

Submission on the Review of Statutory Protections for Wastewater Treatment Plants under the Environmental Protection Act 1994

ANZBP core position

ANZBP supports the initiative for statutory change to protect receivers of environmental pollutants in wastewater and downstream and beneficial users when managed in compliance with relevant Environmental Authorities and/or End of Waste Codes.

The Environmental Protection Act 1994 and Environmental Protection Regulation 2019 should be amended to provide clear, enforceable protection for authorised wastewater treatment plants, sewerage networks and compliant effluent and biosolids management activities where persistent contaminants are received from upstream domestic, commercial, industrial, landfill, trade waste or legacy sources that are outside the reasonable control of the operator. This protection is necessary to ensure confidence in the capacity to deliver essential services and maximise benefits from recycling valuable water, nutrient and carbon resources in alignment with the best available scientific knowledge, while also minimising perverse environmental outcomes and financial consequences that may arise from lack of certainty with respect to potential liabilities in the absence of clear statutory protections.

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To whom it may concern

The Australian and New Zealand Biosolids Partnership (ANZBP) welcomes the opportunity to provide feedback on the Queensland Government review of statutory protections for wastewater treatment plants (WWTPs) under the Environmental Protection Act 1994 (EP Act). ANZBP considers this review to be important not only for Queensland water service providers, but for the long-term viability of biosolids beneficial use, recycled water, circular economy outcomes and equitable allocation of liability across the contaminant supply chain.

The consultation paper recognises that WWTPs are critical infrastructure, end-of-line receivers and that persistent contaminants can originate from domestic, commercial, industrial and historical sources. It also expressly asks whether legislative amendments are required to ensure authorised WWTPs are not unintentionally considered polluters when managing contaminants within waste streams. ANZBP's answer is yes: targeted amendments to the EP Act and Regulation are required. A guideline or policy-only response would not provide sufficient certainty, would not bind future decision-makers and would not adequately

address civil liability, enforcement risk, downstream biosolids liability or the investment uncertainty now facing the sector.

Summary of recommendations

No.	Recommendation	Rationale
1	Amend the EP Act to clarify the polluter pays principle	Authorised WWTP operators should not be treated as the primary polluter for persistent contaminants they did not manufacture, import, intentionally use or release, and which they receive through lawful wastewater, sewerage, trade waste or landfill leachate inputs.
2	Amend the EP Act to protect authorised end-of-line receivers	Introduce a statutory protection for WWTPs, sewerage networks and compliant biosolids pathways where operators comply with their environmental authority, the general environmental duty, approved trade waste controls, End of Waste requirements and reasonable contaminant management measures.
3	Amend the Regulation and related instruments	Update ERA 63 settings, regulated waste thresholds and biosolids/recycled water regulatory interfaces so they are aligned with nationally consistent PFAS and persistent contaminant frameworks and do not inadvertently criminalise or expose essential service providers for contaminants outside their control.
4	Strengthen source control	Prioritise product bans, phase-outs, labelling, product stewardship, import and manufacturing controls, trade waste controls and nationally coordinated contaminant registers.
5	Protect beneficial reuse and circular economy outcomes	Avoid regulatory settings that result in perverse environmental outcomes by unnecessarily diverting biosolids to landfill or forcing premature thermal treatment and associated significant capital expenditure requirements where risk-based beneficial use remains protective of human health and the environment.

6	Provide funding and transition arrangements	Recognise the scale, cost and long lead times associated with advanced treatment, monitoring, landfill alternatives, thermal treatment and remediation obligations.
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Background and ANZBP perspective

ANZBP is a member-based collaboration of water utilities, consultants, researchers, government bodies and end users committed to sustainable biosolids management across Australia and New Zealand. Biosolids are a residual resource from the wastewater treatment process and provide organic carbon, phosphorus, nitrogen, sulphur, calcium, magnesium, micronutrients and beneficial soil properties when safely and appropriately reused.

