



POLICY BRIEF

No. 6, July 2019

Required Plastic Pollution Mitigation Policy Frameworks for Australia

Nagalakshmi Haleyur ^{a,b,*}, Sayali Patil ^{a,b}, Esmaeil Shahsavari ^{a,b}, Andrew S Ball ^{a,b}

^a School of Science, RMIT University, Bundoora, Melbourne, VIC 3083, Australia

^b Centre for Environmental Sustainability and Remediation, RMIT University, Bundoora, Melbourne, VIC 3083, Australia

*Corresponding author: nagalakshmi.haleyur@rmit.edu.au

Highlights

In Australia, plastic pollution has gained greater attention than any other pollution-related issue¹. This is largely because of the extensive use of plastics for various purposes and its potential hazard to various ecosystems. This policy brief presents several recommendations and frameworks that could be applied by Australian legislative and government authorities to achieve reduction in plastic pollution and therefore protect the environment.

Recommendations

Banning of single-use disposable foodware, packaging and plastic bags to protect various ecosystems.

Incentivize the use and development of recyclable, compostable or reusable materials and support companies that innovate.

Statement of Problem

Considering the increasing output of plastics production all over the world, managing their production and disposal in a sustainable manner is fast becoming one of the most important tasks in terms of environmental issues. Improper disposal and landfilling practices not grounded in science are causing tremendous damage to ecosystem function and biodiversity². There is an urgent need to curb the excessive use of plastics by finding potential solutions based on 4Rs (**Reuse, Replace, Recycle, and Refuse**). In addition, a stringent policy framework represents an important aspect, requiring new legislation for plastic producers, retailers and consumers to avoid environmental damage. This policy brief will deal with numerous action plans and policy programs that can be framed by States and Territories of Australia for effective implementation of plastic use and disposal. Australian State and Territory Governments have the primary responsibility for managing waste plastic through state/territory legislation, policy, regulations, strategy and planning, as well as the permitting and licensing of waste transport, storage, and treatment and disposal operations. While policy frameworks in each State and Territory differ, there are some common themes of coordination through the Federal Australian Government. Additionally, direct discussion and sharing of information related to plastic waste disposal and waste reduction between state and territory governments is encouraged.

Recommendation 1: Improve the current national policy to reduce the plastic waste quantities and improve implementation at the state/territorial level.

A concept gaining currency in waste policy is the circular economy, which envisages keeping products, components and materials at their highest utility and value at all times. A contrasting model for this approach is the 'take, make and dispose' economic model which relies on cheap, plentiful and easily accessible materials and energy, and was considered the norm of product production in the 20th century. Several States and Territories of Australia are developing waste policy within a circular economy framework³.

The 2018 National Waste Policy (Less Waste, More Resources) provides a framework for collective action by businesses, governments, communities and individuals until 2030. The policy identifies five overarching principles underpinning waste management in a circular economy. These include:

- Avoiding waste;
- Improving resource recovery;
- Increasing use of recycled material and building demand and markets for recycled products;
- Better managing material flows to benefit human health, the environment and the economy;
- Improving information available to support innovation, guide investment and enable informed consumer decisions.

However, a commitment towards examining options to broaden the phase-out to plastic products is not emphasized and needs more attention within the national waste strategy. Single-use disposable foodware and packaging are major contributors to street litter, marine pollution, and greenhouse gas emissions, not to mention the harm caused to Australia's unique marine and terrestrial wildlife. Some examples that state governments can adopt to help phase-out these include:

- Banning polystyrene foodware and require all foodware to be recyclable or compostable;

- Requiring food vendors to use reusable foodware (durable/washable) for eating-in;
- Providing technical assistance and mini-grants to support food vendors in establishing new facilities and practices to meet reusable eat-in foodware requirements;
- Developing policies that can help food vendors seek waivers to use recyclable alternatives for foodware items not available or reasonably priced in compliant compostable formats;
- Charging for disposable cups (the cost of the cup must be made visible to customers on media displays, menus, and/or receipts; if a customer can carry their own cup, the charge may not be applied);
- Prohibiting the purchase of packaged water and banning water in single-serve containers one liter or less;
- Mandating disposable foodware must be certified compostable.

