). Councils and therefore ratepayers typically bear the cost of cleaning up litter from public areas.

Because used plastic bags have a low market value, most kerbside recycling collection schemes do not offer plastic bag recycling. The voluntary Soft Plastics Recycling scheme run by the Packaging Forum currently collects less than two per cent of post-consumer plastic bags (section 5).

[2] For example tissues, newspapers, household items, commercial items.

Even when plastics are buried in landfill, they may still eventually enter the marine environment. High seas and flood waters can uncover old landfills and release plastics and other contaminants into waterways (figure 3).[3] Plastic bags made of degradable, biodegradable or compostable plastics may entangle marine life or aquatic organisms may mistake them for food before they break down (see 'Life-cycle impacts' that follows).

Figure 3: Plastic waste eroded onto beach from old landfill near Greymouth, February 2018

Photo credit: Tony Kokshoorn

Life-cycle impacts

All shopping bag options require resources to create, as well as having potentially negative environmental impacts when they are produced and disposed of. How they are used, reused and recycled will influence their relative environmental impacts over the whole life cycle.

Published life-cycle analyses of bags do not consider a number of environmental impacts, including litter impacts on land and impacts of plastic on marine ecosystems. Reducing whole-of-life environmental impacts, as reported in published life-cycle analyses, is possible by producing multiple-use bags and using them a sufficient number of times to bring down their impact per use. For further information on the impacts of different bags, see appendix 2.

Biodegradable and compostable plastic bags

Some single-use plastic shopping bags are marketed as 'biodegradable' or 'compostable'.[4] Some of these are claimed to meet specified standards or independently verified certifications. These may be seen as having fewer impacts than ordinary single-use plastic shopping bags.

Shopping bags made wholly of natural fibres, such as paper, jute or cotton, will fully break down in natural environments. Current evidence suggests, however, that plastics made wholly or partly from natural sources or compounds will require specific artificial environments, such as high-temperature controlled composting, to completely break down. Natural environments, including the digestive system of animals, generally do not have conditions necessary to fully break down plastic bag products certified as 'biodegradable' or 'compostable' (Department for Environment, Food and Rural Affairs, 2015; Emadian et al, 2017). For example, starch-based

[3] www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11986704

[4] In addition, some plastics marketed as 'biodegradable' are actually 'degradable' or 'oxo-degradable'; designed to break down into smaller pieces when exposed to heat or light, but not biodegradable by living organisms. These plastics present the same risk of degraded strength as biodegradable and compostable plastics do if they are included in recycled plastics (Loughborough University, 2010).

plastic bags are fully degraded through the action of soil bacteria and fungi at temperatures that are not common in natural aquatic environments (Accinelli et al, 2012).

New Zealand does not yet have an effective way of diverting post-consumer 'biodegradable' or 'compostable' plastic bags to high-temperature composting, except where used to line collection bins for organic waste taken to commercial composting. The Soft Plastics Recycling system does not separate biodegradable/compostable from mainstream plastics or send biodegradable/compostable plastics to high-temperature composting. Large retailers could in theory set up targeted collection systems.

Biodegradable and compostable plastic bags can contaminate non-degradable plastic recycling systems reducing the value of recycled products and the value of commercial compost through contamination. In landfills biodegrading plastic bags are likely to produce methane, which will contribute to climate change if the landfill does not have an effective methane capture system. Biodegradable and compostable plastic bags may also still entangle marine life or aquatic organisms may mistake them for food before they break down.

In the short to medium term, we propose that a ban be put in place for single-use plastic shopping bags including those made of biodegradable and compostable plastic. Redesigned plastic bags in a circular economy should lead to much better options in the long term. We could then adjust bag phase-out measures accordingly.

Transition to a 'circular economy'

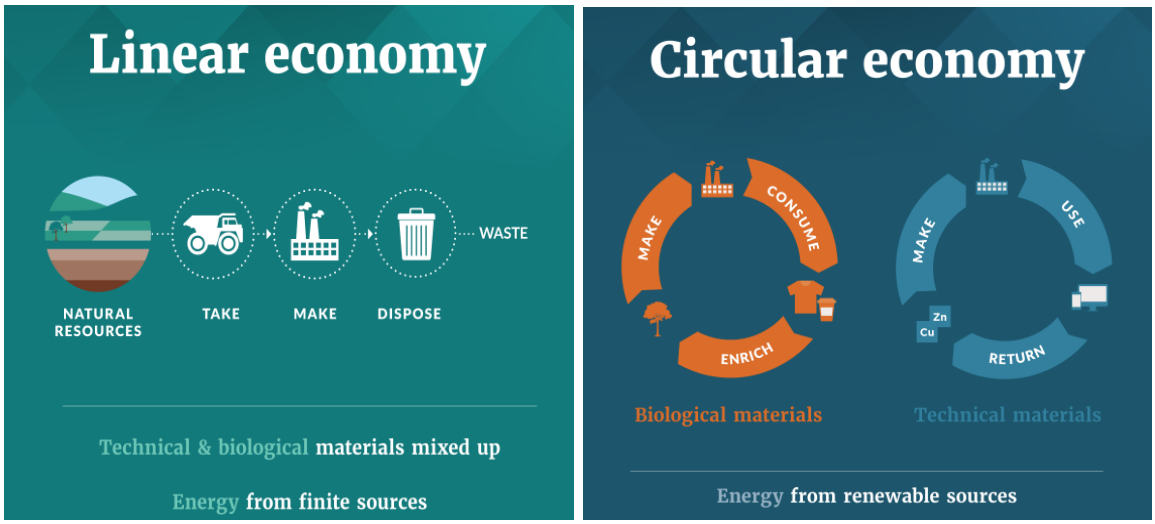
Only an estimated 10 per cent of plastics globally are cycled back into the economy in some form; conversely 90 per cent are ultimately disposed of to land, air or sea. In addition, 95 per cent of the material value of plastic packaging, or US$80–120 billion a year, is lost to the global economy after its short first use. The costs amount to at least US$40 billion a year, which is more than the plastic packaging industry's global profit pool (World Economic Forum, 2016).

Our current global and New Zealand economic systems are 'linear' economies (take–make–dispose – see figure 4). Symptoms of market failure for this linear system include: pollution to air, water and land; climate change; release of persistent toxic materials; unsustainable rates of harvest for food and materials; and loss of species and ecosystems.

The capacity of Earth is finite, while the human population and our aspirations for material consumption keep growing. As a result, global consumption of raw materials and natural ecosystem services is increasing rapidly in a degrading environment. Current evidence indicates that we have already stepped over a number of safe planetary boundaries (Steffen et al 2015).

Countries around the world, including many of New Zealand's trading partners, are challenging the linear economic model. The 'circular economy' (figure 4) provides an alternative model for creating prosperity. It values resources for their intrinsic worth, respects and restores the natural cycles for biological materials (make–consume–enrich) and creates nature-inspired cycles for human-made materials (make–use–return).

Figure 4: Comparing 'linear' and 'circular' economies



A circular economy is restorative and regenerative by design. It aims to keep products, components and materials at their highest utility and value (Ellen Macarthur Foundation, 2013). By redesigning materials, products, services, cycling systems, energy sources, business models, inter-sectoral linkages and value chains, it becomes possible to create both sustainability and added economic value.

Entities such as the Ellen Macarthur Foundation, the World Economic Forum and the United Nations Environment Programme have developed a range of global initiatives to drive better design and systems to transition to a circular economy. Among these initiatives is the New Plastics Economy project, which seeks to create a shared sense of direction, increase innovation and move the plastics value chain towards increased value capture, stronger economics and better environmental outcomes (Ellen Macarthur Foundation, 2017; World Economic Forum, 2016).

The Government intends to participate in these initiatives. New Zealand has also recently formally joined the United Nations Environment Programme's Clean Seas Campaign and the Commonwealth Clean Ocean Alliance, which both include the reduction of single-use plastics as core objectives.

Single-use plastic shopping bags, like many other consumer and service delivery products, are designed to be used once and thrown away – a linear economy approach. Already alternatives to single-use plastic shopping bags are available, offering a more circular design that encourages multiple reuse. Improving recycling systems for these bags at the end of their life is also necessary to improve the circularity of their design.

4 Overseas experience

In order to design an appropriate phase-out option for single-use plastic shopping bags in New Zealand it is useful to look at the overseas experience.

Policy objectives in these jurisdictions have included: reducing litter and increasing the aesthetic appeal of public and natural spaces; protecting marine species and ecosystems; using resources efficiently; and addressing public health concerns about blocked drains and flooding. Quantitative information on net costs and benefits for various methods tried overseas is instructive, but not comprehensive. We welcome information to help refine this analysis for New Zealand.

This section summarises the most common methods used overseas, and information from overseas relating to other methods available in New Zealand under the WMA.

Bans

Bans work by regulating to remove an option from the marketplace. Bans on various types of plastic bags overseas include:

- bans on distribution – by:
  - prohibiting retailers from providing bags (e.g., South Australia, Tasmania, Northern Territory, Australian Capital Territory, Queensland, Western Australia, Belgium, France, Italy, Bangladesh, Rwanda, Haiti, Mexico City, City of Austin, State of Sikkim)
  - prohibiting retailers from providing bags and requiring them to charge for permitted bag types (e.g., China, Israel, some Californian counties)
- banned entry into the market and use – focused on:
  - manufacture, importation and use (e.g., Mauritania, Somalia, Kenya, Morocco)
  - manufacture and use (e.g., India).

Increased cost (levy, tax, mandatory minimum charge)

Increased cost methods work by putting a cost on a good that was previously ‘free’ to the consumer. Methods used overseas to do this include levies, taxes or charges:

- requiring retailers to add a levy or charge at point of use, which is then:
  - remitted to a central government fund for environmental purposes (e.g., Ireland), or
  - retained by the retailer, with an expectation that the retailer will donate it to good causes, with public reporting (e.g., United Kingdom), or
  - retained by the retailer (Hong Kong, China, Taiwan, Netherlands, Wales, Scotland, Indonesia, South Africa).
- taxing plastic bags at manufacture or import (before they reach the consumer) (e.g., Denmark, Italy).

Formal agreements with industry

In Norway, Finland, Austria and Hungary, the federal governments have reached formal agreements with the industry requiring retailers to charge their customers for plastic shopping bags. In Germany the agreement is to phase out specific types of bag.

In Australia from 2003 to 2005, government and industry promoted a Voluntary Code of Practice for the Management of Plastic Bags. Participants included the major supermarkets, and a survey by the Australian Retailers Association in 2005 found that 19 per cent of responding retailers had joined the code (Australian Retailers Association, 2005). Over the three years of the initiative, single-use plastic shopping use fell by an estimated 44 per cent. After use increased again from 2007, individual Australian states began to enact their own controls from 2009 (Department of Environment and Heritage Protection, 2016).[5]

The 2006 UK Supermarket Voluntary Carrier Bag Agreement reduced single-use plastic shopping bag consumption by an estimated 33 per cent over 2006–2011 (Miller, 2012, table 20). The United Kingdom set a compulsory minimum charge at point of sale in 2015.