Australia produces approximately 1.5 million wet tonnes of biosolids per year, with the substantial majority beneficially used in agriculture, landscaping, forestry or mine rehabilitation (ANZBP 2026). ANZBP members do not regard biosolids as a waste to be dumped, but as a critical resource that supports soil health, food security, resource recovery and circular economy outcomes.

The central issue in this consultation is not whether WWTPs should meet environmental obligations. They should and do. The issue is whether the polluter pays principle should be applied in a way that treats end-of-line essential service providers as the polluter for contaminants introduced by manufacturers, importers, product users, trade waste generators, landfill leachate and diffuse household sources. ANZBP submits that such an approach is neither equitable nor consistent with the purpose of the polluter pays principle.

Question 1: Financial and operational challenges unique to WWTPs

WWTPs are designed primarily to remove organic carbon, nutrients, suspended solids and to treat pathogens. They were not designed to destroy or fully remove persistent contaminants, including PFAS, pharmaceuticals, pesticides, microplastics, PCBs and other emerging chemicals. These contaminants can pass through treatment processes into treated effluent, recycled water or biosolids, or partition between liquid and solid streams. The implications of contaminants entering the wastewater system are especially relevant for biosolids, as contaminants are often captured within biosolids, increasing disposal/end use costs dramatically. Contaminants entering the system become concentrated in the sludge, resulting in reduced beneficial reuse options for biosolids, resulting in costs becoming several times higher than traditional biosolids management.

The financial challenge to treat or remove contaminants at WWTPs is structural. Removal of contaminants is possible using advanced treatment; however costs can escalate rapidly and can be unpredictable due to new technologies. These advanced treatment technologies require major capital investments, but also have longer-term cost impacts such as additional energy, chemical consumption and specialised operation and monitoring. For an existing WWTP, contaminant removal requires major costly plant upgrades rather than minor modification (for an urban Australian plant upgrade costs are easily tens to hundreds of millions of dollars). One of the most difficult issues facing water utilities is not the removal itself, but the management of the contaminated waste stream produced (the utility incurs a second disposal cost).

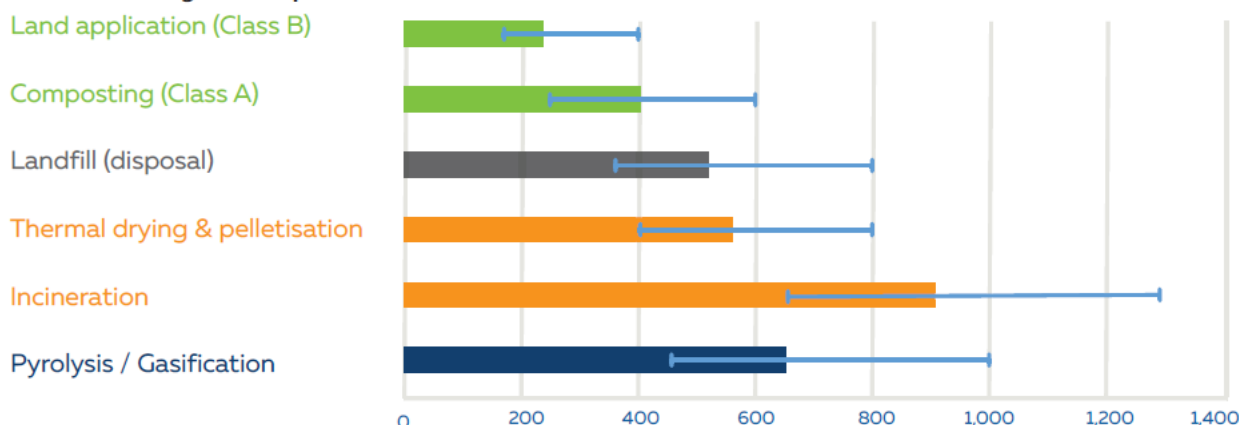
The cost of monitoring, investigation, treatment trials, advanced treatment, residuals management, destruction technologies, landfill diversion, community engagement and potential downstream liability is currently pushed onto water customers and ratepayers, even though many contaminant sources sit outside the control of the WWTP operator. It is much cheaper to prevent contamination entering the sewer system than to remove it later from millions of cubic metres of wastewater. This is particularly relevant for Australian utilities facing rising treatment costs as well as pressure from the community to reduce customer bills.

