



Ms. Cate Farhrmann MLC
Chair, Select Committee on PFAS Contamination in Waterways and
Drinking Water Supplies Throughout NSW
NSW Legislative Council
Parliament of NSW
6 Macquarie Street
Sydney NSW 2000
Via [online submission](#)

27 November 2024

Dear Ms Fahrman,

Re: Inquiry into PFAS Contamination in Waterways and Drinking Water Supplies Throughout New South Wales

Thank you for the opportunity to provide feedback to the NSW Legislative Council Select Committee ("the committee") on PFAS contamination in waterways and drinking water supplies throughout New South Wales. The Waste Management and Resource Recovery Association of Australia (WMRR) is the national peak body representing Australia's \$17 billion waste and resource recovery (WARR) industry. With more than 2,300 members from over 410 entities nationwide, we represent the breadth and depth of the sector, including representation from business organisations, the three (3) tiers of government, universities, and Non-Government Organisations (NGOs), including research bodies. In NSW, WMRR represents over 750 individual members from more than 130 entities. The state generates 25.9 million tonnes of waste each year with a resource recovery rate of 67% delivering an economic value of \$5.31 billion employing 14,570 people.

WMRR's members are involved in activities fundamental to the success of the Australian economy including infrastructure investment, collections, remanufacturing of valuable products from resource recovered materials, energy recovery, community engagement and education, and responsible management of residual waste. As such, we are often the industry that receives PFAS at present, and whilst there is little to no regulation on the management and use of PFAS at source, i.e. on those that make and place this product on market, there is extensive regulation placed on our industry.

WMRR appreciates that the inquiry has deliberately extensive terms of reference in order that it can make recommendations that 'the community can have faith in as the most up-to-date and transparent information and advice on this very important issue'. The issue of PFAS is an emotive one with international scientific data linking the 'forever chemicals' to a range of human health conditions. However, to date in Australia we have not seen a preparedness to act on this research, possibly making it unclear as to the risk that PFAS poses depending on actual level of exposure. Whilst there are many

WMRR NATIONAL OFFICE
57 ST JOHNS ROAD
GLEBE NSW 2037
(02) 8746 5000
INFO@WMRR.ASN.AU

WMRR.ASN.AU

unknowns about PFAS¹, there is however general agreement amongst the global community that measures which reduce daily exposure to PFAS should be encouraged. Key exposure pathways of PFAS may include regular consumption of contaminated groundwater from drinking water bores, certain locally grown food or seafood sourced from impacted waterways². WMRR notes that a crucial factor contributing to the contamination of PFAS in drinking water sources is whether drinking water infrastructure or the catchment is located in the vicinity of potentially contaminating activities. However, we note again that this analysis only deals with the impacts of PFAS at the end of the supply chain.

It is WMRR's view that the growing concerns around the impacts of PFAS and its increased risk through bioaccumulation justify governments taking urgent action to stop PFAS entering into supply chains in the first instance. Further consideration should then be given to those PFAS already in circulation and determining what a 'safe' level of PFAS exposure is for specific products and materials, noting that the risk levels will vary depending on the exposure pathway and the frequency of exposure.

As you may be aware, Australia is yet to sign the Stockholm Convention on persistent organic pollutants or so-called 'forever chemicals', which Europe did over a decade ago. That means a whole raft of products and chemicals containing PFAS can still be sold in Australia that cannot be overseas - resulting in Australia increasingly being the dumping ground for these chemicals. WMRR has been calling on the Federal Government for years for much tighter restrictions on what can be designed and placed on market and how it is managed, including adopting existing labelling and registration schemes such as the Classification, Labelling and Packaging (CLP) and Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) programmes. These exist under the European Union (EU) Waste Directives, which monitor and manage the use of these chemicals however they also importantly provide public awareness of the presence of these chemicals in products purchased, yet Australians have no such protections.

