

NSW Plastics: Next Steps





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ISBN 978 1 922963 44 4

EPA 2023P4471

October 2023



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Acknowledgement of Country

The NSW Environment Protection Authority acknowledges Aboriginal peoples as the enduring Custodians of the land, sea, waters and sky of New South Wales.

We recognise the entire NSW landscape, including the lands, waters, plant and animal species and seas, has spiritual and cultural significance to all Aboriginal people of NSW. By this understanding there is no separation of nature, wellbeing, and cultures. The health of the natural environment, and the health of people and culture are intimately connected.

Welcome to Country

Yullanga ngulaling.
Nguun dyalgala ni
ngurunbamaradjanja ni
Diji barunganga dhali biila ya
gurabangu-yu yirama
Dyi gayinngayi yi yanguru yay a wadjad yadhang
Ngayang budji nguumbun maladha
Njin yuwinj ngin miigay nga ni nuru Dharawalgaal

Welcome to you all
We embrace all you, we open Country to you all
Here men, women stood upon the island their
spirits still walk the rocks
Here men and women go into the sea their spirits
still walk the beaches
I remember them with love
The old men the old women from Country

Northern Dharawal language



Figure 1. Plastic litter contaminated shell midden at Worimi Conservation Lands. Image courtesy of Dr Joanne Wilson with permission from Jamie Tarrant Chair of the Worimi Conservation Lands Board of Management.

Aboriginal perspectives

Country to Aboriginal people is more than just the land. Country is lands, waters, sky and everything within. Aboriginal peoples hold a spiritual and cultural obligation to protect Country. Caring for Country is more than just caring for the environment to Aboriginal people, it is caring as if Country is kin – Mother.

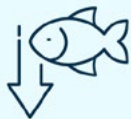
Pollution from plastic not only has a tangible detrimental impact to Country and Aboriginal cultures but also significant impacts on intangible cultural values where Dreaming stories and songlines may be at risk of damage or destruction.

Litter and leakage is particularly prominent in and around Aboriginal communities within NSW. The litter typically comes from a lack of waste services within communities or illegal dumping from external sources in and around Aboriginal communities. Aboriginal People are typically not major consumers of plastic items, however, the volume and the impact of plastic in the environment disproportionately affects Aboriginal People and communities. In addition to human health and environmental risks, litter may also impact the ecological, social, economic, historical, and cultural values of the land to Aboriginal People.

The EPA is committed to:

- Working in respectful partnerships with Aboriginal people, while ensuring Aboriginal Knowledges and Science are used in decision-making.
- Healing country while listening and learning from Aboriginal voices, culture and knowledge.
- Delivering results that have direct benefits for Aboriginal communities, while ensuring meaningful and trustworthy engagement is upheld.
- Addressing tangible and intangible cultural elements of environmental protection.

We are facing a plastic pollution crisis



By 2050 there may be more plastic than fish in the world's oceans.

2050



NSW alone generates 800,000 tonnes of plastic waste each year.

800,000



Only 12% of NSW's plastic waste is recycled.

12%

Plastic is an incredibly versatile and convenient material, but plastic products are often produced using a vast amount of resources – including fossil fuels – only to be used once and then disposed.

Once they are thrown away, these products don't disappear. Most plastic ever made still exists. It enters and accumulates in our environments, food chains, and bodies to cause harm to wildlife and human health.

By 2050 there may be more plastic than fish by weight in the world's oceans. Plastic has become so widespread that we are constantly eating, drinking and breathing it in. NSW alone generates 800,000 tonnes of plastic waste each year and **only 12% of it is recycled**.

We must act. By working together, we can make a real difference and leave the environment in a better state for our children.

The NSW Government wants to hear your thoughts on **what plastic items we should target** to minimise harmful impacts on the NSW environment, animals and communities.

The Honourable Penny Sharpe MLC
Minister for the Environment



Why do we need to act on plastics?