Available removal and destruction technologies are expensive, energy-intensive, location-specific and not yet mature at the scale required for statewide implementation. For biosolids, the practical alternatives to beneficial use are limited. Landfill capacity is constrained and landfilling wet organic material is inconsistent with waste hierarchy, nutrient recovery and greenhouse gas objectives. Thermal treatment may take a decade or more to plan, approve, fund and construct, and may reduce the agronomic value of the solid material.

The financial implications of moving away from established beneficial reuse pathways can also be significant. The WSAA assessment found indicative levelised costs ranging from approximately \$250/t DS for Class B land application to \$900/t DS for incineration, with pyrolysis and gasification estimated at approximately \$650/t DS and \$725/t DS respectively. These indicative costs demonstrate the substantial financial implications that may arise where regulatory settings constrain established beneficial reuse pathways and necessitate higher-cost treatment alternatives (WSAA, 2025).

Figure 1. Indicative levelised cost ranges for biosolids management approaches. Source: WSAA (2025), Weighing Up the Options: Sustainable Biosolids Management across Australia & New Zealand.

Biosolids Management Option



Some ANZBP partners are currently exploring incineration and other advanced thermal treatment pathways. These approaches can provide greater destruction of organic contaminants and substantially reduce biosolids volumes but involve significantly higher capital and operating costs than established land application pathways. They also introduce additional considerations including energy requirements, residual ash management, infrastructure requirements and long-term operational commitments.

The anticipated time horizon to plan and construct an incineration facility is 10 years with an anticipated design life of 30-50 years.

Operational challenges related to contaminant management in wastewater/biosolids are significant and include evolving contaminant thresholds, uncertain analytical methods, long infrastructure lead times,

market confidence risks for end users, difficulties identifying diffuse domestic sources, limits on trade waste control over large customer bases, and the risk of being required to meet obligations that are not reasonably practicable with existing technology.

These challenges are compounded by the limited availability of readily implementable alternative biosolids management pathways. Recent industry assessments have found that there is currently no readily available option combining high viability and ease of implementation that could replace land application at scale in the near term, with advanced thermal and other emerging approaches requiring further investment, piloting and development to improve maturity and reduce implementation risk

Question 2: Measures to better manage inputs to WWTPs

ANZBP strongly supports source control as the primary, most cost-effective and only sensible long-term measure. Persistent contaminants should be prevented from entering products, supply chains, households, trade waste streams, landfill leachate and sewerage systems wherever possible. End-of-pipe treatment should not be used as a substitute for controlling contaminants at the point where they are manufactured, imported, used or discharged.

Trade waste approvals remain important, but they are not sufficient on their own. They are better suited to identifiable point sources than to diffuse household sources; imported products; legacy contamination; commercial products; consumer goods; landfill leachate and chemicals present in supply chains, that don't have clear disclosure.

For utilities, the hierarchy of control relating to contaminant management increasingly looks like:

1. Prevent chemical use where possible.
2. Control industrial discharges.
3. Require trade-waste pretreatment.
4. Apply producer responsibility.
5. Use advanced WWTP treatment only for the remaining contaminant load.

Measures that would assist source control include: contaminant-specific trade waste controls; nationally coordinated restrictions and phase-outs for unnecessary persistent contaminants; mandatory product labelling and ingredient disclosure; product stewardship and extended producer responsibility; registers of high-risk products and industrial uses; stronger import and manufacturing controls; improved landfill leachate controls; contaminant source tracing programs; and customer education on household products and disposal practices. Other jurisdictions that have been studying contaminant science for decades have realised the importance of acting early on chemical restrictions and phasing out problematic substances, rather than being reactive.

