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Committee Secretary
Senate Standing Committees on Community Affairs
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Submission via [online portal](#)

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Dear Ms Kohen

Re: Impact of microplastics and other toxics on human health

Thank you for the opportunity to make a submission to the inquiry into the impact of microplastics and other toxics on human health. The Waste Management and Resource Recovery Association of Australia (WMRR) is the national peak body representing Australia's \$21 billion waste and resource recovery (WARR) industry. With more than 2,300 members from over 400 entities nationwide, we represent the breadth and depth of the industry, including representation from business organisations, the three (3) tiers of government, universities, and Non-Government Organisations (NGOs), including research bodies. As fierce proponents of the resource and waste management hierarchy, WMRR advocates for beyond end-of-life material management and the safe reinvestment of valuable resources back into the economy in order that less can be used for longer. Thus, our comments regarding microplastics primarily relate to the following terms of reference:

- the potential benefits of a national standard for consumer products;
- protocols and policies of other countries which have proven to be effective; and
- the adequacy of current research, monitoring and measurement standards for microplastic contamination in Australia.

WMRR emphasises that 'systems thinking' is needed to recognise that mandated product design and labelling requirements are needed to help avoid downstream 'clean up' measures for microplastics. Minimising harmful input at the start of the supply chain should be prioritised by government at all levels, to curb leakage and adverse impacts downstream. Placing design and generator obligations at the start of the supply chain is fundamental to the success of Australia's transition to a circular economy and the nation's ongoing environmental and economic resilience.

i. Microplastics and WARR

Microplastics have emerged as a major environmental pollutant found in soils, water bodies, and air emissions. Many globally marketed products contain or release problematic microplastics, which create significant environmental and safety risks, that are difficult for the waste and resource recovery (WARR) industry to manage effectively once they reach end-of-life and enter the waste stream. Microplastics may be intentionally (or unintentionally) used in commercial products and subsequently discarded into the environment (like in beauty and personal care products), or particles generated through the degradation of larger plastic items such as

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plastic bottles, packaging, and clothing fibres. This leads to systemic leakage across the plastic lifecycle, for example through fast fashion items shedding fibres during wear and wash, vehicle emissions from brakes and tyres can release synthetic particles into the air, or through capture of microplastics from discarded waste in stormwater pathways. Inevitably, microplastics become another environmental and ‘end-of-pipe’ issue for the WARR industry to address.

The root cause of plastic pollution and microplastic release is products made with plastic. With plastic consumption in Australia continuing to rise—reaching approximately our (4) million tonnes per year in 2023–24— efforts must be directed towards actions that limit the consumption, production and use of plastics. The plastic we consume in Australia is largely discarded – 3.2 million tonnes of plastic reached end of life in [2023-24](#) with only 14% of it recovered. This places a significant burden on the WARR industry to address the environmental impacts of plastic waste that were poorly designed at first instance.

It is WMRR’s view that government action is urgently needed to drive upstream source reduction and implement stronger regulation of plastic materials entering Australian supply chains, particularly at the point of product design and market entry to reduce the use of plastics wherever possible – otherwise microplastic pollution will continue to increase, enabling the costs to be passed on to the next in the value chain or to the WARR industry.

ii. What has been done?

Efforts to address plastic pollution at a national level in Australia have so far been limited. The national co-regulatory framework for packaging - being the *National Environment Protection (Used Packaging Materials)* (NEPM) Measure as administered by the Australian Packaging Covenant Organisation (APCO) - has operated as an ineffective voluntary stewardship initiative that has failed to deliver the 2025 targets of having 100% of packaging being reusable, recyclable or compostable, 70% of plastic packaging being recycled or composted, 50% of average recycled content included in packaging and the phase out of problematic and unnecessary single-use plastic packaging. In WMRR’s view, national coordination on enforceable design standards and mandatory producer responsibility are needed for affected products especially plastic packaging, which generated 39% of Australia’s end-of-life plastics according to [2023-24 data](#).

While all states and territories have taken steps to reduce plastic waste—primarily through bans on highly littered single-use plastic items and broad agreement on which products should be prioritised for phase-outs – policy inconsistencies remain. Some states have gone further than others, for example, NSW will commence regulations under its [Plastics Plan](#) to phase out the supply of plastics containing pro-degradant additives and rinse-off cleaning products containing plastic microbeads from late 2027, and will require all new washing machines supplied in NSW to meet a microfibre performance standard in 2028. Jurisdictions also differ in their approach to biodegradable and compostable plastics: items that are fully banned in one (1) state may be permitted in another even when they may contain PFAS or other pollutants, due to the lack of reliance on science in determining the risk posed in recovering such products. These inconsistencies create compliance challenges for businesses operating across multiple states and territories, and risk sending mixed messages to consumers.