NSW generates 800,000 tonnes of plastic waste each year, with significant harmful impacts. We need to act now to protect the health of our environment, animals, our communities and our economy.

Plastic is cheap, lightweight and durable. It is an important part of many products we rely on today – from life-saving medical supplies to consumer goods like clothing and electronics. But not all plastics are essential, and they are often produced in unsustainable ways to be used only once and then discarded. This pollutes the environment, contributes to climate change, impacts wildlife and poses risks to human health.



The problems with plastic

- The production of plastics from fossil fuels is responsible for around 3–4% of global greenhouse gas emissions.¹ Virgin plastics generate more than twice the emissions of recycled plastic,² but many plastic items are difficult to recycle due to the way they are often designed to be single-use. Most plastic items used in NSW end up in landfill or as litter in our environment.
- Plastic items, especially packaging, are some of the most littered items in NSW. This litter enters our environment and is washed into our waterways, with disastrous consequences for the health of our wildlife and at significant cost to our communities.
- Microplastics have become widespread and evidence is growing that these plastic particles and the chemical additives in them are harmful to our health.

As we produce more plastic waste and as it enters and accumulates in the environment, including the food web, the harmful impacts of plastic litter, microplastics and chemical additives will increase. We need to take rapid action to prevent this harm from worsening.

NSW must keep in line with other Australian states and territories in acting against the most harmful plastic items. We need to keep up to minimise the impacts on NSW businesses and communities and ensure NSW does not become a dumping ground for harmful plastics.

Taking strong action on problematic or unnecessary plastics is also good for NSW's economic future. Increasing plastic recycling, supporting re-use, and adopting alternatives to problematic or unnecessary plastics will create opportunities for job creation and investment in sustainable industries. The NSW Government is actively looking for opportunities to grow this green economy by working with organisations such as the Boomerang Alliance and Charitable Recycling Australia to explore ways to increase reuse and repair in NSW and reduce waste generation.



Purpose of this paper

In 2022 NSW began to tackle problematic plastics by phasing out the supply of items such as lightweight plastic bags; plastic single-use cutlery, bowls, plates, stirrers and straws; and plastic microbeads in some rinse-off personal care products.

These single-use plastic phase-outs were a step towards achieving our targets of:

- **phasing out problematic and unnecessary plastics by 2025**
- **reducing plastic litter items by 30% by 2025.**

The items we have phased out were identified in the *NSW Plastics Action Plan*, which was released in June 2021. It sets out actions across the plastic lifecycle – from production and consumption to disposal and recycling.

The Action Plan also committed the NSW Government to review additional single-use and problematic plastics in 2024 for potential regulation, including plastic bowls and cups with lids; oxo-degradable plastics; fruit stickers; heavyweight plastic shopping bags; and barrier or produce bags. It notes that the Government would consider expanding the design standard on plastic microbeads to other products, and look at design standards for potentially problematic uses of plastic like synthetic turf and crumbed rubber infill.

This paper builds on our work to date by targeting unnecessary plastic items that cause harm to the environment and human health. *The Plastics Reduction and Circular Economy Act 2021* gives us the tools to do this, by allowing us to:

- **phase out the supply of problematic or unnecessary plastic items**
- **set design standards for items, including requirements for the way an item must be made, packaged or labelled**
- **make brand owners responsible for regulated products across their life cycle, from product design to recycling or disposal.**

In this paper we identify some plastic items that:

- **are frequently littered, or**
- **release microplastics into the environment, or**
- **contain harmful chemical additives, or**
- **are regulated in other states and territories.**

Alongside the raft of initiatives being progressed under the Action Plan, regulatory action on these plastic items is an important next step in achieving our plastics targets and protecting the environment and our communities from harm.

We welcome your input on the items we've identified here and encourage your input on any others you think we should act on.

Have your say

We want to hear your thoughts on what plastic items we should target to minimise harmful impacts on the NSW environment, animals and communities.