Deposit-refund systems

A regulated deposit-refund system puts a new cost onto a product, which is refunded to the consumer when they bring back the material for recycling. The deposit-refund method has been used overseas most commonly for beverage containers, to provide an incentive for people to return packaging that might otherwise end up in the litter stream. While the same thinking could apply to single-use plastic shopping bags and deposit, we have found no overseas examples of using deposit-refund for these bags.

Mandatory product stewardship

Mandatory product stewardship, or 'extended producer responsibility', is where producers that put certain goods on the market are required to be responsible for environmentally sound end-of-life management of the product. Typically the price to do this is charged on the product at point of sale. Products most commonly covered by such schemes overseas include packaging, electronic and electrical waste, batteries, tyres, vehicles and oil.

We have found no examples of product stewardship schemes in other jurisdictions for plastic bags alone. Plastic bags are, however, included in many mandatory 'extended producer responsibility' schemes overseas for packaging as a whole (e.g., countries in the European Union). These countries generally have lower plastic bag use rates (appendix 1).

[5] State bans in place: South Australia 2009, Northern Territory 2010, Australian Capital Territory 2011, Tasmania 2012 and Queensland 2018.

Table 1: Overseas examples of the effectiveness of different methods in phasing out plastic bags

Jurisdiction	Phase-out method	Use rates	Public opinion	Litter	Waste to landfill
Australian Capital Territory (ACT)[1]	Ban	84.6 per cent reduction. Bin liner sales returned to pre-ban levels	65 per cent support (three years after ban, up from 58 per cent a year after the ban)	Plastic shopping bags in stormwater Gross Pollutant Traps from 'common' to 'rare'	36 per cent reduction (all shopping bag types, single and multiple use)
South Australia[2]	Ban	76 per cent of shoppers take own bags instead of purchasing new multi-use bags, or buy few items and do not require a bag.	Majority support ban (4 per cent "not at all supportive"); 82 per cent believe ban having an impact 78 per cent of shoppers support the ban and 56 per cent support extension to heavier bags Over 50 per cent of retailers 'had no problems' with implementation	45 per cent reduction (by count) Heavier bags more common in litter stream than in other states	Increase in proportion of consumers buying bin liners (15 to 80 per cent). Reasons for disposal of reusable bags in last six months (50 per cent of consumers): the bags were: worn out (60 per cent), dirty (34 per cent), or 'had too many' (15 per cent)
Northern Territory[3]	Ban	100 per cent decrease in targeted bags and 74 per cent decrease in all bag sales (including bin liners)	Average of 73 per cent support for the ban, up from a pre-ban level of 64 per cent. 48 per cent claimed to be not at all inconvenienced by the ban, and 3 per cent of claimed to be extremely inconvenienced	41 per cent reduction in targeted bags, and no change in heavier weight shopping bags	
Ireland[4]	Levy, proceeds to Government (special fund)	90 per cent reduction		95 per cent decrease in litter (plastic bags in litter before levy 5 per cent, after 0.25 per cent)	

Jurisdiction	Phase-out method	Use rates	Public opinion	Litter	Waste to landfill
Wales[5]	Mandated minimum charge (2011)	71 per cent reduction (2011–2014)	74 per cent support (2015 – four years after controls, up from 61 per cent in 2011 when introduced)		
Hong Kong[6]	Levy, proceeds to Government (2009 - large retailers only)	75 per cent reduction (targeted retailers only)			6 per cent increase in targeted bags to landfill
	Mandated minimum charge (2015 - all retailers)				25 per cent decrease targeted bags to landfill
United Kingdom[7]	Mandated minimum charge (2015)	83 per cent reduction (seven main retailers only)			
China[8]	Ban - non-biodegradable plastic bags less than 25 microns, levy on consumer for thicker ones	Use rate in supermarkets decreased 60 to 80%. Not well enforced in food markets or with small retailers			
Belgium[9]	Levy (2007)	Consumption of bags decreased 80% over ten years			
Bulgaria[8]	Levy (2011) : supply of polyethylene bags less than 25 microns, levy rate increasing yearly until 2015	Bulgarian Ministry of Environment reported "drastic reduction" in the use of plastic bags			
Israel [9]	Ban on bags less than 20 microns and levy on thicker ones (2017)	80 per cent reduction		50 per cent reduction in plastic shopping bags found in the sea	

Jurisdiction	Phase-out method	Use rates	Public opinion	Litter	Waste to landfill
Morocco [10]	Ban - production, importation, sale and distribution Black plastic shopping bags (2009); then all plastic shopping bags (2016)	Plastic bags "virtually no longer used in the country". Citizens have switched to fabric bags.			
Austin, Texas[11]	Ban	75 per cent decrease			No change in weight of all types of shopping bags in waste (single and multi-use)
Sikkim, India[8]	Ban - delivery or purchasing of goods in plastic wrappers or bags (1998)	66% of shops using paper bags or newspaper			

1 Environment and Sustainable Development Directorate (2014).

2 Ehrenberg-Bas Institute for Marketing (2009).

3 Rawtec (2014). In addition, 76% of retailers still offer at least one type of shopping bag for free to their customers, but not the banned type. Before the ban shoppers claimed on average to bring their own bags with them to the store 1.7 times out of 10, and after the ban 5.5 times out of 10. This aligned with observed behaviour, 46 per cent of shoppers bringing at least one bag with them from home to the store and 38 per cent receiving at least one bag from the store.

4 Convery et al (2007) and BIO Intelligence Service (2011, annex B).

5 https://gov.wales/topics/environmentcountryside/epq/waste_recycling/substance/carrierbags/?lang=en accessed 21 May 2018

6 https://www.epd.gov.hk/epd/english/environmentinhk/waste/pro_responsibility/env_levy.html accessed 20 May 2018; Environmental Protection Department (2011, 2013, 2016). Levy for major retailers only, charge for all retailers; rate HK 50 cents (NZ 9 cents). The first phase out method covered 3,300 retailers; second method in 2015 covered all 60,000 retailers.

7 Department for Environment, Food and Rural Affairs (2017); calendar year 2014 compared with fiscal year 2016–17. Reported donations to charitable community projects from the mandated minimum charge by 168 reporting retailers was £66.4 million in 2016-17.

8 UNEP 2018, pp 27-42.

9 https://www.unenvironment.org/news-and-stories/story/just-one-year-israel-halves-plastic-bags-found-sea

10 UNEP 2018, page 29. Enforcement notes: 421 tons of plastic bags were seized in one year.

11 Waters 2015. Note Austin is surrounded by communities (and shops) not covered by the city ban. The landfill data compared Austin catchment waste with waste from neighbouring communities without a ban. Total weight was the same, but the proportions were different (Austin had 75 per cent less single-use plastic shopping bags).

5 Options for New Zealand

Current context

Public concern

Plastic waste as a whole, and plastic bags in particular, have captured the attention of the media and the public in New Zealand over recent years.

- The Colmar Brunton Better Futures 2017 report found that the build-up of plastic in the environment was among the top 10 concerns of New Zealanders in a list of 38 prompted concerns (Colmar Brunton, 2017).
- Petitions to Parliament calling for controls on single-use plastic bags have attracted over 103,000 signatures in recent years.[6]
- In 2015, 89 per cent of Local Government New Zealand members supported a remit calling for a plastic bag levy. In 2017, 97 per cent of mayors (65 of 67) supported the same remit in an open letter.
- In 2017, the proposal to ban plastic microbeads in certain products received 16,223 public submissions, with 99.8 per cent were in support (Ministry for the Environment, 2017c).

Retailer responses

Major retailers began to formalise their response to public concern about plastic bags over 2004–2009, while the second voluntary Packaging Accord was operating. Under this accord the Brand Owners and Retailers Sector Action Plan set a target to establish company targets for reducing plastic shopping bags by a minimum of 20 per cent by 2008 on a 2003 and 2004 baseline.[7] Over 2004-2007 three participating major retailers reported achieving a 9.5 per cent reduction (Packaging Council of New Zealand 2007).

In 2017–18, some major retailers announced a commitment to phase out plastic shopping bags: Countdown, New World and Warehouse Group by the end of 2018 and Z Energy and Mitre 10 by the middle of 2018.[8] The Warehouse announced it will replace plastic with 'compostable' shopping bags, for which consumers must pay a charge. Retailers that previously put in place alternatives to free plastic bags include organics shops, Pak n Save, The

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[6] Petition 2017/5 of Elena Di Palma on behalf of Greenpeace New Zealand – Ban single-use plastic bags (65,388 signatures); Petition 2014/0135 of Ann Ruxton and 3596 others (3,596+1); Petition 2014/0138 of Grant Robertson (17,877); Petition 2014/0022 of Rebecca Bird on behalf of Our Seas Our Future (16,266); Petition 2011/48 of Kate Hoyle and 20 others (20+1); total signatures = 103,149.

[7] Table 5.1, *Brand Owners and Retailers Sector Action Plan* (2015 final, unpublished) Packaging Council of New Zealand. This action plan was endorsed by over 60 commercial entities from the fast moving consumer goods sector.

[8] https://www.countdown.co.nz/community-environment/our-commitment-to-phasing-out-single-use-plastic-carrier-bags; http://www.newworld.co.nz/about-us/news/whats-next-for-bags/; https://z.co.nz/about-z/what-matters/sustainability/saying-goodbye-to-plastic-bags/; https://www.mitre10.co.nz/news/mitre-10-to-ditch-plastic-bags https://www.thewarehousegroup.co.nz/news-updates/warehouse-group-ditches-single-use-plastic-bags-checkouts. The Warehouse Group includes The Warehouse, Warehouse Stationery, Noel Leeming and Torpedo 7.

Warehouse and Bunnings. Given this momentum, a number of consumers are already preparing for a ban on single-use plastic shopping bags.

The Packaging Forum's Soft Plastics Recycling project targets a full range of post-consumer soft plastics in New Zealand, including single-use plastic shopping bags. In 2015, the scheme received $700,000 from the Ministry for the Environment's Waste Minimisation Fund funding to expand collection bins to many retail areas. Now an estimated 70 per cent of the population live within 20 kilometres of a collection bin.

During its establishment phase, the scheme was collecting about 1.7 per cent of the estimated total 6,000 tonnes of plastic bags generated per year from fast-moving consumer goods (including not just single-use plastic shopping bags but other plastic packaging and bags also). Its target is to achieve a 10 per cent recycling rate this year and a 35 per cent recycling rate by 2024. Some of these soft plastics are being recycled in Australia but most is being stored while the scheme is exploring local recycling options.

Figure 5: Soft Plastics Recycling scheme collection bin

Availability of alternatives

Single-use plastic shopping bags are useful for carrying purchases away from the shop and because they are resilient to relatively heavy loads and moisture.

A wide range of alternatives is now available, often at points of purchase. Options include multiple-use bags in heavier-duty plastic (polyethylene, polypropylene or nylon), composite bags of hessian with other materials, and bags made of cotton, recycled fabric or jute. Some retailers also provide boxes for re-use. Paper shopping bags are available in some shops, but not resilient if they get wet. Shoppers can also bring their own devices, such as lightweight folding nylon bags, wheeled trolley bags, backpacks and home-made bags. The price for these alternatives is generally in keeping with how long the bags are likely to last, but is obviously more than free single-use shopping bags, where they are available.