The Queensland Government should work with the Australian Government to ensure state regulatory expectations for WWTPs are matched by upstream controls under national chemical management frameworks. Without upstream controls, the practical effect of the polluter pays principle is inverted: the party

providing the clean-up service pays, while the upstream parties benefiting from the contaminating product avoid responsibility.

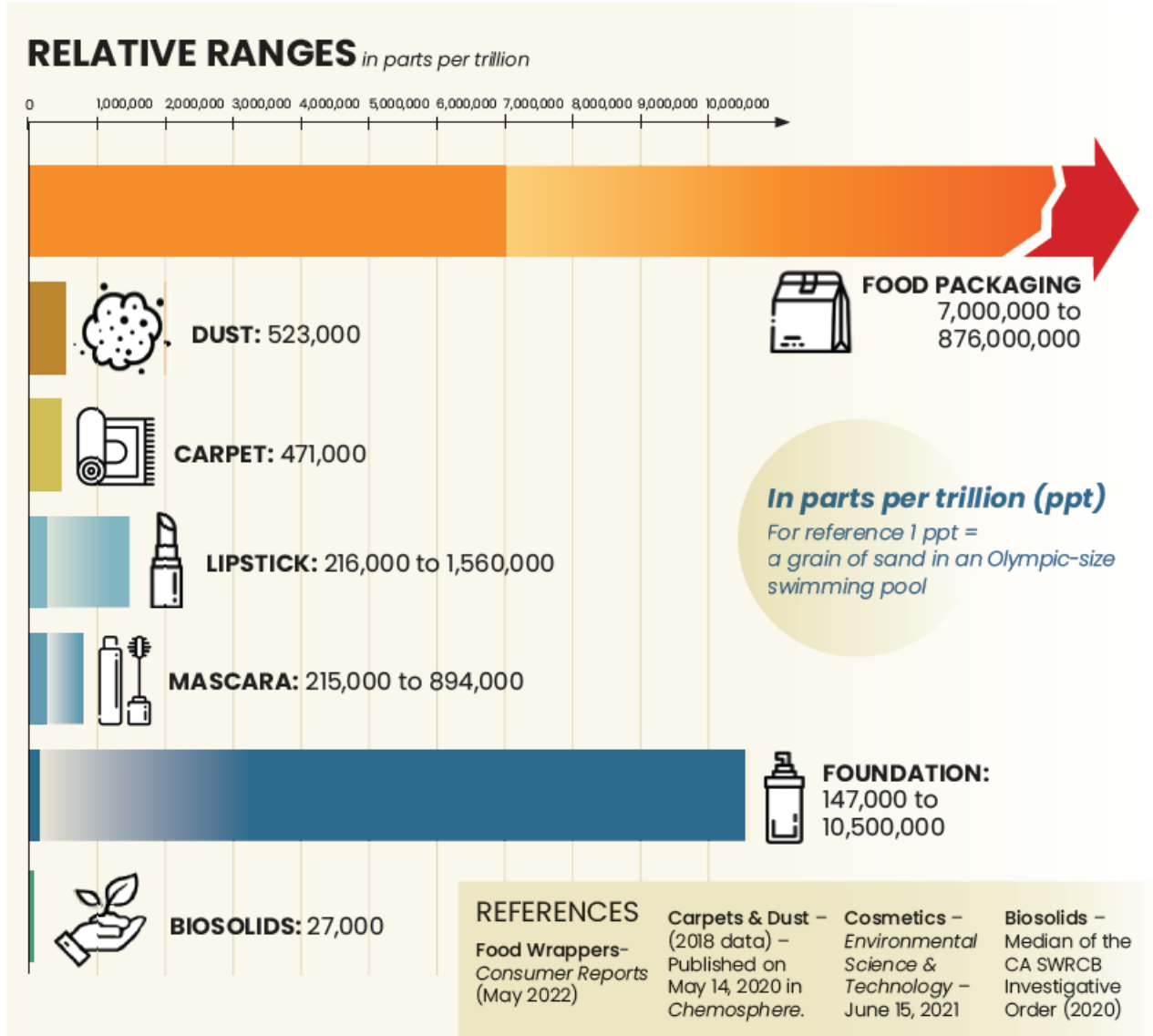
From a logistical perspective, society cannot reduce the load of persistent contaminants entering the environment without restricting the load entering via industrial and domestic products:

- Regulation restricting end-of-pipe releases can never be effective without complimentary front-of-pipe restrictions.
- It is illogical to allow significant human exposure to industrial and domestic products containing persistent pollutants such as PFAS yet expect end-of-pipe restrictions to protect human and environmental health. For example, the concentration of PFAS in food packaging is estimated at between 259x to 32,000x that in biosolids, while the concentration in foundation makeup creams is 5x to 389x that of biosolids (CASA, 2022).
- Even with measures to reduce front-of-pipe concentrations of contaminants, potential gains may be offset by growth in total loads associated with population growth and consumption of some products.
- With a total ban on products containing persistent contaminants with very long half-lives such as PFAS, it would take many years to eliminate them from the waste-water system.

In Europe and North America the regulatory direction is not to treat WWTPs as the polluter for contaminants that originate upstream. Instead, their frameworks are moving toward a combination of:

- WWTP compliance obligations (the plant must operate correctly and meet discharge limits),
- Source control obligations on industry and product manufacturers, and
- Application of the "polluter pays" principle to those introducing contaminants into the sewer system.

European policy increasingly focuses on upstream prevention and producer responsibility, especially for micropollutants such as PFAS, pharmaceuticals, cosmetics chemicals, and industrial contaminants. A WWTP is responsible for the quality of its final discharge permit compliance, but it is not regarded as the original polluter when contaminants enter from households, hospitals, industrial dischargers, agriculture, or manufacturers. Figure 1: Relative ranges of PFAS concentrations in domestic products and biosolids (CASA, 2022).



Question 3: Regulatory measures to assist WWTPs in meeting EP Act obligations

Regulatory measures should provide statutory certainty that a WWTP operator acting lawfully and reasonably is not deemed the polluter merely because persistent contaminants pass through or accumulate in wastewater, biosolids or recycled water streams.

ANZBP recommends amendments that expressly recognise authorised WWTPs and sewerage networks as essential public infrastructure and end-of-line receivers. Compliance with an environmental authority, approved trade waste framework, general environmental duty and relevant End of Waste or biosolids requirements should create a clear statutory safe harbour for contaminants outside the operator's reasonable control.

The EP Act should clarify that reasonable and practicable measures are to be assessed having regard to current technical knowledge, treatment effectiveness, whole-of-system costs, availability of alternative infrastructure, environmental trade-offs, transition timeframes, and whether stronger upstream controls are available. The duty to restore should not impose open-ended remediation obligations on authorised operators for contaminants lawfully received from third parties and managed in accordance with regulatory requirements.

The Regulation should be amended to support consistent implementation. This includes ERA 63 model conditions, regulated waste thresholds, water quality guidelines, biosolids End of Waste settings, monitoring requirements and alignment with nationally consistent thresholds. Regulatory requirements should also protect beneficial reuse pathways where risk-based, place-based assessment demonstrates that environmental and human health outcomes are protected.

Question 4: Adequacy of current legislative settings and beneficial adjustments

The current legislative settings are not adequate because they do not provide sufficient certainty that authorised WWTPs, sewerage networks and compliant biosolids management activities will be protected from being treated as the polluter for persistent contaminants received from upstream sources. The consultation paper recognises the breadth of the term polluter and the possibility that multiple parties in the pollution chain, including WWTP operators, could be captured. That uncertainty is a material risk for essential service providers, biosolids contractors, end users, insurers and investors. Tighter regulations on WWTPs would mean more plants requiring advanced treatment, biosolids reuse pathways would reduce, energy consumption will increase and capital programs will expand. Regulation should shift its focus to the chemicals and problematic substances, not just the regulation of WWTPs.