Take the survey

Visit yoursay.epa.nsw.gov.au to find out more and take our survey.



Make a written submission

You can also email a submission to us at plasticsconsultation@epa.nsw.gov.au.

Submissions are open until **4 February 2024**.

Reducing plastic litter



We are now working towards two new ambitious litter-reduction targets.



Reduce all litter items by 60% by 2030.

60% by 2030



Reduce plastic litter items by 30% by 2025.

30% by 2025

We've been successful at reducing litter and littering behaviour, but plastic items still make up 60% of litter in NSW. There is more we can do to address littering, including of highly littered items such as cigarette butts and take-away food and beverage packaging.

Litter reduction has been a priority in NSW for many years. From 2012 to 2021, NSW invested \$50 million for litter prevention and reduction under the Waste Less, Recycle More initiative. This funding supported a multi-faceted approach to litter reduction that included a range of education and awareness campaigns and support for local councils.

The container deposit scheme, Return and Earn, has been a key part of the approach to tackling litter in NSW. It has helped to change littering behaviour across the state and ensure our resources are valued. Since the introduction of the scheme in 2017, the volume of drink container litter in NSW has reduced by 52%.

We are now working towards two new ambitious litter-reduction targets set in the *NSW Waste and Sustainable Materials Strategy 2041*. These targets are to:

- **reduce all litter items by 60% by 2030**
- **reduce plastic litter items by 30% by 2025.**

An additional \$38 million for 2022–27 is being invested to achieve these targets. This will provide funding for councils and community groups to deliver local and regional litter prevention projects and build on our other litter prevention work, including the *Hey Tosser!* campaign.

While the number of plastic littered items has reduced by 22% since 2019–20, in 2020–21 plastic items such as takeaway beverage and food packaging still made up 81% of littered items in NSW.³ Plastic litter continues to pose major risks to the environment and imposes significant costs on NSW communities.

Single-use plastics are convenient, but the risks posed by plastic litter and littering behaviour are too high to continue with the 'throw-away' mindset that accompanies the use of many plastic items.

To help address this problem, in 2022 the NSW Government banned the supply of certain single-use and problematic plastic items under the *Plastic Reduction and Circular Economy Act 2021*. These items included some of the most commonly littered items in NSW.



The problems with plastic pollution

- Plastics in the environment can negatively affect the distribution, growth and abundance of many species.⁴
- Marine wildlife and seabirds are particularly at risk because there is so much plastic in the ocean: up to 580,000 pieces per square kilometre.⁵
- These animals can be harmed or killed by getting tangled in or eating plastic items such as balloons, glow sticks, plastic pellets, plastic foam and fishing line. CSIRO predicts that by 2050 up to 95% of seabirds may have ingested plastic.⁶
- Plastic litter imposes significant financial costs on NSW communities. Local councils, land managers and community groups spend around \$167 million to \$198 million a year on cleaning up litter.⁷ Most of this money is spent by councils on behalf of ratepayers.



Littered items: our proposed actions

To address more of the most-littered plastic items, the NSW Government could take the following actions. All actions would apply to supply in, or into, NSW.



Takeaway beverage and food packaging

The problem

Takeaway food and beverage packaging items are some of the most-littered plastic items, making up 32% of the NSW litter stream.

Lollipop sticks alone make up 3% of the NSW litter stream.⁸

Our proposed response

Phase out the supply of additional items that are unnecessary or where there are suitable alternatives. These could include:

- single-use plastic cups, bowls with lids and food containers. Other jurisdictions are also moving to phase out these items. SA has committed to banning single-use plastic beverage containers and food containers in 2024. WA banned disposable plastic cups for cold drinks and disposable food containers in 2022 and will ban lidded disposable plastic bowls and containers, disposable plastic coffee cups, plastic cup lids, and other disposable plastic cups for hot drinks in 2024. In some cases other jurisdictions have identified compostable plastics as acceptable alternatives to banned products. We will conduct further research to understand the environmental consequences of compostable plastics.
- plastic lollipop sticks, ice cream sticks and other food service item sticks.