In 2025, the Federal Government is proposing to ban less than five (5) of the more than 4,000 types of PFAS in existence. WMRR believes this is simply too little, too late. Too little because the ban should be on all types of PFAS, otherwise the government will simply be playing catch up as companies switch to other types of PFAS. And too late because the EU moved to ban PFAS years ago, with the United States introducing tougher drinking water standards and moving to eliminate it from food supply.

¹ The United States Environmental Protection Agency – who arguably is ahead of Australia in that they are already 3 years into their [PFAS Strategic Roadmap](#), has articulated on its website that there are crucial things we don't fully understand about PFAS¹, notably:

- How to better and more efficiently detect and measure PFAS in our air, water, soil, and fish and wildlife
- How much people are exposed to PFAS
- How harmful PFAS are to people and the environment
- How to remove PFAS from drinking water
- How to manage and dispose of PFAS

² <https://www.health.gov.au/resources/publications/enhealth-fact-sheet-on-per-and-polyfluoroalkyl-substances-pfas?language=en> (29 April 2024)



There needs to be urgent action to stop PFAS containing materials circulating in the environment (including our waterways and drinking water). This inevitably brings discussions back to the initial design of consumer and industrial products which enable the PFAS presence and contamination in the first instance. The reality is unless we turn the tap off for PFAS containing products, we will continue to see it circulating in the environment.

As proponents of the resource and waste management hierarchy, WMRR advocates for beyond end-of-life material management and the reinvestment of valuable resources back into the economy in order that less can be used for longer. This means creating a safe circular economy - wherein those materials that enter supply chains are not designed for single use and disposal, but rather designed for safe circularity and therefore cognisant of human health and the environment at the product design stage, or “front of pipe”.

When considering the exposure to PFAS from materials (whether to be reused, repaired, recycled or disposed), it must be remembered that the WARR industry plays a vital role at the ‘end-of-pipe’ for materials, providing pathways for safe and sustainable recovery, recycling, and/or disposal; however, it has little to no ability to manage the materials and products that are generated and consumed. Given the widespread presence of PFAS in everyday household items (which there is very little community awareness of) such as microwaveable popcorn bags, pizza boxes, aerosols, children’s clothing, carpet, non-stick cookware, make up, dental floss, plastics and packaging products, and also within broader construction materials, there are obvious pathways for PFAS exposure to the natural environment when these items are discarded and processed or disposed of by the community including the WARR industry. The reality is given the prevalent use of PFAS, it is everywhere in society (not just in firefighting foams which some governments moved to eliminate its presence from with fanfare, ignoring that 95% of PFAS exists in other products). PFAS is also highly mobile, which means there is a possibility of finding its presence in compost, surface water run-off, and the treatment of sewage sludge and biosolids.

Considerable risk management is already in place within WARR facilities to mitigate potential impacts of PFAS. These procedures and plans are enshrined within NSW EPA License conditions, Waste Classification Guidelines and the POEO Act and Regulations and result in the use of landfill liners, leachate dams, wastewater treatment plants, and biosolids treatment. The key issue for the WARR sector in relation to the risk of PFAS contamination in waterways comes down to the elimination and designing out of PFAS from products in the first instance, as to put it bluntly, there is not much more that the WARR sector can do (short of bearing the ongoing cost and resource burden of attempting to remove PFAS contamination from products they did not design or generate, nor in many instances was it willing accepted at for example resource recovery facilities, given it is not visible).

Consequently, WMRR urges the committee to not lose sight of the ‘big picture’ - that being the need to design out PFAS in the first instance, and makes the following comments for the committee to consider in preparing its report:

WMRR NATIONAL OFFICE
57 ST JOHNS ROAD
GLEBE NSW 2037

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INFO@WMRR.ASN.AU

WMRR.ASN.AU

i. Sources of exposure to PFAS should be controlled

The key challenge created by PFAS in the environment is that it stems from the start of the supply chain – at product design and manufacture. Once PFAS enters NSW supply chains, it is difficult to manage due to its longevity as ‘forever chemicals’. Consequently, source sites for PFAS detection are rarely where the PFAS were generated or used. This is especially the case for PFAS detected at WARR facilities.