Retailers will gain new profit centres from not having to provide free bags and by selling alternative carriers, and are in a good position to help their customers to transition.

Consumers on lower incomes who may not feel able to afford longer-life bags may require assistance during a transition. We will engage with retailers on practical opportunities. An example could be for holders of Community Service Cards and Gold Cards to receive assistance or concessions.

Local manufacture

Single-use plastic shopping bags under 35 microns are imported, so phasing them out is unlikely to have a local business or employment impact related to plastic bag manufacturing. 'Biodegradable' or 'compostable' plastic bags are also made overseas. Some paper and heavier-weight bags (plastic bags between 35 and 70 microns) are manufactured here, so business may expand for some of these companies. Multiple-use bags of woven material that require some manual construction (e.g., woven polypropylene, jute, cotton) are primarily produced overseas. A number of volunteer community recycled fabric sewing projects in New Zealand encourage local people to create bags from recycled fabric to use and share for reuse.

International trade obligations

The approaches under consideration will be developed to be consistent with New Zealand's international legal obligations.[9]

Objectives

The primary objective of a selected phase-out measure would be to provide a sure way of reducing the impacts of single-use plastic shopping bags in contributing to litter in New Zealand's terrestrial and marine environments and reducing its risks to marine ecosystems and human health. We recognise that single-use plastic shopping bags are only one of many contributors to these impacts and risks, and other measures are needed.

In achieving this objective, minimising the costs for New Zealand businesses, consumers and government is also desirable.

We do not yet know the full nature or extent of the impacts of single-use plastic shopping bags specifically and marine microplastics generally. The Government's proposal takes a precautionary approach to reduce the risk of them contributing to long-term impacts on the environment and human health, as well as their wider socio-economic and cultural impacts.

We have used the following proposed criteria to compare options to reduce the impacts of single-use plastic shopping bags. Each option has been assessed as to whether it can:

- substantially advance phase-out of a single-use plastic product that contributes to litter and the risks associated with marine plastics while in the longer term help transition to a circular economy *(primary purpose of intervention: triple weighting)*
- be implemented without placing undue costs on the community, business, or public funds *(key regulatory principle: double weighting)*
- be progressed under existing legislation
- provide a financial incentive to return used shopping bags for reuse or recycling
- transfer funds for community or environmental benefit.

Potential phase-out options

A range of options is available to phase out single-use plastic shopping bags. Some are well tested overseas, while others are unique options available under the Waste Minimisation Act 2008 (WMA) or proposed locally in recent years. These are described in the section 4 and Appendix 3.

The purpose of the WMA is to encourage waste minimisation and a decrease in waste disposal to protect the environment from harm and obtain environmental, economic, social and cultural benefits. The WMA introduced new tools including a waste disposal levy to fund waste minimisation initiatives at local and central government levels and regulatory powers for products and product stewardship for specified 'priority products'.

Table 2 summarises the options, the mechanisms that we might use to implement them in New Zealand, and whether they have proved effective overseas.

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[9] Before recommending making regulations under the Waste Minimisation Act 2008, the Minister for the Environment must be satisfied that those regulations are consistent with New Zealand's international obligations (section 23(3)(b)(iii) of the Waste Minimisation Act 2008).

Table 2: Summary of potential options to reduce the impacts of single-use plastic shopping bags and overseas evidence of results

Option	How	Effective overseas?
1. **Ban on sale/distribution**	Regulations under WMA (s 23(1)(b))	Yes
2. **Levy, tax or minimum charge** 2A – Levy at point of sale, collected by central government	New legislation: amend the WMA	Yes
2B – Mandated minimum charge at point of sale, retained by retailers	New legislation: amend the WMA	Yes
2C – Levy or minimum charge at point of sale, set by local authorities	New legislation: amend the WMA or other	Yes
2D – Tax at point of entry into market (pre-consumer)	New legislation: amend the WMA or other	Unknown
3. **Deposit-refund system**	Regulations under WMA (s 23(1)(e))	Unknown
4. **Formal agreement** between industry and Government	Non-regulatory	Partially
5. **Mandatory product stewardship**	*Gazette* notice under WMA (ss 9 and 12), and regulations under WMA	Unknown
6. **Ad hoc voluntary action** (status quo)	Non-regulatory	No

Note: s = section; ss = sections; WMA = Waste Minimisation Act 2008.

Each of these options has been described and ranked against the above criteria in appendix 3. The following results (in order from highest to lowest score) were obtained.

1 Option 1 – Ban on distribution by retailers

2= Option 2A – Levy at point of sale, proceeds to Crown
2= Option 2B – Mandatory minimum charge, retained by retailer
2= Option 2C – Levy or minimum charge at point of sale, set by local authorities

5 Option 4 – Formal industry agreement with the Government
6= Option 6 – Ad hoc voluntary measures (status quo)

6= Option 3 – Deposit-return system

8 Option 5 – Mandatory product stewardship

9 Option 2D – Tax at entry into market (before bags go to the consumer)

This assessment is based on information from overseas experience, which has gaps in relation to the assessment criteria. The Ministry welcomes information to help refine this analysis for New Zealand.

We are now consulting on whether to proceed with the highest ranked option, a ban on sale or distribution.

6 Outline of proposal

Proposed ban on sale or distribution

The option selected for consultation is a ban on sale/distribution of single-use plastic shopping bags, summarised in table 3. All assessed options are summarised in Appendix 3.

Table 3: Summary of proposal

Option	Coverage				Offences and penalties
	What (scope)	Who	When	Exemptions	
Option 1: Ban on sale or distribu-tion	Single-use plastic shopping bags[1] *The maximum level of thickness for these bags is to be determined after consultation*	Any person (natural or legal person) selling or distributing these bags	When sold or distributed for the purpose of carrying sold goods	*To be determined after consultation*	s 65 WMA: Persons knowingly contravening regulations made under s 23(1)(b) are liable to a fine of up to $100,000 Persons doing various acts to obstruct an enforcement officer or auditor's activities, or inciting another person to do these, are liable to a fine of up to $5,000. s 67 WMA: For any of the above offences, a court can order the person to pay an additional penalty for commercial gain flowing from the offence.

[1] A new plastic bag (including one made of biodegradable or compostable plastic) which has handles and is below a maximum level of thickness. The terms 'plastic', 'biodegradable' and 'compostable' would be defined in regulations with reference to international standards. We are seeking your views on the maximum level of thickness for these bags (see the 'Which bags are covered' section below).

Under a ban, consumers would no longer have access to 'free' single-use plastic shopping bags, but would need to purchase and reuse multiple-use carry devices for the items they buy. The net cost per use for consumers would depend on the type of bags they chose and whether they used those bags to the end of their full lifespan. The unit price is not high for the currently available multiple-use bags and consumers already have a wide range of choice.

Some consumers on low incomes may nonetheless find the up-front cost of multiple-use bags unaffordable. One possibility is to provide support an, such as offering discounted bags to holders of Community Services Cards and Gold Cards.

Currently retailers pass on the cost of 'free' bags to consumers in the price of goods. With a ban the savings made by retailers[10] may be a windfall profit, be used to offset costs for new systems and training in their stores, or be shared with consumers or the community in some form. Retailers not already selling multiple-use bags would obtain a new revenue stream.

[10] For example, the cost to import New Zealand's plastic shopping bags made from polyethylene was $15 million in 2017 (appendix 1).

Regulations under the WMA

Section 23(1)(b) of the WMA provides for making regulations:

> controlling or prohibiting the manufacture or sale of products that contain specified materials.

We propose using this provision to prohibit the sale of single-use plastic shopping bags in New Zealand.[11] Note that this prohibition would cover the distribution of bags to consumers free of charge, as section 5(1) of the WMA defines 'sale' to include distribution or delivery whether or not for valuable consideration.

To make any regulations under section 23(1)(b) of the WMA, the Minister for the Environment must consider certain matters and follow certain steps. See appendix 3 for an outline of this process.

Section 23 provides that these regulations must not be developed unless a reasonably practicable alternative to the specified materials (in this case, numerous reasonably priced alternatives) are available. We consider this requirement would be met for the reasons outlined in the 'Availability of materials' part of the section above, but invite your views on this point.

The Governor-General makes regulations under section 23(1)(b) of the WMA (Appendix 5 on the Minister for the Environment's recommendation. Before making this recommendation, the Minister must be satisfied that:[12]

- a reasonably practicable alternative to the specified materials subject to the control or prohibition is available
- the benefits expected from the regulations are greater than the costs
- the regulations are consistent with New Zealand's international obligations
- the regulations are consistent with the purpose of the WMA.[13]

Coverage of proposed ban

Overseas models for reducing impacts of single-use plastic shopping bags vary in their scope or material and responsible parties. We are including consultation questions to seek your views on details of how we might implement the proposed ban.

Which bags are covered

The term **'single-use plastic shopping bags'**, as it is used in this discussion document,[14] means:

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[11] See definition of this term on page the following page below. The 'specified materials' covered by the prohibition would be materials used to make plastic (including biodegradable and compostable plastic), defined in accordance with international standards.

[12] Section 23(2)(b), (3)(b)(ii) and 3(b)(iii) of the Waste Minimisation Act 2008. Note that, before making the regulations, the Minister must also obtain and consider advice of the Waste Advisory Board and be satisfied that adequate consultation has occurred (section 23(3)(a) and (b)(i)).

[13] The purpose of the WMA is to encourage waste minimisation and a decrease in waste disposal in order to protect the environment from harm and provide environmental, social, economic and cultural benefits.

[14] In some jurisdictions, the term 'carrier bags' refers to shopping bags and the retail trade uses 'singlet bag' for bags with integrated handles.

A new plastic bag (including one made of biodegradable or compostable plastic) which has handles and is below a maximum level of thickness. The terms 'plastic', 'biodegradable' and 'compostable' would be defined in regulations with reference to international standards.

The proposed ban would apply to these bags when they are sold or distributed for the purpose of carrying sold goods.

We are seeking your views on the maximum level of thickness for these bags. Options for maximum thickness include (but are not limited to) bags under 50 microns and bags under 70 microns.

Standard supermarket single-use plastic shopping bags are less than 35 microns in thickness. A wide range of retailers (e.g., clothing, shoe, book and giftware shops and department stores) give out free heavier-weight (35–70 microns thick) plastic shopping bags. Consumers would need to use these bags 4 to 12 times before they had less impact on climate change than the lighter-weight plastic shopping bags (table 7 in appendix 2).

Some jurisdictions have also controlled thicker single-use shopping bags. For example, Montreal (Canada) has banned all plastic shopping bags less than 50 microns thick, while the England has included shopping bags under 70 microns thick in its mandated minimum charge.[15]

In Queensland, along with its ban on lightweight bags, the government announced an intention to work with department stores to implement voluntary actions and participate in a national initiative by major retailers to reduce the use of the heavier-weight bags (Department of Environment and Heritage Protection, 2016). In Tasmania and the Australian Capital Territory there have been reports of shoppers buying heavier-weight bags but treating them as single-use bags, and government consideration of whether to widen their ban to include heavier bags.[16] In the current transitional period for the bans in Queensland and Western Australia there have been concerns about retailers being sold 'barely compliant' bags just over 35 microns in thickness, and joint government and retail association guidance to retailers.[17]

New Zealand companies currently pursuing a voluntary phase out of single-use plastic shopping bags are considering middle-weight multi-use plastic bags as alternatives for customers to purchase. Our understanding is that these are between 50 and 70 microns.