Plastic beverage container bottle lids

The problem

Plastic bottle lids are among the most-littered items, accounting for 5% of items in the NSW litter stream.⁹

Our proposed response

Introduce design standards requiring plastic beverage bottles to have tethered lids that remain attached to the bottle, from production through to recycling. This requirement will come into force in Europe in 2024, where many producers have already made the change.¹⁰



Cigarette butts

The problem

Cigarette butts are consistently the most-littered item in NSW, with an estimated 1.32 billion butts littered in the state each year.¹¹ They are unsightly, toxic and harmful to the environment. Cigarette filters contain cellulose acetate, a plastic that can persist for a long time in the environment.

Our proposed response

Introduce design standards preventing plastic filters in cigarette butts so that they do not persist in the environment when cigarettes are littered. Work with the Commonwealth government for a national approach.

Taking action against harmful chemicals in plastics and microplastics

Emerging evidence shows we are increasingly exposed to harmful chemicals in plastics and microplastics. We need to take action to prevent this exposure and keep our communities and environment safe.

Plastic comes in a wide array of polymers, shapes, colours and durability, making it an extremely useful material for many different purposes. This versatility is often achieved by adding other chemicals during the manufacturing process, including plasticisers, flame retardants, light stabilisers and pigments.¹²

Over time, and when plastic is exposed to seawater, sunlight, and rain, it can break down into smaller and smaller pieces, known as microplastics. Chemical additives can leach from these plastic fragments as they degrade.

Emerging evidence suggests that many of these added chemicals, as well as microplastics themselves, are harmful to human health and ecosystems, and that people and the environment can be exposed to them through a number of pathways.



The problems with chemicals in plastic

- Many substances in plastic have at least one hazardous property.¹³ Some additives may disrupt endocrine function or increase the risk of neurodevelopmental disorders, infertility, cardiovascular disease and cancers.¹⁴
- People can be directly exposed to these chemicals after eating food and drinking beverages from plastic packaging, or when plastics are used in personal care products.¹⁵
- Plastic litter in the environment can breakdown into microplastics. Microplastics can leach chemicals, concentrate and transport toxic contaminants, and spread potentially harmful microorganisms.^{16,17,18}
- Microplastics can enter our waterways from cosmetic, personal care or cleaning products containing microbeads, which are washed down household drains, and from synthetic clothing and fabrics, which shed plastic microfibrils when they are washed.
- Microplastics can contaminate compost applied to agricultural land, household gardens and playgrounds when plastic food packaging and 'compostable' plastics are disposed of in organic waste.
- By entering land and water, microplastics and chemical additives can accumulate in food chains. For instance, microplastics have been found in the stomachs of most marine organisms and people ingest them when they eat seafood. They can also enter the human body when people eat food grown in contaminated soil or packaged in plastic, or drink beverages in plastic bottles.¹⁹



Harmful chemicals in plastics and microplastics: our proposed actions

Many jurisdictions are taking precautionary action to minimise exposure to harmful chemicals in plastic. For instance, a number of chemicals found in plastics are included on the European Union's *Registration, Evaluation and Authorisation of Chemicals* list of 'substances of very high concern'. This list informs international bans or restrictions on chemicals.

To keep NSW communities and ecosystems safe, we need to learn from and adopt the best practices of other jurisdictions. The NSW Government could take the following actions.



Harmful chemicals such as perfluoroalkyl and polyfluoroalkyl substances (PFAS)

The problem

PFAS are added to plastics to make them more heat, stain, and water-resistant. However, PFAS persist in the environment, and some types of PFAS are toxic and accumulate in organisms.