PFAS have been found in groundwater, surface water, sewage effluents and landfill leachates in Australia³. The National Health and Medical Research Council’s [Draft PFAS Chemical Fact Sheet \(October 2024\)](#) notes that the increased concentration of PFAS in biosolids from wastewater treatment processes is becoming a concern in the context of biosolid application in agriculture and the potential pathways to continued human and environmental PFAS exposure. That paper also notes that PFAS can end up in drinking water directly from contaminated runoff and groundwater infiltration, and that the main factor contributing to the contamination of PFAS in drinking water sources is whether drinking water infrastructure or the catchment is located in the vicinity of potentially contaminating activities.

To mitigate the potential impacts of PFAS being recirculated within our ecosystems and supply chains, WMRR believes there must be a preference for source controls, or point of generation solutions, to regulate and prevent contaminants from entering the sewerage and WARR systems, over end-of-pipe measures (which are seen as contradicting the polluter-pays principle).

At present, the only proposed action to stop the circulation of PFAS within Australian supply chains is iChEMS which is wholly insufficient. Furthermore, there is no national program requiring all manufacturers – local and import – to report and identify hazardous chemicals within the products they produce and supply. Article 6 of the Stockholm Convention requires products and articles containing listed chemicals to be identified. While the government is moving to ratify the convention, regrettably at this juncture we have no such comprehensive scheme in Australia with the proposed iChEMS scheme missing key elements such as a supporting Consumer, Labelling and Packaging (CLP) regulation, providing consumers with knowledge and choice, as well as a considered and comprehensive approach to what is banned akin to the EU’s Register, Authorisation and Restriction of Chemicals (REACH) program.

The lack of control measures in place over the use of PFAS seemingly indicates that the Australian government does not view PFAS exposure as a significant risk – thus enabling more and more of it to

³ Nguyen HT, Thai PK, Kaserzon SL, O'Brien JW, Mueller JF (2024). Nationwide occurrence and discharge mass load of per- and polyfluoroalkyl substances in effluent and biosolids: A snapshot from 75 wastewater treatment plants across Australia, *Journal of Hazardous Materials*, 470:134203.
<https://doi.org/10.1016/j.jhazmat.2024.134203>

continue to circulate. Furthermore, WMRR contends that the lack of a comprehensive scheme that designs out PFAS is a genuine inhibition to creating a circular economy in Australia by 2030 (as committed to by our national Environment Ministers) as there is an inability to recover PFAS containing materials them due to the potential risks posed. We would request the committee call for urgent acceleration by the Federal Government of signing the Stockholm Convention, including a far more comprehensive ban of PFAS and commensurate increase in action and scope by adopting a CLP and REACH program for Australia that provides consumer and community awareness.

- ii. *If repeated exposure to any PFAS is a significant risk, then all efforts should be directed to phasing it out.*

To reduce the risk of PFAS contamination in drinking water and across the environment more broadly, a 'systems-approach' by all levels of government to manage out waste and harmful contaminants such as PFAS is urgently needed. This necessarily means utilising an overarching regulatory and policy framework that considers the impact of chemical contaminants such as PFAS at the start of the product lifecycle, and the consequent impact that they have on the environment as they move through supply chains prior to disposal.

The US and the EU have both taken steps to restrict and remove PFAS from the environment and product supply chains under a coordinated approach, noting that PFAS cannot be considered in isolation as a health, environmental, economic, manufacturing or consumer issue. Instead, regulatory and policy frameworks must address the role of PFAS across various supply chains and ecosystems – and this is why WMRR stresses the need for 'systems thinking'.