We have also asked a consultation question about what weight of single-use plastic shopping bags should also be included in the proposed ban.

Who is covered

To establish a ban defining who and what the new rules would apply to is essential.

Most plastic shopping bag control models from overseas require retailers to implement these changes, and liable parties are retailers not consumers. There is variation however in which

[15] http://ville.montreal.qc.ca/portal/page?_pageid=7418,142803238&_dad=portal&_schema=PORTAL; https://www.gov.uk/guidance/carrier-bag-charges-retailers-responsibilities

[16] https://www.themercury.com.au/news/tasmania/jury-still-out-on-plastic-bag-ban-success/news-story/36fc7a481c1da865f55adf716740cdf4; https://www.canberratimes.com.au/national/act/environment-commissioner-to-review-acts-plastic-bag-ban-amid-concerns-20180126-h0onn5.html

[17] http://qldbagban.com.au/the-risk-of-using-lightweight-plastic-singlet-bags ; https://www.bagbanwa.com.au/the-risk-of-barely-compliant-bags

retailers are covered. We are proposing all retailers but including consultation questions on this point.

While large retailers distribute a significant share of single-use plastic shopping bags because of their large sales volumes, many of the bags contributing to litter on land and in the sea may come from takeaway food and beverages, which are often from smaller businesses.

Larger retailers may be better able to absorb the cost of changes resulting from a ban on single-use plastic shopping bags. Whatever the size of the retailer, however, they are likely to pass on any such costs to consumers.

When the mandated charge on single-use plastic shopping bags was introduced in England in 2015, it applied to all 'large' retailers – defined as those employing 250 or more full-time equivalent employees in a year for the whole company, including across multiple stores. In early 2018 however, the UK Government was considering extending the levy to all retailers.[18]

The Hong Kong levy began in 2009 for 3300 larger retailers. They did not achieve the waste minimisation outcome they sought and in 2015 the system was changed to a mandated minimum charge that applied to all 60,000 retailers (table 1).

Encouraging high reuse rates for multiple-use shopping bags

To achieve a net benefit for the environment, taking account of the environmental impacts of producing alternative multiple-use shopping bags, consumers need information and incentive to use those bags a sufficient number of times to offset those impacts across the life of the bags.

Some retailers in New Zealand have voluntary schemes in place to encourage customers to reuse multiple-use bags. For example, some New World supermarkets currently offer a five-cent rebate per bag for customers using their own multiple-use bags instead of taking a single-use plastic shopping bag.[19]

The Irish levy and minimum charges in the UK inspired a voluntary 'Bags for Life' scheme in those countries. Countdown has recently brought the concept to New Zealand with its 'Bags for Good' scheme.[20] This approach offers a free replacement bag to consumers when they bring in a worn-out multiple-use bag they have previously bought from the store, and the worn-out bag is put into a recycling system. In theory, this could lower the net cost of multiple-use bags for consumers, improve return rates of bags for recycling and so improve the life-cycle impacts of multiple-use shopping bags to some extent.

In practice in Wales, however, which has a minimum charge on lightweight plastic shopping bags but no minimum charge on the heavier-weight plastic bags-for-life, 32 per cent of households had disposed of a plastic bag-for-life within the last year and only 0.3 per cent of consumers had returned bags to the retailer to get a replacement bag-for-life once it had worn out (Ricardo-AEA, 2014). Thus the potential life cycle environmental benefits from the policy were compromised.

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18 http://www.bbc.com/news/uk-42630898

19 http://www.newworld.co.nz/about-us/news/whats-next-for-bags, accessed 4 June 2018.

20 https://www.countdown.co.nz/plastic-bags, accessed 4 June 2018.

A number of volunteer community recycled fabric sewing projects in New Zealand encourage local people to create bags from recycled fabric to use and share for reuse. Boomerang Bags is one example.[21] Making the bags from reused fabrics reduces the original production impacts of the fabric and the bag itself does not have the same life-cycle impacts as a bag made from, for example, virgin cotton.

Some options for increasing consumer knowledge and action to minimise the life-cycle impacts of alternative bags could include voluntary or mandatory incentive schemes by retailers, or a national information campaign and mobile phone app for shoppers by a national body or government. We have included a consultation question to seek feedback on this topic.

Monitoring progress

To know whether the desired outcomes of a ban are being achieved, it will be necessary to have an agreed and transparent baseline and way to monitor changes in single-use plastic bag use and presence in litter, and clear targets. We propose to work with stakeholders during the consultation period to put these in place.

For coastal litter, New Zealand will have a good baseline and monitoring system by April 2021 through a Sustainable Coastlines project supported by the Waste Minimisation Fund.[22]

We welcome feedback on an improved measurement and monitoring regime for use of single-use plastic shopping bags, and more widely, single-use plastics entering the market.

Compliance and enforcement

Enforcement of WMA regulations is by enforcement officers appointed by the Secretary for the Environment. A ban on single-use plastic shopping bags would be likely to require additional enforcement officers to be appointed and resourced. Penalties in the WMA for non-compliance are summarised in table 3.

For the plastic microbeads ban, the Environmental Protection Authority (EPA) has enforcement officers appointed to enforce it. . If the EPA are to also enforce a ban on single-use plastic shopping bags then resourcing and potential revision to their governing legislation are likely to be required.

7 Consultation process

How to make a submission

The Government welcomes your feedback on this consultation document. The questions asked in this section are a guide only and all comments are welcome. You do not have to answer all the questions.

[21] http://boomerangbags.org ; https://www.facebook.com/boomerangbagsnz

[22] Funding of just under $2.7 million will provide by April 2021: design and build an open-sourced national litter database and train and support citizen scientists to gather beach litter data nationwide; design and build a litter education curriculum and train and support educators to deliver it. Agency partners include Ministry for the Environment, Statistics New Zealand and the Department of Conservation.

- To ensure others clearly understand your point of view, you should explain the reasons for your views and provide supporting evidence where appropriate.

You can make a submission in three ways.

  - Use our online submission tool, available at www.mfe.govt.nz/consultation/plasticshoppingbagban . **This is our preferred way to receive submissions.**
  - Download a copy of the submission form to complete and return to us. This is available at www.mfe.govt.nz/consultation/plasticshoppingbagban . If you do not have access to a computer, we can post a copy of the submission form to you.
- Write your own submission.

If you are posting your submission, send it to Proposed Ban on Single-use Plastic Shopping Bags, Ministry for the Environment, PO Box 10362, Wellington 6143. Include:

- the title of the consultation (Options to Phase Out Single-use Plastic Shopping Bags)
- your name or organisation
- your postal address
- your telephone number
- your email address.

If you are emailing your submission, send it to plasticshoppingbagban.submissions@mfe.govt.nz as a:

- PDF
- Microsoft Word document (2003 or later version).

Submissions close at 5.00 pm on Friday 31 August 2017.

Contact for queries

Please direct any queries to:
Email: plasticshoppingbagban.submissions@mfe.govt.nz
Postal: Proposed Ban on Single-use Plastic Shopping Bags, Ministry for the Environment, PO Box 10362, Wellington 6143

Consultation questions

1. Do you agree with the proposal to ban manufacture, sale or free distribution of single-use plastic shopping bags in New Zealand?
   Yes/ No Why/Why not?
2. Do you think that reasonably practicable alternatives to single-use plastic shopping bags exist in New Zealand?
   Yes/ No Why/Why not?
   If no, what do you think is missing currently that would need to be available?
3. How can people be encouraged to reuse multiple-use shopping bags enough times to offset the environmental impacts of producing them?
   (a) Voluntary incentive schemes by individual retailers
   (b) National information campaign and mobile phone app for shoppers
   (c) Other (please specify)
4. We have proposed a ban on single-use plastic shopping bags. This could include under 50 microns or under 70 microns.
   If you agree with a ban, which option do you prefer, and why?
   (a) under 50 microns
   (b) under 70 microns
   (c) other (please specify)
5. Do you currently manufacture, sell, provide or import for sale or personal use these types of single-use plastic shopping bags:
   (a) 50 microns or less in thickness, or
   (b) over 50 microns and under 70 microns in thickness
   Yes/ No If Yes, please specify which bags and explain how a ban would be likely to impact on you.
6. Are you aware of types or uses of single-use plastic shopping bags that should be exempt from a ban?
   Yes/No If Yes, what are they and why should they be exempt?
7. Should smaller retailers be exempted from a ban single-use plastic shopping bags ?
   Yes/No Why/Why not?
8. If smaller retailers are exempted from a ban and they are defined by their number of full-time equivalent employees, what should that number be?
   (a) under 250
   (b) under 50
   (c) other (please specify)
9. Please provide any additional comments or suggestions.

Publishing and releasing submissions

All or part of any written submission (including names of submitters) may be published on the Ministry for the Environment's website, www.mfe.govt.nz. Unless you clearly specify otherwise in your submission, the Ministry will consider that you have agreed to have your submission and your name posted on its website.

Contents of submissions may be released to the public under the Official Information Act 1982 if requested. Please let us know if you do not want some or all of your submission released, stating which part(s) you consider should be withheld and the reason(s) for withholding the information.

Under the Privacy Act 1993, people have access to information held by agencies about them. Any personal information you send to the Ministry with your submission will only be used in relation to matters covered by this document. In your submission, please indicate if you prefer we do not include your name in the published summary of submissions.

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Appendix 1: Estimates for single-use plastic shopping bag use in New Zealand

According to estimates from Retail New Zealand and The Packaging Forum, New Zealand uses about 750 to 760 million single-use plastic shopping bags each year. This estimate equates to about 154 to 156 bags per person per year.[23]

This estimate is based on surveys of industry members and industry data for sales of 'fast-moving consumer goods'. The Packaging Forum has also estimated quantities for a wide range of plastic bags used in the packaging of 'fast-moving consumer goods', including, for example, bread, chippies, biscuits, sweets, sanitary paper and frozen food. This estimate is around 1.5 billion plastic bags per year, or about 6000 tonnes.[24]

The net tonnage of all waste disposed to municipal (household) landfill for the 2015/16 financial year in New Zealand was 3.3 million tonnes (Ministry for the Environment, 2017b). Thus plastic bags from 'fast-moving consumer goods', as estimated by industry, are about 0.02 per cent by weight of total waste disposed of in levied landfills. Single-use plastic shopping bags are an estimated 51 per cent of that, or 0.01 per cent of waste by weight to levied landfills.