At present, there is strong vested interest for manufacturers of plastics to continue with the status quo as there are few obligations placed on them when they supply products into the Australian market. This contrasts significantly to jurisdictions like the US and EU who have taken strategic approach to managing microplastic pollution by addressing source inputs. For example:

- The US and European Union (EU) have banned cosmetics containing plastic microbeads;

- The EU adopted restrictions on microplastics intentionally added to products in 2023 under *Registration, Evaluation, Authorisation and Restriction of Chemicals* (REACH);
- The US government has set a goal of eliminating single-use plastics from all operations by 2035; and
- Regulations to govern tyre abrasion are emerging in California and the EU.

It may possibly be too early to comment on the effectiveness of the policies and protocols of other countries given the long-life of plastics and its ability to bioaccumulate in the environment. However, in the absence of enforceable global standards, it is important for countries like Australia to keep pace with leading jurisdictions as there is a significant risk that Australia could become a dumping ground for products that fail to meet regulatory requirements in markets like the US and EU.

iii. The link between microplastics and Australia's transition to a circular economy

Appropriately responding to emerging contaminants such as microplastics is integral to shaping Australia's environmental and economic resilience in the years ahead, noting the [Circular Economy Framework](#)'s target to double its circularity rate by 2035. Circularity cannot be achieved without regulating (and ideally eliminating) harmful inputs at the start of the value chain. The essential actions needed to enable the necessary paradigm shift from downstream clean-up to upstream prevention are:

- Introducing as a priority, lifecycle responsibility framework legislation to enable regulation of products across their full lifecycle — including design, reuse, repair, and end-of-life management. If this cannot be actioned by the federal government, states should align with the *NSW Product Lifecycle Responsibility Act 2025*;
- Mandating design for durability, modularity, repairability, reuse and recoverability, in order that products can safely be recovered and reinvested into the economy;
- Designing out problematic and hazardous materials, including action to eliminate or restrict hazardous materials such as microplastics (and their precursors) from products, and
- Reducing contamination at source, including stronger controls to prevent emerging contaminants from entering organics and recycling streams, ideally by adopting a similar framework to what exists in the EU with *Waste Directives* and the CLP and REACH programmes mentioned above.

The cornerstone for the transition to the circular economy is that products are designed intentionally, for their safe reinvestment back into the productive economy. It follows that mandatory design and labelling standards for consumer products are needed in Australia to establish clear consistent obligations on product manufacturers and suppliers, and help consumers understand the environmental impacts of the products they choose. Such standards would help prevent the mismanagement of problematic products and align Australia's consumer protections with international best practice. The Circular Economy Ministerial Advisory Group (CEMAG) report '[The Circular Advantage](#)' echoes much of this key sentiment held by WMRR – noting the significant gaps in terms of Commonwealth regulation for product and material design standards and genuine extended producer responsibility.

iv. The need for structural reform based on extended producer responsibility (EPR)

WMRR advocates reducing the quantity of microplastics introduced into supply chains - for example by 'designing it out' and product bans. However, it is also necessary to strengthen markets in post-consumer recycled plastic to discourage the uptake of single used plastic items, employ regulation to ensure compliance by producers, and invest in appropriate infrastructure to deal with the material placed on market. This structural reform that correlates economic, environmental and commercial interests is what WMRR describes as 'systems

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thinking’ to ensure that circular outcomes for materials are prioritised. This approach to materials management extends beyond microplastics, to all products placed on market in order that a safe, circular economy can be achieved. This means that less can be used for longer but it also means that Australia can move meaningfully towards discharging its obligations under the Sustainable Development Goals (SDG) 2030 of implementing SDG 12 –commitment to sustainable consumption and production, which we are failing to do.

An example of this in action is the *EU Waste Directives framework*, which makes clear the order of preference for managing materials in accordance with the waste management hierarchy and places obligations squarely on those that produce and place products on market, i.e. creating by default a real paradigm of EPR. This is integral to transitioning to a circular economy as it places direct pressure on producers to stimulate the investment and innovation in avoiding the creation of waste to ensure it does not end up in the environment.