Our proposed response

- Phase out harmful chemicals such as PFAS.
- The Australian Packaging Covenant Organisation has released an Action Plan to phase out PFAS in direct fibre-based food contact packaging by December 2023 and setting out steps to address indirect fibre-based food contact packaging until 2025.²⁰



Plastic microbeads in all cleaning products

The problem

NSW has already phased out the use of plastic microbeads in certain rinse-off personal care products; however, they are still present in other cleaning products that are washed down the drain.

Our proposed response

- Phase out plastic microbeads from all cleaning products that are washed down the drain.
- Queensland and WA have introduced bans on microbeads in cleaning products from 1 September 2023.



Oxo-degradable, photo-degradable and landfill-degradable plastics

The problem

Degradable plastics contain additives that make them fragment quickly under certain conditions. For example, pro-degradants such as polyvinyl alcohol (PVA) are used in some products (such as dishwasher tablet wrappings) to help them dissolve in water. Although these plastics dissolve they do not disappear. The plastic fragments from these degradable plastics persist in the environment as microplastics and enter the food chain. There are plastic-free alternatives to items using pro-degradants. Additionally, labelling or promoting these plastics as degradable or compostable can lead businesses and consumers to believe that they are making an environmentally friendly choice, which is misleading.

Our proposed response

- Phase out degradable plastics and additives that promote the fragmentation of plastic items.
- Western Australia has banned all degradable plastics, including oxo-degradable, photo-degradable, landfill-degradable and any other plastic material designed to fragment more quickly, from 1 September 2023. South Australia phased out the supply of oxo-degradable plastic products in March 2022. The ACT will do so from 2024.
- Regulate or phase out the supply of plastic items that use terms such as 'degradable' and 'compostable'.



Microplastic fibres released from washing machines

The problem

Washing our clothes generates tiny microfibrils that are released into our wastewater system. More and more common textiles contain plastic, meaning every load of washing is releasing small amounts of plastic into the environment.

This can be reduced by buying washing machines that use a filter on their outputs or retrofitting older machines with a filter.

Our proposed response

- Introduce a design standard to require all new washing machines to be fitted with a microfibre filter. This would align with an international standard for these filters that is currently in development.²¹
- France has introduced a requirement that all new washing machines must be fitted with a microfibre filter by 2025.

Keeping pace on plastics action

NSW has made progress in tackling plastic waste, but we need to keep pace with other Australian states and territories. This will minimise impacts on NSW businesses and communities, and prevent NSW from becoming a dumping ground for harmful plastics.

In 2022 NSW began to tackle problematic and single-use plastics by banning items such as lightweight plastic bags; plastic single-use cutlery, bowls (without spill-proof lids), plates, stirrers and straws; and plastic microbeads in rinse-off personal care products. This was significant progress, and we need to keep that momentum going to keep pace with other Australian states and territories in taking action on plastics.

Aligning with other states and territories: our proposed actions

The NSW Government will, in collaboration with the community, focus on actions that will have a real impact on the plastic problem. These actions may include eliminating the supply of single-use, problematic and unnecessary plastics, reducing the amount of plastic entering the environment, and prioritising the circular design of plastics.

In this section we have focused on items where there are alternatives to plastic items.

Other Australian states and territories have begun taking action on several kinds of plastic items that NSW has not yet considered. Now is the time to address these items and create a harmonised approach to tackling the plastic crisis across Australia. We also need to ensure that the approach we take is suited to NSW, so we will carefully consider the design of these initiatives and what and who they apply to.



The problem

- A comparative analysis on the plastics performance of each state and territory performed by WWF Australia in 2022 ranks NSW as equal fourth amongst Australian states and territories. This puts us alongside the ACT and Victoria but behind Western Australia, Queensland and South Australia.
- All Australian states and territories except NSW, Tasmania and Victoria have either phased out or are considering phasing out heavyweight plastic film shopping bags. Some jurisdictions, such as Queensland allow heavyweight plastic shopping bags that meet certain reuse standards.
- Queensland and South Australia are considering phasing out some single-serve plastic condiment packages, like sachets in Queensland and soy sauce fish in South Australia, but NSW is yet to follow.
- South Australia and Western Australia have phased out the supply of plastics with pro-degradant chemical additives, and the ACT will also do so from 2024.
- The different approaches taken in regulating plastics across Australian states and territories create challenges for business and the community. They also create a risk of NSW becoming a dumping ground for plastic items that have been phased out in other Australian states.