Guidance or policy alone would not be sufficient. It may assist interpretation, but it cannot reliably resolve statutory ambiguity, bind future enforcement decisions, allocate civil liability, amend regulated waste thresholds, protect compliant biosolids users or provide the investment certainty needed for infrastructure planning. A policy-only outcome would leave the sector exposed to the same uncertainty that prompted the review.

While, to our knowledge, no Australian court cases have been reported to date involving liability for PFAS or other persistent contaminants received by WWTPs from upstream sources or subsequently managed through biosolids pathways, PFAS-related biosolids litigation has emerged in the US, highlighting the risks associated with regulatory uncertainty (refer to the section on *Legal cases and enforcement risk*).

ANZBP therefore supports targeted amendments to the EP Act and the Environmental Protection Regulation 2019. These should:

- define or recognise end-of-line receivers;
- clarify application of the polluter pays principle;
- provide statutory protection for authorised WWTPs and networks;
- protect compliant biosolids pathways;
- recognise source control as the preferred hierarchy response, regulators focus first on preventing contaminants entering sewer systems;

- regulations are currently divided across states and territories, aligning Queensland thresholds with national frameworks; and
- require transition arrangements and regulatory impact assessment for major changes affecting biosolids, recycled water and wastewater management.

This approach would not excuse poor performance or unlawful releases by the operator. Protection should apply only where the operator is authorised, compliant and has taken reasonable and practicable measures. The objective is to ensure that liability is directed to those with meaningful control over the contaminant source, while maintaining enforceable environmental obligations for WWTP operators.

Suggested legislative architecture

ANZBP recommends that the Department consider the following legislative architecture. The wording below is conceptual and should be settled with Parliamentary Counsel.

Element	Recommended position
EP Act: interpretive provision	Insert a provision clarifying that, for the polluter pays principle and related statutory duties, an authorised WWTP or sewerage network is not taken to be the polluter solely because it receives, treats, transfers, discharges, recycles or manages persistent contaminants introduced by another person or diffuse source, provided the operator acts in accordance with its authority and reasonable and practicable measures.
EP Act: statutory protection / safe harbour	Provide that no civil liability or duty to restore arises against an authorised WWTP operator, sewerage network operator or compliant biosolids manager for the presence or release of trace or background persistent contaminants where the activity is authorised, the operator is compliant and the contaminant was outside reasonable control.
EP Regulation: operational detail	Amend ERA 63 and related provisions to clarify monitoring, trade waste, source investigation, recycled water and biosolids requirements, including how regulated waste thresholds and PFAS settings apply to wastewater-derived materials.
End of Waste / biosolids instruments	Ensure compliant beneficial use of biosolids is protected where conditions are met and the material is used in accordance with risk-based application rates, site controls and relevant contaminant assessment requirements.
Transition and funding	Require transition plans, regulatory impact assessment and funding pathways before new persistent contaminant obligations materially alter treatment, disposal or beneficial reuse requirements.

Legal cases and enforcement risk

ANZBP has not identified a reported Australian court decision in which a WWTP operator or biosolids end user has been fined specifically because inadequate statutory protection caused them to be treated as the polluter for persistent contaminants received from upstream sources. This absence of reported fines should not be interpreted as evidence that the current framework is adequate. It more likely reflects that PFAS and emerging contaminant regulation is still developing, that many enforcement outcomes are not readily searchable, and that the sector has relied on cooperation and guidance rather than statutory certainty.

Queensland's public enforcement register does not include warning notices, penalty infringement notices or prosecution outcomes, which limits the ability of stakeholders to verify whether smaller penalties or prosecutions have occurred in analogous circumstances. The NSW EPA has commenced a biosolids compliance campaign examining processing and agricultural land application under resource recovery orders and exemptions, including future regulatory settings for PFAS and emerging contaminants. These developments illustrate that compliance scrutiny is increasing even if reported prosecutions are limited.