Perhaps the most relevant recent example for this inquiry is the US approach to managing PFAS in drinking water supplies which forms part of a broader [PFAS Strategic Roadmap](#), which identifies actions to reduce PFAS to 'help turn the tide by harnessing the collective resources and authority across federal, Tribal, state, and local governments to empower meaningful action'. WMRR notes the highly publicised US experience of issuing the first-ever national, legally enforceable drinking water standard to protect communities from exposure to harmful PFAS in April 2024, and the concurrent \$1B funding billion to help states, territories and private well owners implement PFAS testing and treatment to address PFAS contamination⁴. Concurrently, steps have also been taken to reduce PFAS from entering the US 'front-of-pipe' (in products) including the removal 12 PFAS from the list of inert ingredients approved for use in nonfood pesticide products, and moves to hold polluters responsible for cleanup and treatment of PFAS and requiring companies to conduct more laboratory testing on PFAS.

In Europe, the Green Deal has set goals to better protect human health and safeguard the environment as part of its approach to zero pollution and moving towards a toxic-free environment and the *European Union Waste Directives Framework* establishes a clear and consistent systems approach to resource and material management, including chemicals of concern such as PFAS.

⁴ <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>



Germany, the Netherlands, Sweden, Denmark, and Norway have called for a major restriction on PFAS under REACH, the EU's chemicals regulation. The European Chemicals Agency (ECHA) is currently evaluating the proposal to ban all PFAS.

WMRR is hopeful that the promised Circular Economy Framework - which the Australian Government seeks to deliver by the end of this year – will mirror the European model and result in the phase out of PFAS in supply chains, as well as the adoption of sustainable design principles. We also understand that the Environment Minister's Meeting of 10 December 2024 will also seek to finalise the *National Environmental Management Plan on PFAS* ("NEMP 3.0 PFAS"), which includes revised guidance on management of risks associated with PFAS in resource recovery products. WMRR is again hopeful that it will be used by the Environment Ministers to help establish national agreement on designing out PFAS, implementing sustainable design regulation and determining what a 'safe level of PFAS' is for the intended application or use of specific product types – and this brings us to our next point.

- iii. *Consistent regulatory and policy settings relating to PFAS risk levels must be established so that the WARR and water sectors are not bearing the cost to manage PFAS end-of-pipe.*

WMRR supports aligned efforts to establish clear and certain thresholds for PFAS so that materials can be recovered that are fit for purpose. Those materials with direct exposure pathways for human consumption should necessarily be considered higher risk, however, those low-risk applications should not be held to the same conservative standards. This is especially the case for the WARR sector which is already tightly regulated with strict sampling and testing requirements for its outputs including odour and emissions, wastewater, and product applications to land.

WARR facilities (like water treatment facilities) are faced with storing, transporting, treating and safely disposing of PFAS-impacted materials and wastes, including contaminated water, soils, sediments and other solid materials. Under the *NSW Waste Classification Guidelines* (2014), generators of waste that contains, or may potentially contain, PFAS must ensure they undertake chemical assessment for PFOS, PFHxS, and PFOA. The Addendum to Part 1 which contains interim test values developed by the EPA for specific contaminant concentration (SCC) and leachable concentration using the toxicity characteristics leaching procedure (TCLP) for the most common PFAS compounds. It is noted that the testing required places a resource and cost burden particularly on the recycled organics sector, who accept and process materials from food and garden organic waste streams, as their products (such as composts) are considered 'waste' under the framework.

WMRR reiterates that the ubiquitous nature of PFAS in the environment currently means that it can be difficult and costly to "manage" end -of-pipe to a point of nil- detection or very low thresholds. A good example of this accumulation of PFAS in supply chains can be seen by the NSW EPA's "[What's the Go with FOGO](#)" report which looked into the material presented in kerbside collected organics bins and indicated that chemical contaminants including PFAS ended up in the compost products made from that material. Caution needs to be exercised when considering proposed 'safe' levels of PFAS, given that more conservative thresholds may prove difficult to achieve in practice. Although it

WMRR NATIONAL OFFICE
57 ST JOHNS ROAD
GLEBE NSW 2037
(02) 8746 5000
INFO@WMRR.ASN.AU

WMRR.ASN.AU

is recognised that thresholds for emerging contaminants are needed, there is concern that they can also limit future use and impact State and Federal resource recovery targets as outlined in the *NSW Waste and Sustainable Materials Strategy 2041*.