Heavyweight plastic film shopping bags (with a thickness greater than 35 microns)

The problem

Plastic bags are a consistently littered item in NSW (6% of all littered items).

In addition, there are readily available alternatives.

Our proposed response

Phase out the supply of plastic bags with a thickness greater than 35 microns, with consideration to exempting heavyweight plastic bags that meet specific re-use design standards.

Phasing-out heavyweight plastic bags would align NSW with other states and territories, including the ACT (from 2024), SA (proposed for 2024) and WA, which have already phased out these items (since 2022). The NT is consulting on this proposal too.



Single-serve plastic condiment packages (volume less than 50 ml)

The problem

Single-serve plastic condiment packages (like soy sauce fish) are highly littered and hard to recycle. Phasing them out will align NSW with proposed bans in other Australian states and territories such as QLD and SA.

Our proposed response

Phase out the supply of single-serve plastic condiment packages less than 50 ml.



Balloon releases

The problem

Balloons often end up in our environment, including in waterways or the ocean where they can be swallowed by marine animals. Turtles have been found to selectively eat burst balloons because they look like jellyfish, turtles' natural food.

Our proposed response

Phase out the release of helium balloons, as well as accessory items such as plastic balloon sticks and ties.

NSW has already stopped the release of 20 or more lighter-than-air balloons into the environment at the same time. But we are behind many other states and territories, which have either banned all lighter-than-air balloon releases altogether or are consulting on doing so.²²



Other unnecessary and problematic plastic items

The problem

There is a broad range of plastic food-related and packaging items that are unnecessary or which have non-plastic alternatives readily available. These items are often not recycled and end up in landfill. Other states and territories are already taking action on some of these items.

Our proposed response

Phase out :

- expanded polystyrene food trays (banned in the ACT from 2023, SA from 2024, WA from 2022, proposed for 2025 ban in NT) and loose fill packaging (banned in ACT from 2023, QLD from 2023, WA from 2023, proposed for 2025 ban in NT)
- barrier/produce bags (banned in SA and WA from 2024 for fruit and vegetables)
- stickers on fruit
- pizza savers (banned in SA from 2023)
- bread tags (banned in SA from 2024).



Have your say

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22. Western Australia, Victoria, Tasmania, Queensland, Northern Territory



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Cover: Shells and plastics collected on beach (Oleg Breslavtsev, Adobe Stock) **Inside front cover:** Ocean plastics collected from Camp Cove beach, Watsons Bay, New South Wales. Composed and photographed by University of New South Wales Industrial Design Associate Lecturer, Gonzalo Portas. **Page 1:** Australian fur seal, Narooma, New South Wales (wildestanimal, Getty Images) **Page 2:** Waves crashing on shoreline, Newcastle (John Spencer, EPA) **Page 3:** Plastic litter contaminated shell midden at Worimi Conservation Lands, New South Wales. Image courtesy of Dr Joanne Wilson with permission from Worimi Conservation Lands Board of Management **Page 5:** Gull Trapped In Plastic (Tom, Adobe Stock) **Page 8:** Garbage pile in landfill (vchal, iStock) **Page 11:** Dishwasher tablets (Didecs, Shutterstock) **Page 12:** Microplastics and magnifying glass (Sansert Sangsakawrat, iStock) **Page 13:** Penguin trapped in plastic net (Greg Brave, Shutterstock) **Page 15:** Mylar balloons litter on beach (Lisa Mackie, Shutterstock) **Inside back cover and back cover:** Ocean plastics collected from Camp Cove beach, Watsons Bay, New South Wales (Gonzalo Portas, UNSW)