The EU model takes a phased approach to rolling out mandatory and harmonised EPR schemes for different materials supported by overarching policy and action plans to measure success against specified targets. The EU places clear obligations on producers to ensure products are safe, transparent, and designed for circularity. These measures embed EPR and require products placed on market to minimise hazardous substances, improve durability and repairability, and enhance recyclability. For the management of microplastics, this is done through a framework of numerous international best practice instruments such as:

- strict bans on intentionally added microplastics in consumer products under [REACH Regulation \(EU\) 2023/2055](#), restricting synthetic polymer particles smaller than 5mm that are organic, insoluble, and resistant to degradation. Bans cover cosmetics (rinse-off and leave-on), detergents, glitter, sports turf infill, and toys, with phased-out deadlines ranging from 2023 to 2035;
- the [Packaging and Packaging Waste Regulation](#) (PPWR) which includes measures for all packaging to be recyclable by 2030, brands having to pay to clean up non-recyclable or harmful materials, ‘common sense’ packaging requirements, clear labelling and setting targets for plastic packaging to be at least made in part from recycled content with increasing targets for 2030 and 2040;
- the [Classification, Labelling and Packaging \(CLP\) Regulation](#) which mandates that companies properly classify, label, and package hazardous chemicals before placing them on the market;
- [Zero Pollution Action Plan](#) which sets a 30% reduction target for microplastic releases into the environment by 2030;
- *Right to Repair* (R2R); and
- the *EU Circular Economy Action Plan*.

In addition to the regulatory standards set under the Waste Directives Framework, the EU has also implemented standard *EN 45560: Method to achieve circular designs of products* focus on the material efficiency of products to make products more sustainable throughout their lifecycle (emphasising durability, reparability, recyclability, and the use of recycled content, among other factors) to minimise environmental impact and promote a circular economy. Whilst a horizontal standard – rather than being product or material specific – it can provide a very useful blueprint to apply to any product design standard.

WMRR is simply advocating for Australia to catch up with what is occurring globally, and provide our businesses, community and the environment with the same safeguards, protections and certainty that is occurring overseas. This means urgently implementing a similar legislative framework – such as that proposed by CEMAG with a *Circular Economy Act* to address the challenge of microplastics with mandatory extended producer responsibility (EPR) principles that embrace:

- Accountability: By shifting financial responsibility to manage microplastic pollution from the WARR system to product manufacturers (i.e. via fees);
- Upstream design standards: To reduce the use of materials that break down into microplastics. Personal consumer items, packaging, textiles and tyres should be prioritised;
- Downstream lifecycle management: By directing funds to infrastructure to collect and treat plastic waste, reducing environmental leakage. Mandatory stewardship schemes should extend to priority problematic materials including packaging and textiles; and
- Targeted Measures: such as bans on intentionally added microplastics (e.g., in cosmetics) and regulations for tyres to discourage microplastics in emissions.

This could be done as part of the review and update of the *Recycling and Waste Reductions Act 2020*, consultation which closed in February 2025 and as yet we have had no update on.

v. Mandatory labelling and design requirements would provide valuable data for microplastic contamination in Australia.

The *Industrial Chemicals Environmental Management (Register) Act 2021* (iChEMS) establishes nationally consistent standards to safeguard the environment by regulating the import, manufacture, export, use and disposal of industrial chemicals. Risk management measures can include restrictions on the use and disposal of waste products, and the introduction and use of certain chemicals in Australia may be prohibited. However, it does not explicitly manage plastics, even though it may regulate chemicals related to plastics, such as PFAS. EU programmes such as REACH (which controls the manufacture, import, supply and safe use of chemical substances in the EU) and CLP (which requires companies to classify, label and package their hazardous chemicals correctly before placing them on the market) are absolutely vital in Australia given the inadequacy of iChEMS in protecting consumers and the broader environment.

Furthermore, there is a lack of data measuring the amount and origin of microplastic pollution in Australia. Much of the research done on microplastics to date has focused on the environmental impacts – particularly for marine environments, noting that wastewater plants do not fully remove microplastic fibres, and sewage treatment is not designed to manage microplastic pollution, with microplastic loads strongly correlating with population density and built-up land areas. However, further data could be generated on the product supply chains contributing to the microplastics being released into our environment using the data from mandatory design and labelling programmes like REACH and CLP.

WMRR trusts that these comments will be helpful to the Senate Standing Committee's understanding of this complex issue, and our CEO, Gayle Sloan, is willing to give evidence if required. Please contact the undersigned if you wish to further discuss WMRR's submission.

Yours sincerely



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