For this reason, WMRR again reiterates the need to approach the PFAS problem firstly by looking to restrict the PFAS chemicals entering into Australian markets and ecosystems.

- iv. *If the federal government won't do it, then the NSW government must take urgent action to stop PFAS and other harmful chemicals entering supply chain.*

It is WMRR's firm view that there is a crucial role for government to play in mandating product standards in order that pollution and chemical contaminants can be designed out of product supply chains in so far as possible. This is particularly important given Australia's transition to a circular economy and mitigating the risks of PFAS in waterways.

Whilst it is WMRR's view that a nationally consistent system is ideal, it is also our view that NSW is the most likely jurisdiction to take leadership of this much needed reform, given the momentum of the *NSW Plastics Plan* which is the only plan that takes the crucial step of phasing out of PFAS in plastics and packaging. One would argue that NSW has been forced to take this action given the ongoing inability at the national level of the Australian Packaging Covenant Organisation (APCO) to meet any stated target, including the proposed *phasing out of PFAS in fibre-based food content packaging by 31 December 2023*. WMRR strongly supports the precautionary approach to harmful chemicals in plastic and non-plastic food packaging and particularly welcomes the publication of a 'green' and 'red' list of permitted chemicals being developed by the end of 2027. Clearly placing the obligation on producers to ensure that materials and products they place on the market meet safety and quality thresholds to begin with, rather than placing the burden of emerging contaminants on the WARR sector to manage through decontamination and disposal, is integral to managing out the environmental risks posed by chemical contaminants such as PFAS.

It follows that NSW's should review its resource recovery framework, which still looks to 'end-of-pipe' remedies for linear consumption patterns rather than 'front of-pipe' prevention to create a safe circular economy. The NSW Government's commitment to implementing the recommendations of Dr Wilkinson's independent review of the *NSW Resource Recovery Framework (RRF)* was applauded by the WARR industry, given it appeared to offer a real possibility of resolving this discord, however to date industry has not seen the progress that is required on implementing this necessary framework.

That Review produced 22 recommendations aimed at achieving the following four (4) outcomes: improved administration and decision making; a clearer definition of waste; production of high quality materials to facilitate circularity; and most significantly to this review, improving approaches to known and emerging contaminants. WMRR notes with disappointment that the independent review of the RRF was commissioned in 2021 and we are now fast approaching the end of 2024. Despite the release of the Delivery Plan in May 2023, most of the action items have yet to



be completed, and many do not appear to even have commenced. This is despite industry affording many hours of consultation and direct written feedback to the NSW EPA over the last three (3) years. It strongly appears that this vital project that is fundamental to achieving a large number of 2030 targets - including 80% resource recovery and creating a safe circular economy, is not getting the priority it deserves. To this end, WMRR has recently written to the Hon Penny Sharpe MLC, raising these concerns, and again, echoes the sentiment in this submission that if the problem of PFAS and the broader issues of waste and pollution are of serious concern, then action needs to be taken now.

WMRR strongly supports this inquiry and hopes that it will encourage NSW to take urgent action to address PFAS in waterways and its impacts on human health by implementing clear, certain and consistent regulation to remove PFAS from Australian products and supply chains and to safely manage those PFAS that are already in circulation. In the absence of real national action and leadership from our federal government, leadership from NSW on this important issue is welcomed and encouraged by WMRR.

We trust that the committee will find value in these comments and welcome opportunities to engage further throughout the inquiry. Please contact the undersigned if you wish to further discuss WMRR's submission.

Yours sincerely

Gayle Sloan

Chief Executive Officer

Waste Management and Resource Recovery Association of Australia