Recommendation 2: Incentivize companies to innovate and design more recyclable, compostable, or reusable packaging.

Policy frameworks must be developed for having 100 per cent of Australian made packaging being recyclable, compostable, or reusable by 2025. The following are a few examples of approaches that policy makers can implement to enact this:

- Encouraging bioplastic industries to develop biodegradable disposable tableware and packaging products by providing various incentives and some tax benefits. For example, Plantic Technologies uses non-edible plant components for the production of a whole range of recyclable and biodegradable plastics;
- Manufacturing of biodegradable plastics based on the microbial production of polyhydroxybutyrate should be promoted in Australian industry;
- Assisting companies through grants so that Australian companies can deal with the effective recycling of plastics rather than exporting plastic waste to countries like China. This means that the community that produces the plastic waste will be responsible for the recycling of it, assisting the circular economy;
- Making research compulsory within companies currently manufacturing plastics on the use of bioplastics which in turn can benefit, self-sustain, and transform the existing plastic industry;
- Offering short-term funding measures to councils to ensure that the direction and stability of the recycling industry is safe;
- Improving the market for recycled plastics by keeping the price low and providing stronger incentives for better design of plastic goods to ensure easy recycling. The price of recycled plastics is largely driven by the price of primary plastics, which follows oil prices, rather than the costs of collecting, sorting, and processing plastic waste. Producers of recycled plastics thus have few options to adjust their costs in a downturn without market regulation.

Recommendation 3: Banning single-use lightweight plastic bags.

China's 2017 and 2018 announcements restricting imports of particular types and grades of waste materials for recycling has been a major policy shift for the waste and resource recovery sector¹. This has severely impacted on policy revision for waste management. Hence, Australia has joined a long list of countries taking action against single-use plastic bags with large retailers introducing a charge for single-use plastic bags to encourage shoppers to bring their own reusable bags. However, in states like Victoria, single-use

plastic bags are still been widely used with no restrictions. To tackle this issue, the following plans may be implemented the state government:

- State and Territorial Governments must work towards the legislative ban on lightweight single use plastic bags;
- State and Territorial Governments should start educating retailers and the wider community about plastic pollution and the benefits of using fewer plastic bags. This will ensure the ban, once introduced, will be effective;
- State and Territorial Governments should develop a plan to reduce single use plastic bags in tandem with plans to reduce other types of plastic pollution in the environment. This can be achieved by a coordination with government, industry, retail and community group representatives. This will ensure plastic waste reduction strategies are not ad hoc, but developed in tandem across sectors for maximum effectiveness.

Concluding Remarks

The long-term trend in plastic waste management is towards increasing levels of recycling, driven by public demand and government policy; there is little reason to imagine that this will change. Of course, for some plastic materials the cost of recycling is high and the benefits are low. However, there are plenty of types of plastic waste for which resource recovery can be significantly increased to the benefit of the community generating the waste. The high cost of energy is likely to drive the development of energy from waste facilities. An improvement in the current national policy has to be made to reduce the plastic waste quantities and improve implementation at the state/territorial level. Recycle companies that innovate needs to be offered incentives. Both federal and state governments must work towards banning single use plastics.

References

¹Xanthos, Dirk, and Tony R. Walker. "International policies to reduce plastic marine pollution from single-use plastics (plastic bags and microbeads): a review." *Marine pollution bulletin* 118.1-2 (2017): 17-26.

²Awomeso, J. A., et al. "Waste disposal and pollution management in urban areas: a workable remedy for the environment in developing countries." *American Journal of Environmental Sciences* 6.1 (2010): 26-32.

³National Waste Policy. Department of Energy and Environment, Government of Australia.
<http://www.environment.gov.au/protection/waste-resource-recovery/national-waste-policy>