Our understanding is that all single-use plastic shopping bags are imported. New Zealand import statistics on these bags are reported by value, but not count or weight. These statistics show increasing import values from 2007 to 2017. The value of imported single-use plastic shopping bags made of polyethylene in 2017 was $15 million.[25]

In 2002 Plastics New Zealand estimated each person uses 250 single-use plastic shopping bags a year, and in 2005 the New Zealand Packaging Council estimated 322.5 bags (Tough 2007). Combining this with current estimated population gives a range of 1200 to 1570 million single-use plastic shopping bags per year.

In Australia each person used an estimated 299 single-use plastic shopping bags a year during a voluntary national ban on those bags by major retailers (AGC and Nolan ITU 2002, 2006, cited in Tough 2007). We might assume that New Zealand patterns of use are not substantially different from Australia's and, as multiple-use shopping bag options have grown over recent years, may have begun to approach the Australian rates during its voluntary ban. Combining this Australian estimate with current New Zealand population would give an annual consumption estimate of 1459 million bags per year.

These estimates are compared with other overseas data in figure 6.

To measure the progress of any phase-out method, we will need an agreed baseline indicator and a monitoring programme. We welcome feedback on this topic.

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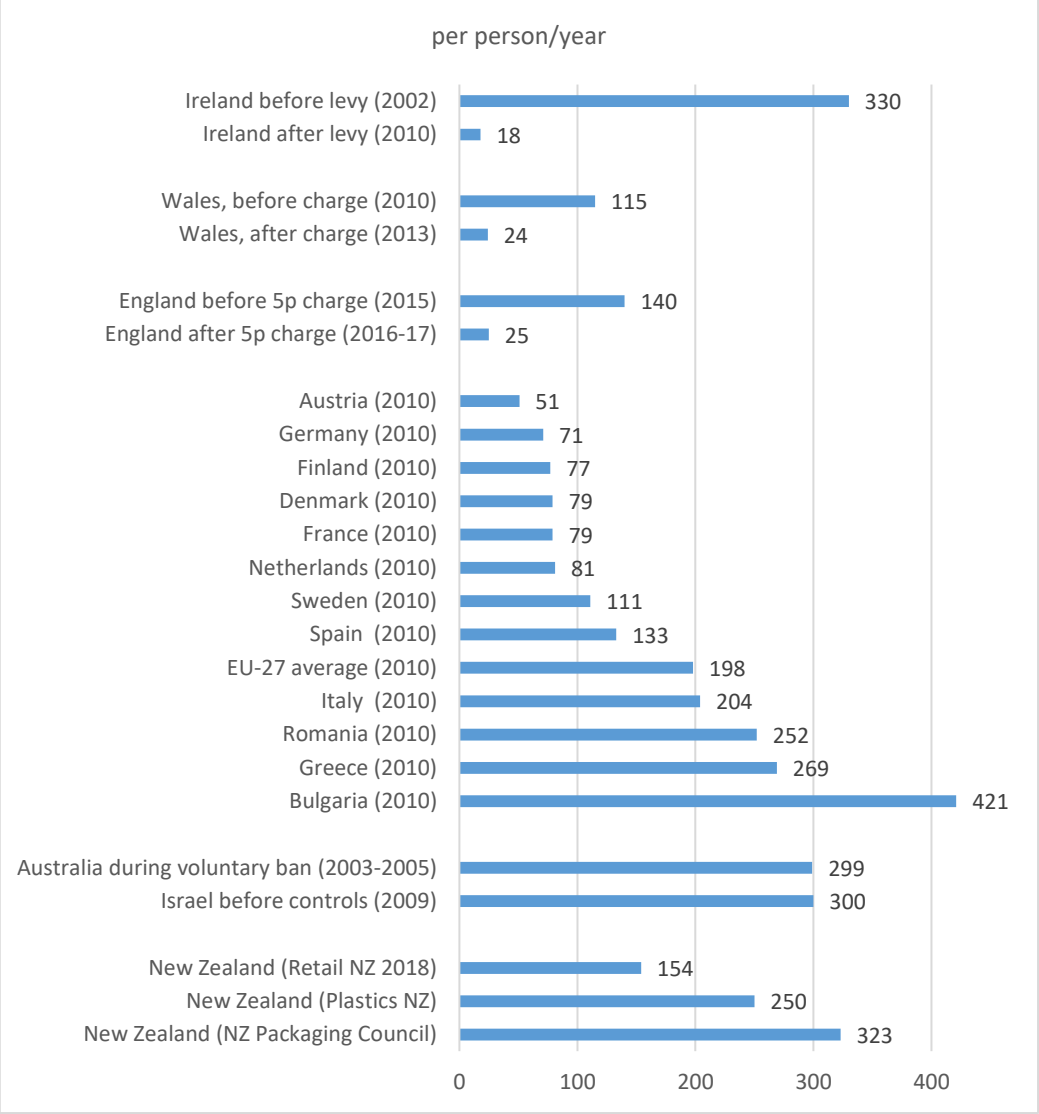
[23] G Harford, Retail NZ, *pers comm* 18 May 2018; L Mayes, The Packaging Forum *pers comm* 6 December 2017; Statistics New Zealand 'population clock' for 20 May 2018: 4.88 million.

[24] Based on information supplied by data from and Soft Plastics Recycling scheme member companies and Aztec MAT data to the end of April 2017.

[25] Tariff code 3923-21-0100: "Ethylene polymers: bags made of plastic sheeting, whether or not printed, with handles, for the conveyance or packing of goods, not designed for prolonged use". Total value in 2017 including freight and insurance was $15,249,971, and the value for duty was $14,798,069.

Figure 6: International comparison: use rates of single-use plastic shopping bags, per person per year



Sources: Ayalon 2009; BIO Intelligence 2011 (Figure 3 and Annex B); Convery et al 2007; Department for Environment, Food and Rural Affairs 2017; Retail NZ 2018 and Packaging Forum 2017 (*pes comm*); Tough 2007 (citing AGC and Nolan ITU 2002 and 2006, Plastics NZ and NZ Packaging Council); WRAP (n.d.).

Appendix 2: Comparing life-cycle impacts of different types of shopping bags

Producing all types of shopping bags uses energy and resources (embodied impacts) and impacts are involved in disposing of any of them. Typically, multiple-use shopping bags embody more resources and energy because of their heavier weight. If they are not reused a sufficient number of times, they may have greater net environmental impact than single-use plastic bags.

Published life-cycle analyses of bags exclude a number of impacts that must be considered separately. These include litter impacts on land and impacts of plastic on marine ecosystems.

Decisive in the outcome of any life-cycle analysis are assumptions about how many times bags are reused. This includes reuse of shopping bags designed for a single shopping trip. A life-cycle impact study for the UK market considered this aspect. It included various assumptions about how customers reused 'single-use' bags such as for bin liners and to carry wet items. For climate change impacts only, and compared with single-use plastic shopping bags that were not reused, paper shopping bags would need to be reused three times to have less impact than a single-use plastic shopping bag. If a single-use bag were reused three times, a non-woven polypropylene multiple-use bag would need to be reused 33 times and a cotton bag 393 times to have less climate change impact (table 6).

Table 6: The number of primary uses required to take a reusable bag below the global warming potential of an HDPE bag (single-use <35 microns) with and without secondary reuse, data for the UK market (one impact measure)

	Reuse rate of single-use HDPE bags			
		Reused once as a bin liner		
Multiple-use bag type	Not reused	40% of time	100% of time	Reused for other purposes 3 times
Paper bag	3	4	7	9
LDPE thicker glossy plastic	4	5	9	12
Non-woven PP plastic	11	14	26	33
Cotton	131	173	327	393

Note: HDPE = high-density polyethylene; LDPE = low-density polyethylene; PP = polypropylene.
Source: UK Environment Agency (2011)

Life-cycle analysis for Victoria (Australia) showed that reusable shopping bags have a lower net environmental impact than single-use plastic shopping bags for four impact measures: greenhouse gas emissions, litter production, energy use and water use. Environmental impacts were further reduced when the recycled content of bags increased. The greatest environmental benefits were found for reusable, non-woven polypropylene bags (Hyder Consulting Pty Ltd, 2007).

Looking at a wider range of impacts, the results are more complex and recommended reuse rates higher. For example, a Danish study of embodied life-cycle impacts over 14 measures[26] found that people had to reuse paper and biodegradable plastic bags 42 or 43

[26] The environmental impacts analysed were: climate change, ozone depletion, human toxicity (cancer and non-cancer effects), photo-chemical ozone formation, ionising radiation, particulate matter, terrestrial

times before those bags had less impact than a single-use plastic shopping bag; for multiple-use polypropylene shopping bags the reuse rate was 45 to 52 times, and for cotton shopping bags it was 7100 times (table 7).

Part of the context of the Danish study is that the majority of non-recycled waste is incinerated for energy. This energy offset is included in the life-cycle impacts and lightweight shopping bags are estimated to provide the overall lowest environmental impacts if recommended reuse rates of other bags were not followed. For all shopping bags, this study also strongly recommended reuse as many times as possible before disposal.

Table 7: The number of primary uses required to take a reusable bag below impacts of a lightweight LDPE bag for 14 environmental impact measures, data for the Danish market

	Recommended reuse rates to have less impact than single-use LDPE bag with rigid handles	
Shopping bag type	**Climate change impacts only**	**All 14 impacts assessed**
Recycled content LDPE bag#	1	2
Polyester bags	2	35
Biopolymer bags	0	42
Unbleached paper bags	0	43
Bleached paper bags	1	43
PP bag, non-woven	6	52
PP bags, woven	5	45
Composite bags	23	870
Conventional cotton bags	52	7100
Organic cotton bags ★	149	20,000

Note: LDPE = low-density polyethylene; PP = polypropylene Composite bags: 80% jute, 10% PP, 10% cotton.

The environmental impacts analysed were: climate change, ozone depletion, human toxicity (cancer and non-cancer effects), photo-chemical ozone formation, ionising radiation, particulate matter, terrestrial acidification, terrestrial eutrophication, freshwater eutrophication, ecosystem toxicity, and resource depletion (fossil and abiotic). Depletion of water resource was also taken into account.

Lightweight bags in the Danish market are LDPE (low-density polyethylene) rather than HDPE (high-density polyethylene) as in the New Zealand market.

★This study assumed that organic cotton production yields a third the fibre of conventional cotton production, which results in three times the embodied impact. Impact to sustainability of soils was not included, and toxicity impacts were equal-weighted with other impacts.
Source: Danish Environmental Protection Agency (2018)

One argument is that people who currently use their 'free' single-use plastic shopping bags for other purposes such as to line their kitchen rubbish bin will buy other plastic bags under a ban or levy. If the new bags were heavier than shopping bags, the net impact may increase. However, the available evidence points in the opposite direction. For example, in Australia during a voluntary national ban by major supermarkets, the reduction in single-use plastic

acidification, terrestrial eutrophication, freshwater eutrophication, ecosystem toxicity, and resource depletion (fossil and abiotic). Depletion of water resource was also taken into account. This does not include litter or impacts of marine plastics.

shopping bags was much greater than the increase from purchase of kitchen tidy bags; over 18 times by count and over 10 times by weight (BIO Intelligence Service, 2011, annex B).[27]

Limited evidence available from neighbouring communities with and without bans suggests the use of heavier multiple-use bags does not increase total disposal weights from shopping bags. For example, a ban in the city of Austin, Texas in the USA decreased single-use plastic shopping bags in the city's waste stream by 75 per cent compared with neighbouring communities. The proportion of waste that was shopping bags (all types, single and multiple use, total weight) was the same for both catchments (Waters, 2015). Without data on how often people had used multiple use bag types before throwing them away, we cannot conclude whether net life-cycle environmental impacts improved significantly.

