



AUSTRALIA

RESEARCH SUMMARY

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SUSTAINABILITY OF BIOPLASTICS IN AUSTRALIA

WWF-Australia is part of the WWF International Network, the world's largest independent conservation organisation. WWF's global mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature. WWF works in more than 100 countries and has around five million supporters worldwide.

WWF-Australia's No Plastics in Nature initiative works to eliminate the leakage of plastic into the environment, build a circular economy for plastics, and drive global action to end plastic pollution. We commissioned the Institute for Sustainable Futures to examine risks and opportunities associated with bioplastics, to assist policymakers in navigating and regulating this emerging class of materials. The full report can be found [here](#).

Australia's bioplastics market

Bioplastics includes two groups of plastics, those that are made from plants (bio-based) and those that biodegrade at end-of-life (which can be bio-based or made from conventional plastics). The bioplastics market size is small but growing rapidly – in Australia and internationally.¹ Domestic consumption of bioplastics was around 8,500 tonnes in 2019-20, which is less than 1% of all plastic consumed in Australia that year. Most (96%) bioplastics uses are in consumer packaging, in products such as food waste bin liners, takeaway coffee cups and lids, food ware (plates, cutlery) and postage and retail bags.²

The increase in production and sales are being driven by consumer concern about plastic consumption levels,³ and by state and territory bans on certain single-use plastic products. People and companies are looking for 'green' alternatives, and bioplastics are regarded as a more sustainable option.⁴ But bioplastics are complicated, and only provide a 'more sustainable' option to conventional plastics in certain circumstances.

The sustainability of bioplastics depends on a range of factors. Many of these relate to feedstock – what the product is made from – and how they're managed. If plastics are bio-based, feedstocks need to be

¹ Precedence Research, 2022. [Bioplastics market and forecast 2022-2030](#).

² Australian Packaging Covenant Organisation (APCO) (2020). *Considerations for Compostable Plastic Packaging*.

³ Ipsos, 2022. [Attitudes towards single-use plastics](#).

⁴ Dilkes-Hoffman, L., Ashworth, P., Laycock, B., Pratt, S. & Lant, P. Public attitudes towards bioplastics – knowledge, perception and end-of-life management, Resources, Conservation and Recycling, Volume 151, 2019.

responsibly sourced. All bioplastics need a pathway for recovery at end-of-life. Biodegradable bioplastics should be certified compostable (for home or existing industrial systems). If not biodegradable, they should be recyclable. Bioplastics that don't use transparent and responsible feedstocks and production processes, and are not properly managed at end-of-life, should be avoided. Unfortunately, there is a lack of comprehensive data on bioplastics use and management in Australia, and limited public understanding of bioplastics.⁵

This research found most bioplastics used in Australia go to landfill, indicating their potential benefits are not being delivered. It also found evidence of **widespread greenwashing in relation to bioplastics**.

Greenwashing is widespread

Greenwashing is a 'misrepresentation (express or implied) of the sustainability credentials of a company or of its products or services'.⁶ The Australian Consumer and Competition Commission notes that 'businesses must not mislead or deceive consumers in any way, and ... [Australian Consumer Law] carries serious penalties for businesses that fail to meet these requirements'.⁷ Growing concerns and incidents of greenwashing led the ACCC to announce a crackdown on greenwashing in late 2022, which is ongoing.

To understand the incidence of greenwashing in relation to bioplastics, this research examined sustainability claims of 26 bioplastic products by 14 companies that produce and/or sell them, including plastic bags, food ware, coffee pods, postage bags, loose packing fill and balloons. The research assessed more than 160 individual claims about these 26 products, and found more than half were **misleading or potentially misleading (29%) or could not be verified (24%)**.

These included misleading or confusing statements on product disposal; use of vague language such as 'green', 'earth friendly' and 'sustainable'; use of the term 'biodegradable' for products which are not compostable; use of the term 'plastic-free'; and unverifiable claims about feedstocks and carbon footprint. WWF-Australia is raising these issues with the companies concerned and the ACCC.

Transparency and accountability

The Australasian Bioplastics Association tests and certifies home and industrially compostable bioplastic products, but certification is voluntary. It is not known what proportion of bioplastic products on the market in Australia are certified. Australia has target of 100% of plastic packaging being re-usable, recyclable or compostable by 2025, and 70% of plastic packaging being recycled or composted in practice by 2025. These targets are also voluntary and subject to industry-led initiatives.

Bioplastics that are not certified and properly labelled, and which cannot be recycled or composted, provide few if any environmental benefits. Products that are vaguely or inaccurately labelled cause confusion for consumers and in waste management systems, resulting in them being landfilled or contaminating waste streams. This research shows Australia's current regulatory system has not been successful in limiting greenwashing in relation to bioplastics, and would likely benefit from a more robust approach.

Realising the benefits of bioplastics

Bioplastics can play a niche role in reducing the environmental impacts of plastics and contribute to a circular economy, but benefits can only be realised if managed effectively. This is not currently the case in Australia.

⁵ Ibid.

⁶ Minter Ellison, 2022. [ACCC warns over greenwashing and sustainability claims](#).

⁷ ACCC, 2011. Green marketing and the Australian Consumer Law.

Benefits can include reduced food waste (for example if used as organics caddy liners and if their use demonstrably increases recovery) and greenhouse gas emissions. They can also support transition to a more regenerative circular economy, if feedstock would otherwise be disposed of as waste.

Bioplastics are not a solution to excessive plastic waste generation that we currently see in Australia and around the world. Neither are they a solution to the problem of plastic pollution, as they can pose similar risks if leaked into the environment to conventional plastics. These risks include breaking up into microplastics, and ingestion and entanglement by wildlife.

Recommendations

Caution should be applied to the use of bioplastics, and they should only be permitted where they will deliver demonstrable environmental and/or social benefits. WWF-Australia urges governments, relevant bodies and initiatives, and businesses to consider these recommendations, with a view to strengthening regulation and ensuring that bioplastics are only used responsibly, where they can deliver genuine benefits:

- **Phase out the sale of problematic bioplastic products** that do not have a viable pathway for composting or recycling at end-of-life, through national (preferably) or sub-national regulation.
- **Improve labelling to reduce confusion** for businesses, consumers and recyclers, including strict labelling requirements.
- **Develop feedstock standards/requirements.** This would help to support Australia's circular economy transition by ensuring that bioplastics can help to reduce waste in other sectors.
- **Mandate certification of compostable products.**
- **Take action on misleading claims and greenwashing** around bioplastics and plastics more broadly, through stronger enforcement of the Australian Consumer Law.
- **Increase business and consumer awareness** about the performance, environmental impacts, standards, labelling and appropriate end-of-life management of bioplastics on the market.
- Ensure that bioplastics – and other single-use, disposable items – **are not marketed and widely perceived as sustainable.** Re-use and repair are better options in the vast majority of applications.
- **Improve end-of-life management** options for compostable plastics through increasing harmonisation within and/or across jurisdictions. The Environment Ministers' agreement on a shared circular economy agenda should include a specific focus on bioplastics and organics recycling.
- **Further research** to compare and determine the sustainability of bioplastics and other alternatives to conventional plastics.
- Australia should advocate within UN plastic pollution treaty negotiations a **global prohibition on vague, inaccurate and unverifiable claims** on all plastic products materials, including bioplastics.

For more information

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