Published life-cycle analysis studies compare new virgin material and new manufactured with recycled content shopping bags. None considers reuse of material that would otherwise go to landfill. Shopping bags made from reused fabric would both lessen the original production impacts of the reused fabric and not have the same life-cycle impacts as a bag made from, for example, virgin cotton. This more circular approach is present in New Zealand, for example, with Boomerang Bags.[28]

[27] By weight, single-use plastic shopping bags decreased by 10,730 tonnes compared with a 913-tonne increase in kitchen tidy bags. By count, 1880 million fewer single-use plastic shopping bags were used compared with 95 million more kitchen tidy bags.

[28] http://boomerangbags.org ; https://www.facebook.com/boomerangbagsnz

Appendix 3 Assessment of options for New Zealand

The following proposed criteria have been used to compare options to reduce the impacts of single-use plastic shopping bags in New Zealand. Each option has been assessed as to whether it can:

- substantially advance phase-out of a single-use plastic product that contributes to litter and the risks associated with marine plastics while in the longer term help transition to a circular economy *(primary purpose of intervention: triple weighting)*
- be implemented without placing undue costs on the community, business, or public funds *(key regulatory principle: double weighting)*
- be progressed under existing legislation
- provide a financial incentive to return used shopping bags for reuse or recycling
- transfer funds for community or environmental benefit.

Summary of potential options to reduce the impacts of single-use plastic shopping bags

Option	How
1. **Ban on sale/distribution**	Regulations under WMA (s 23(1)(b))
2. **Levy, tax or minimum charge** 2A – Levy at point of sale, collected by central government	New legislation: amend the WMA
2B – Mandated minimum charge at point of sale, retained by retailers	New legislation: amend the WMA
2C – Levy or minimum charge at point of sale, set by local authorities	New legislation: amend the WMA or other
2D – Tax at point of entry into market (pre-consumer)	New legislation: amend the WMA or other
3. **Deposit-refund system**	Regulations under WMA (s 23(1)(e))
4. **Formal agreement** between industry and Government	Non-regulatory
5. **Mandatory product stewardship**	*Gazette* notice under WMA (ss 9 and 12), and regulations under WMA
6. **Ad hoc voluntary action** (status quo)	Non-regulatory

Note: s = section; ss = sections; WMA = Waste Minimisation Act 2008.

We discuss each option below, and then work through the comparison against the criteria noted above.

Option 1: Ban on distribution by retailers

Section 23(1)(b) of the WMA provides for making regulations:

> controlling or prohibiting the manufacture or sale of products that contain specified materials.

Section 23 can be used to control or prohibit the distribution of products including to customers for free because section 5(1) of the WMA defines 'sale' to include distribution or delivery whether or not for valuable consideration.

Information about regulatory tests under the WMA and how they apply to this option are set out in section 6 that follows (table 4). For further detail on these tests, see appendix 4 and for the full text of section 23, see appendix 5.

Potential impacts

Bans have significantly reduced use of single-use plastic shopping bags and their presence in litter overseas (table 2) and have the potential to do the same in New Zealand.

A ban can be implemented by regulation under the WMA rather than requiring new legislation. Due to the relative simplicity of such a measure, administrative and transaction costs are likely to be less than the other options that can be implemented by regulation (Options 3 and 4), and significantly less than those that would require new legislation (varieties of Option 2). Enforcement costs are likely to be similar.

Under this option, consumers would no longer have access to 'free' single-use plastic shopping bags. On an ongoing basis, consumers would need to purchase (where needed) and reuse multiple-use carry devices for the items they buy. The net cost per use for consumers would depend on the type of bags they chose and whether they used those bags to the end of their full lifespan. The unit price is not high for the currently available multiple-use bags and consumers already have a wide range of choice.

Some consumers on low incomes may nonetheless find the up-front cost of multiple-use bags unaffordable. One possibility is to provide support when introducing a ban, such as through offering discounted bags to holders of Community Services Cards and Gold Cards or making exemptions.[29]

Currently retailers pass on the cost of 'free' bags to consumers in the price of goods, so people who rarely use single-use bags are in effect subsidising high users. If a ban were in place, with the savings they make from not having to give away single-use bags,[30] retailers could receive a windfall profit, use the savings to offset new bag systems in their stores or share some of the savings with consumers by providing free or discounted multiple-use bags during the transition period. They would also gain a new or increased revenue stream from the sale of reusable bags.

A ban would bring new costs for public education, monitoring and enforcement. If central government was taking these actions, taxpayers would bear the costs, while ratepayers would if local authorities had a role.

Options 2A, 2B, 2C, 2D: Increased price (levy, tax or mandated minimum charge)

Charging taxes or levies requires specific authorisation from Parliament, and a tax may only be imposed by or under an Act. The WMA is silent about taxes or levies on products, so would need to be amended in Parliament to authorise this approach. Section 23(1)(d) enables making

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[29] For example, with the bag ban in the city of Austin in the USA, residential customers could apply for a variance on the grounds of hardship, leading to 38 applications received and approved. An option of 'alternative compliance' was also available for businesses on the grounds of hardship; 45 businesses applied for it and 32 were approved (Waters, 2015).

[30] For example, the cost to import New Zealand's plastic shopping bags made from polyethylene or example was $15 million in 2019 (appendix 1).

regulations that impose fees payable for the 'management' of a product, but this would have to be linked to actual costs for waste treatment and disposal. For the full text of section 23, see appendix 4.

Four options are available as increased price initiatives: having a levy at point of sale, which central government collects (2A); setting a compulsory minimum charge (2B); having a levy or minimum charge at point of sale, which local authorities set (2C); and setting a tax that must be paid before the bags enter the market (before they reach the consumer) (2D).

Potential impacts

Initiatives that increase the price of single-use plastic shopping bags have significantly reduced their use and their presence in litter overseas (table 2). They have the potential to do the same in New Zealand.

To maintain the results we are seeking, overseas evidence suggests that increasing the value of the levy over time may be necessary. In Ireland, the rate started at €0.15 per bag (NZ 25 cents). Then, when bag use started to rise again, it was raised to €0.44 (NZ 67 cents) and use rates went back down (Convery et al, 2007). In contrast, in South Africa, use rates decreased 76 per cent after the levy was introduced, but the levy rate was not increased and use rates returned to original levels after six years (Dikgang et al, 2012).

Due to the need to implement new legislation, and monitor and potentially increase the charge over time, administrative and transaction costs are likely to be significantly higher than the options that can be implemented by regulation (Options 1, 3 and 4). Enforcement costs are likely to be similar.

Under a levy system, consumers would still have the option of using single-use plastic shopping bags, but those bags would no longer be 'free'. If they did not already use multiple-use bags, they would face a new small charge, either for single-use bags each time they buy something or as up-front costs for new multiple use bags.

Some consumers on low incomes may find the up-front cost of multiple-use bags unaffordable. One possibility is to provide support when introducing a ban, such as through offering discounted bags to holders of Community Services Cards and Gold Cards or making exemptions.

Where retailers keep the money from bag sales with a government expectation that they will use them for charitable donations, the funds for community groups can be substantial. In Wales, the first three years of the bag charge resulted in donations of an estimated £17–£22 million (NZ$33–$43 million). The UK bag charge has had reported donations from two-thirds of the liable retailers, totalling over £66 million (NZ$128 million) or 4 pence (NZ 8 cents) for every single-use bag they sell (Welsh Government 2018; Department for Environment, Food and Rural Affairs, 2017). For the Irish levy, collected into a central environment fund, revenue was €85.3 million (NZ$ 143 million) from 2002 to 2007 (McDonnell and Convery, 2008).

All levy options would place moderate and short-term costs on retailers to adjust till receipts to show the levy and educate consumers on how the new levy worked. For the Irish levy, these costs were estimated to be €1.2 million economy-wide, including equipment, promotion and training (Convery et al, 2007).

An initiative that involved increasing price would bring new costs for public education, monitoring, enforcement and increasing the levy value upwards as required to achieve the desired results, it is likely that taxpayers would bear these costs. If central government collected the levy, additional new taxpayer costs would be involved in levy collection, enforcement and distribution of levy funds. As use of single-use plastic shopping bags declined, administrative costs would become a higher proportion of funds collected.

The administrative cost of the Irish levy was minimised by associating it with existing systems for collecting VAT retail sales tax, and has been estimated at 3 per cent of total revenue (Convery et al, 2007; McDonnell and Convery, 2008).

The Hong Kong bag charge in 2009 applied only to large retailers[31]. Under this initiative, they had to submit quarterly returns setting out the number of targeted bags they had distributed to customers and the amount of levy collected. They also had to pay the Government the levy income as stated in the returns. When the levy was expanded in 2015 to cover all retailers, this approach was streamlined to avoid compliance costs for small businesses: retailers could now keep the charge while they had encouragement to donate to 'suitable environmental causes' (Environmental Protection Department 2011, 2013).

An initiative to increase price would bring new costs for public education, monitoring and enforcement. If central government was taking these actions, taxpayers would bear the costs, while ratepayers would if local authorities had a role, as they did with the UK levy.

Option 3: Deposit-refund system

Section 23(1)(e) of the WMA provides for making regulations:

> requiring specified classes of person to charge a deposit on the sale of a product, requiring the deposits to be refunded in specified circumstances, and prescribing requirements for the application of any deposits not refunded.

Information about regulatory tests under the WMA and how they apply to this option are set out in section 6 that follows (table 4). For further detail on these tests, see appendix 4 and for the full text of section 23, see appendix 5.

Potential impacts

A deposit-refund system can be implemented by regulation under the WMA rather than requiring new legislation. Due to the relative complexity of requirements for charge and refund, administrative and transaction costs are likely to be more than for a ban (Option 1), similar to a product stewardship scheme (Option 4), and significantly less than options requiring new legislation (varieties of Option 2). Enforcement costs are likely to be similar.

Many other jurisdictions have used mandated deposit-refund for other products.[32] Their extensive experience suggests the costs and benefits that we might expect in theory by introducing this system for single-use plastic bags. Typically in these overseas programmes, recycling rates go up significantly and fewer of the targeted products enter the litter and waste streams. Ongoing administrative costs are typically covered by unclaimed deposits. As these

31 These were 'registered retailers', predominately chain store operators including convenience stores, supermarkets, and retailers of cosmetics and medicine (Environmental Protection Department 2011).

32 For example, beverage containers in South Australia, Europe and North America and vehicles in Norway.

end-of-life products tend to have greater economic value than waste plastic bags, however, we cannot confidently predict the impact of such a system.

Option 4: Mandatory product stewardship

If single-use plastic shopping bags were declared a 'priority product' under WMA section 9, a product stewardship scheme would need to be developed for these bags and accredited by the Minister for the Environment. A priority product is declared by Gazette notice from the Minister rather than as a regulation, but would need Cabinet approval to happen.

To be effective, mandatory product stewardship schemes are likely to need to engage 'producers' that bring the product to the market, such as retailers, plastic bag manufacturers and wholesalers. It would also require guidelines both for accreditation (section 12, Gazetted by Minister) and to prohibit any sale except where it is in line with the scheme (section 22(1)(a), by regulation). Table 4 summarises the regulatory tests and how they apply to this option; for further detail, see appendix 4.

Another potential approach under this option is to progress directly to declaration of 'priority product' for all plastic packaging. Alternatively, the system could gradually increase the number of single-use plastics to be covered under 'priority product' status, creating a more comprehensive plastic packaging co-regulatory framework over time.

Potential impacts

A mandatory product stewardship scheme can be implemented by regulation under the WMA rather than requiring new legislation.

Due to the relative complexity of requirements for scheme guidelines and monitoring of reporting, administrative and transaction costs are likely to be more than for a ban (Option 1) similar a deposit-refund system (Option 3), and significantly less than those that would require new legislation (varieties of Option 2). Enforcement costs are likely to be similar.

This option would place new costs on retailers to coordinate a national system, including costs for education, administration of membership fees, monitoring, enforcement and reporting. Retailers would probably pass these costs on to consumers. Depending on the level of costs that are passed through to consumers, consumers on low incomes may find the costs unaffordable and need targeted support. Taxpayers would also bear new costs for monitoring and enforcement by government.

Whether the impacts are greater than they are under the present system of ad hoc voluntary actions would depend on the nature and enforcement of targets.

Option 5: Formal industry agreement with the Government

Establishing a formal industry agreement could be a non-regulatory measure. It could be a stand-alone initiative, with the Government stating it intended to regulate if the agreement proved ineffective, or as an interim measure while developing regulations.

Potential impacts

Costs and benefits of this option would depend on the nature of the agreement and how willing government and industry stakeholders were to enforce progress toward targets. How much it would improve on the current system in delivering greater net benefit is difficult to determine at this stage.

Option 6: Ad hoc voluntary measures (status quo)

As noted in the first part of this section, some major retailers have announced a commitment to phasing out single-use plastic shopping bags by the end of 2018, and some retailers have already done so.

Potential impacts

Of the seven retail chains pledging to phase out single-use plastic shopping bags (Countdown, New World, Warehouse Group, Z Energy and Mitre 10), two have publicly announced their current average annual use rates: Countdown (350 million) and Z Energy (2.5 million). It is unclear what proportion of the total estimated 750 to 1500 million single-use plastic shopping bags per year will be reduced through the present approach or whether the current industry estimates accurately reflects all retailers. We welcome further information on this topic.

The present approach may encourage more major retailers to voluntarily phase out single-use plastic shopping bags. It is less likely to involve most of the smaller retailers and food outlets.

Option assessment

We have used the following proposed criteria to compare options for a phase out of single-use plastic shopping bags. The option can:

- substantially advance phase-out of a single-use plastic product that contributes to litter and the risks associated with marine plastic while in the longer term help a transition to a circular economy *(primary purpose of intervention: triple weighting)*
- be implemented without placing undue costs on the community, business, or public funds *(key regulatory principle: double weighting)*
- be progressed under existing legislation
- provide a financial incentive to return used shopping bags for reuse or recycling
- transfer funds for community or environmental benefit.

Ranking each of the options against the above criteria produces the following results (in order from highest to lowest score) (see also table 3).

1 Option 1 – Ban on distribution by retailers

2= Option 2A – Levy at point of sale, proceeds to Crown
2= Option 2B – Mandatory minimum charge, retained by retailer
2= Option 2C – Levy or minimum charge at point of sale, set by local authorities

5 Option 4 – Formal industry agreement with the Government
6= Option 6 – Ad hoc voluntary measures (status quo)

6= Option 3 – Deposit-return system

8 Option 5 – Mandatory product stewardship

9 Option 2D – Tax at entry into market (before bags go to the consumer)

This assessment is based on information from overseas experience, which has gaps in relation to the assessment criteria. The Ministry welcomes information to help refine this analysis for New Zealand.

Table 8 **Assessment of options for phasing out single-use plastic shopping bags against proposed assessment criteria**

Assessment criteria	Option 1 Ban	Option 2 – increased price: 2A – Levy to Crown	2B – minimum charge	2C – Levy or charge by councils	2D – Tax (pre-consumer)	Option 3 – Deposit-return	Option 4 – Formal agreement	Option 5 – Mandatory product stewardship	Option 6 – Ad hoc voluntary (Status quo)
Can substantially advance phase-out of a single-use plastic product that contributes to litter and the risks associated with marine plastics while in the longer term help transition to a circular economy *(primary purpose of intervention: triple weighting)*	★★ *(x3 = 6 ★)*	★★ *(x3 = 6 ★)*	★★ *(x3 = 6 ★)*	★★ *(x3 = 6 ★)*	?	?	?	?	?
Can be implemented without placing undue costs on the community, business, or public funds *(key regulatory principle: double weighting)*	★ *(x2= 2 ★)*	★ *(x2= 2 ★)*	★ *(x2= 2 ★)*	★ *(x2= 2 ★)*	?	?	★★ *(x2= 4 ★)*	?	★★ *(x2= 4 ★)*
Can be progressed under existing legislation	★★	–★	–★	–★	–★	★★	★★	★★	★★
Can provide a financial incentive to return used shopping bags for reuse or recycling	–★	–★	–★	–★	–★	★★	?	?	–★
Can transfer funds for community or environmental benefit	–★	★	★	★	★	?	?	?	–★
Weighted total score	8★	7★	7★	7★	minus1★	4★	6★	2★	4★
Ranking	1	2=	2=	2=	8	6=	5	7	6=

Note: ★★ = Yes ★ = Yes, somewhat ? = unknown or no evidence –★ = No

Appendix 4: Tests for WMA regulatory intervention

WMA test	'Priority product' declaration WMA s9	Guidelines for priority product schemes WMA s12	Regulations: priority products and accredited schemes WMA s22	Regulations: products materials, and waste WMA s23
The product will or may cause significant environmental harm when it becomes waste.	s 9(2)(a)			
Reduction, reuse, recycling, recovery or treatment of the product has significant benefits.	s 9(2)(a)			
The product can be effectively managed under a product stewardship scheme.	s 9(2)(b)			
The effectiveness of any relevant voluntary product stewardship scheme in terms of s 9(2) criteria has been considered.	s 9(3)(d)			
The public has had an opportunity to comment on the proposal.	s 9(3)(c)			
Public concerns about environmental harm associated with the product when it becomes waste (including concerns about its disposal) have been considered.	s 9(3)(b)			
Advice of the Waste Advisory Board has been obtained and considered.	s 9(3)(a)	s 12(4)(a)	s 22(2)(a)	s 23(3)(a)
Adequate consultation has occurred with people or organisations that may be significantly affected.		s 12(4)(b)	s 22(2)(b)(i)	s 23(3)(b)(i)
Benefits expected from implementing the regulations are greater than the costs expected from implementing the regulations.			s 22(2)(b)(iii)	s 23(3)(b)(ii)
The regulations are consistent with New Zealand's international obligations.			s 22(2)(b)(iv)	s 23(3)(b)(iii)
Without the regulations, the objectives of any relevant accredited scheme, or reductions in harm or waste minimisation from the scheme, or scheme guidelines published under the WMA cannot be met.			s 22(2)(b)(ii)	
For disposal controls – that adequate infrastructure and facilities are in place to provide a reasonably practicable alternative to disposal or, if not, that a reasonable time is provided before the regulations come into force for adequate infrastructure and facilities to be put in place.				s 23(2)(a)
For product sale controls – that a reasonably practicable alternative to the specified materials is available.				s 23(2)(b)

Appendix 5: Waste Minimisation Act, section 23

The purpose of the Waste Minimisation Act 2008 (WMA) is to encourage waste minimisation to protect the environment from harm and obtain environmental, economic, social and cultural benefits. Additionally, the purpose of the product stewardship section of the WMA is to encourage (and, in certain circumstances, require) the people and organisations involved in the life of a product to share responsibility for:

- ensuring there is effective reduction, reuse, recycling or recovery of the product
- managing any environmental harm arising from the product when it becomes waste.

The WMA introduced tools including waste management and minimisation plan obligations for territorial authorities, a waste disposal levy to fund waste minimisation initiatives at local and central government levels, and regulatory powers for products and product stewardship for specified 'priority products'.

A national strategy was published in October 2010, *The New Zealand Waste Strategy – Reducing harm, improving efficiency.* This set the WMA in the wider context of the legislative toolkit available to manage and minimise waste and proposed a focus on wastes that pose the highest risk or provide opportunities to improve resource efficiency.

23 Regulations in relation to products (whether or not priority products), materials, and waste

(1) The Governor-General may, by Order in Council made on the recommendation of the Minister, make regulations for 1 or more of the following purposes:

Control or prohibition on disposal, sale, etc

(a) controlling or prohibiting the disposal, or anything done for the purpose of disposing, of products or waste:

(b) controlling or prohibiting the manufacture or sale of products that contain specified materials:

Take-back services, fees, and refundable deposits

(c) requiring specified classes of person to provide a take-back service for products, and prescribing requirements for—

(i) the take-back service; and

(ii) the reuse, recycling, recovery, treatment, or disposal of products taken back:

(d) setting fees payable for the management of a product and specifying—

(i) the class or classes of person who must pay the fee; and

(ii) the stages in the life of the product where the fee must be paid; and

(iii) the purposes to which the fee must be applied:

(e) requiring specified classes of person to charge a deposit on the sale of a product, requiring the deposits to be refunded in specified circumstances, and prescribing requirements for the application of any deposits not refunded:

Labelling of products

(f) prescribing requirements for the labelling of a product:

Quality standards

(g) for any product or material that has become waste, prescribing standards to be met when reusing, recycling, or recovering the product or material:

(h) requiring specified persons or specified classes of person to ensure that the standards prescribed under paragraph (g) are met:

Information to be collected and provided

(i) requiring specified persons or specified classes of person to collect, and provide to the Secretary, information about any requirements imposed in regulations made under paragraph (a), (b), (c), (d), or (e):

Miscellaneous

(j) providing for any other matter contemplated by this Part.

(2) The Minister must not recommend the making of regulations—

(a) under subsection (1) (a), unless he or she is satisfied that there is adequate infrastructure and facilities in place to provide a reasonably practicable alternative to disposal or, if not, that a reasonable time is provided before the regulations come into force for adequate infrastructure and facilities to be put in place:

(b) under subsection (1) (b), unless a reasonably practicable alternative to the specified materials is available.

(3) Before recommending the making of regulations under subsection (1), the Minister must—

(a) obtain and consider the advice of the Waste Advisory Board; and

(b) be satisfied that—

(i) there has been adequate consultation with persons or organisations who may be significantly affected by the regulations; and

(ii) the benefits expected from implementing the regulations exceed the costs expected from implementing the regulations; and

(iii) the regulations are consistent with New Zealand's international obligations.

Appendix 2: Overseas examples of the effectiveness of different methods in phasing out plastic bags

Jurisdiction	Phase-out method	Use rates	Public opinion	Litter	Waste to landfill
Australia	Voluntary code of practice – industry and government agreement (2003-2004)	44 percent reduction, followed by increase from 2009 then individual state bans from 2009			
Australian Capital Territory (ACT)	Ban Under 35 microns	84.6 per cent reduction. Bin liner sales returned to pre-ban levels	65 per cent support (three years after ban, up from 58 per cent a year after the ban)	Plastic shopping bags in storm water Gross Pollutant Traps from 'common' to 'rare'	36 per cent reduction (all shopping bag types, single and multiple use)
South Australia	Ban Under 35 microns	76 per cent of shoppers take own bags instead of purchasing new multi-use bags, or buy few items and do not require a bag	Majority support ban (4 per cent "not at all supportive"); 82 per cent believe ban having an impact 78 per cent of shoppers support the ban and 56 per cent support extension to heavier bags Over 50 per cent of retailers 'had no problems' with implementation	45 per cent reduction (by count) Heavier bags more common in litter stream than in other states	Increase in proportion of consumers buying bin liners (15 to 80 per cent). Reasons for disposal of reusable bags in last six months (50 per cent of consumers): the bags were worn out (60 per cent), dirty (34 per cent), or 'had too many' (15 per cent)
Northern Territory	Ban Under 35 microns	100 per cent decrease in targeted bags and 74 per cent decrease in all bag sales (including bin liners)	Average of 73 per cent support for the ban, up from a pre-ban level of 64 per cent. 48 per cent claimed to be not at all inconvenienced by the ban, and 3 per cent claimed to be extremely inconvenienced	41 per cent reduction in targeted bags, and no change in heavier weight shopping bags	
Ireland	Levy, proceeds to Government (special fund)	90 per cent reduction		95 per cent decrease in litter (plastic bags in litter before levy 5 per cent, after 0.25 per cent)	
UK	Supermarket Voluntary Carrier Bag Agreement (2006-2011)	33 per cent reduction. Compulsory charges at point of sale followed in the UK jurisdictions from 2011			
Wales	Mandated minimum charge (2011)	71 per cent reduction (2011–2014)	74 per cent support (2015 – four years after controls, up from 61 per cent in 2011 when introduced)		
England	Mandated minimum charge (2015) Under 70 microns	83 per cent reduction (seven main retailers only)			
Hong Kong	Levy, proceeds to Government (2009 -large retailers only)	75 per cent reduction (targeted retailers only)			6 per cent increase in targeted bags to landfill
	Mandated minimum charge (2015 - all retailers)				25 per cent decrease targeted bags to landfill
China	Ban non-biodegradable plastic bags less than 25 microns, levy on consumer for thicker ones	Use rate in supermarkets decreased 60 to 80%. Not well enforced in food markets or with small retailers			
Belgium	Levy (2007)	Consumption of bags decreased 80% over ten years			
Bulgari	Levy (2011) : supply of polyethylene bags less than 25 microns, levy rate increasing yearly until 2015	Bulgarian Ministry of Environment reported "drastic reduction" in the use of plastic bags			
Israel	Ban on bags less than 20 microns and levy on thicker ones (2017)	80 per cent reduction		50 per cent reduction in plastic shopping bags found in the sea	
Morocco	Ban on production, importation, sale and distribution Black plastic shopping bags (2009); then all plastic shopping bags (2016)	Plastic bags "virtually no longer used in the country". Citizens have switched to fabric bags.			
Austin, Texas	Ban	75 per cent decrease			No change in weight of all types of shopping bags in waste (single and multi-use)
Sikkim, India	Ban - delivery or purchasing of goods in plastic wrappers or bags (1998)	66% of shops using paper bags or newspaper			

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Appendix 3: Summary of options to phase out single-use plastic shopping bags

Option	Means of implementation in New Zealand and overseas examples	Likely effects and other implications
Option 1: *Ban on distribution by retailers*	Section 23(1)(b) of the Waste Minimisation Act 2008 (the Act) allows regulations to be developed for controlling or prohibiting the manufacture or sale of products that contain specified materials in New Zealand. Single-use plastic shopping bags currently given free to customers would still be covered by 'sale' because the Act defines 'sale' to include distribution or delivery whether or not for valuable consideration (section 5(1)). Examples include South Australia, Tasmania, Northern Territory, Australian Capital Territory, Queensland and Western Australia, Belgium, France, Italy, China, India, California, and Austin.	If single-use plastic shopping bags are banned, consumers would need to purchase and/or re-use existing multiple-use carry devices. In jurisdictions with bans, consumers have rapidly adjusted. The cost of multiple-use bags is low, and consumers have a wide range of choice (for example, through major supermarket chains). Some consumers on low incomes may nonetheless find the up-front cost of multiple-use bags unaffordable. It may be possible to provide support by making discounted bags available to holders of Community Services Cards and Gold Cards, or with specified exemptions.
Option 2: Increased price (charge, levy, or tax)	This could be achieved through a minimum charge at point of sale (retained by the retailer), a levy at point of sale (retained by the Government), a levy set by local councils, or a pre-consumer tax on point of entry into the market. Any of these would require specific authorisation from Parliament, and a tax may only be imposed under an Act. The Act is silent about taxes or levies on products, and would need to be amended by Parliament to authorise this approach. Examples include Ireland, England, Wales, Scotland, Northern Ireland, Hong Kong, Netherlands, Israel, and South Africa. Evidence shows significant reductions in some jurisdictions (eg, 90 per cent in Ireland and 83 per cent in targeted retailers in England). However, to maintain reductions in single-use plastic shopping bag use, evidence suggests that a levy may need to increase over time.	A levy would mean consumers retain the option of using single-use plastic shopping bags, but those who did not already use multiple-use bags would incur a new small charge, either per shop for if they chose to use single-use bags or up-front for new multiple use bags. The potential impact of a levy on low income consumers would be similar to a ban (see paragraph 35). All levy options would impose moderate and short-term costs on retailers to adjust till receipts to show the levy and educate consumers. For the Irish levy, this was estimated to be €1.2 million (NZ$2 million), including equipment, promotion, and training. If a levy is centrally collected there would be additional taxpayer costs for levy collection, enforcement, and distribution of funds. Under the Irish model of collection with a sales tax, additional administrative costs are quite low. If enforcement is by local councils, as with the British charge, this would impose a new cost in New Zealand on district councils.
Option 3: *Require a deposit-refund scheme*	Section 23(1)(e) of the Act allows regulations to be developed requiring specified classes of person to charge a deposit on the sale of a product, requiring the deposits to be refunded in specified circumstances, and prescribing requirements for the application of any deposits not refunded. No examples were found overseas for single-use plastic shopping bags.	Many other jurisdictions have used deposit-refund for other products (eg, beverage containers). Their experience suggests the costs and benefits that might be expected by introducing this system for single-use plastic bags. Typically, recycling rates go up significantly and fewer of the targeted products enter the litter and waste streams, and ongoing administrative costs are typically covered by unclaimed deposits. However, as the end-of-life products targeted by deposit-refund schemes tend to have greater economic value than waste plastic bags, the impact cannot be confidently predicted.
Option 4: Mandatory product stewardship	Single-use plastic shopping bags could be declared a 'priority product' under section 9 of the Act. This would require a product stewardship scheme to be developed and accredited by the Minister for the Environment. Declaration of a priority product is by Gazette notice from the Minister. To be effective, mandatory product stewardship schemes are likely to require both guidelines for accreditation (section 12, by Gazette), and prohibition of sale except in accordance with the scheme (section 22(1)(a), by regulation). Single-use plastic shopping bags are included as one of many packaging types in packaging product stewardship schemes in the European Union. No examples were found overseas of product stewardship schemes for single-use plastic shopping bags alone.	Likely reductions from this measure in New Zealand are unclear. This option would impose new costs on retailers to coordinate a national system including education, administration of membership fees, monitoring, enforcement, and reporting. These costs are likely to be passed on to consumers. New costs for monitoring and enforcement would also be imposed on taxpayers for public oversight. However, there is provision in the Act for monitoring costs to be recovered from the manager of a product stewardship scheme. The likelihood of impacts greater than the status quo would hinge on the nature of government expectations and enforcement of targets. Other potential approaches under this option include progressing directly to declaration of 'priority product' status for all plastic packaging, or increasing numbers of single-use plastics to be covered under 'priority product' status over time to create a more comprehensive plastic packaging framework in due course.
Option 5: Formal agreement with industry	A formal agreement with industry could be pursued as a non-regulatory measure. It may be progressed as a stand-alone initiative, with an announced intent to regulate if the agreement proved ineffective, or as an interim measure while regulations are progressed. Formal Government agreement with the New Zealand packaging industry and retailers occurred in 2004-2009 under the second New Zealand Packaging Accord. In Norway, Finland, Austria, and Hungary, governments reached formal agreements with retailers to charge their customers for plastic shopping bags. In Germany there is an agreement to phase out specific types of bag. In Australia and the UK, formal agreements resulted in moderate reductions in single-use plastic shopping bags (44 per cent and 33 per cent respectively), and each government subsequently implemented controls.	Costs and benefits of this option would depend on the nature of the agreement and the willingness of government to enforce progress. The degree to which it would have a greater net benefit than the status quo is difficult to determine at this stage
Option 6: *Ad hoc measures (Status quo)*	A number of major retailers have announced a commitment to phase out single-use plastic shopping bags by the end of 2018. Of the seven retail chains pledging to phase out single-use plastic shopping bags, two have publicly announced their current average annual use rates: Countdown (350 million), and Z Energy (2.5 million).	The current industry estimate for single-use plastic shopping bags is up to 1.6 billion bags per year. It is unclear what proportion of this estimated total will be reduced through the status quo approach. Major retailers may increasingly volunteer to phase out single-use plastic shopping bags.

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Appendix 4: Examples of common retail shopping bag types, single-use and multiple-use

Bag examples	Bag type	Microns in thickness	Material/ claims
 	Standard 'singlet' checkout bag	Wide range – typically under 35 microns and often 15 to 20 microns	HDPE (high density polyethylene)
	'compostable' 'singlet' bag offered by ecobags.co.nz	20 microns	Corn starch based polyethylene plastic "compostable"
	'Boutique style'	50 to 70 microns usually	LDPE (low density polyethylene)
	Countdown's recent 'emergency' multi-use shopping bag offering	55 microns	LDPE (low density polyethylene) "with 80% recycled content from August"
	Heavier weight 'compostable' Bag offered by ecobags.co.nz	60 microns	Corn starch based polyethylene plastic "compostable"
 	Multi-use polypropylene bag	? Measured by weight (gsm – grams per square metre) not thickness	Non-woven or woven polypropylene, plain or coated
 	Multi-use hessian bag	? Measured by weight (gsm – grams per square metre) not thickness	Hessian with plasticised lining and padded cotton handles
 	Multi-use folding nylon bag	? Measured by weight (gsm – grams per square metre) not thickness	Lightweight rip-stop nylon fabric