Recent Australian litigation also demonstrates the increasing focus on the allocation of responsibility for PFAS contamination. The Commonwealth has commenced Federal Court proceedings against 3M and 3M Australia, seeking approximately \$2 billion in damages associated with the investigation, management and remediation of alleged PFAS contamination from legacy firefighting foam use at 28 Defence bases. While the proceedings are ongoing and no determination of liability has been made, the case illustrates the significant legal and financial consequences associated with determining responsibility for persistent contaminants and reinforces the importance of clear statutory allocation of liability (ABC News, 2026).

Internationally, PFAS-related biosolids litigation is now emerging. In the United States, *Alessi v Synagro Technologies, Inc.* involves claims by Texas landowners alleging PFAS contamination from neighbouring land application of biosolid-derived fertiliser. *Farmer v EPA* sought to compel US EPA action on PFAS in sewage sludge. Other US litigation has included claims involving publicly owned treatment works and land-applied sewage sludge. These matters are not direct Australian precedents, but they demonstrate the realistic pathway by which wastewater utilities, biosolids processors, land applicators and end users can be drawn into litigation where statutory allocation of responsibility is unclear.

The policy lesson for Queensland is that statutory clarity should be established before litigation or enforcement crystallises. A clear legislative safe harbour for authorised, compliant and reasonable end-of-line receivers would reduce uncertainty while preserving enforcement options for unlawful operators and upstream contaminant sources.

Closing statement

ANZBP supports strong, practical and enforceable environmental protection. We support the polluter pays principle when it is applied to those who manufacture, import, use, discharge or profit from persistent contaminants and can reasonably control their release. This principle creates a market-based mechanism to reduce the production and use of persistent contaminants in industrial and domestic products. It is inequitable and counterproductive to apply that principle in a way that treats authorised WWTPs as the

primary polluter for contaminants they receive while performing an essential public health and environmental service.

ANZBP therefore recommends that the Queensland Government proceed with targeted amendments to the EP Act and Environmental Protection Regulation 2019, supported by guidance, funding, transition arrangements and source-control measures. A guideline or policy-only response would not be sufficient to resolve the statutory uncertainty identified by this review.

ANZBP would welcome further engagement with the Department, qldwater and other stakeholders to develop practical drafting and implementation arrangements that protect the environment, customers, biosolids markets and critical wastewater infrastructure.

Yours sincerely,



Rob Tinholt

Chair, ANZBP Advisory Committee

References and source material

- ABC News, 2026. “Government's complex case against PFAS manufacturer 3M laid out in Federal Court”, 7 August 2026.
- Australian and New Zealand Biosolids Partnership (ANZBP), 2026. *Biosolids Production in Australia Final Report – 2024/25 Biosolids Production and End Use Survey*.
- California Association of Sanitation Agencies (CASA), 2022. PFAS by the numbers.
<https://madsewerpfasinitiative.org/wp-content/uploads/2022/10/CASA-PFAS-Infographic-2022.pdf>
- Feldon, Cianciola and Quinan, An update on regulation and litigation concerning PFAS in biosolids, Westlaw Today, 11 May 2026.
[https://today.westlaw.com/Document/lb7be151e4d5611f19bfcdf2007f6a1f5/View/FullText.html?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://today.westlaw.com/Document/lb7be151e4d5611f19bfcdf2007f6a1f5/View/FullText.html?transitionType=Default&contextData=(sc.Default)&firstPage=true)
- NSW EPA, Biosolids compliance campaign, 5 February 2025.
<https://www.epa.nsw.gov.au/news/epamedia/250205-epa-launches-biosolids-compliance-campaign>
- Parliament of Australia, Senate Select Committee on PFAS, Chapter 9: PFAS in waste streams and agricultural impacts.
https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/PFAS_per_and_polyfluoroalkyl_substances_48P/PFAS48P/Final_report/Chapter_9_-_PFAS_in_waste_streams_and_agricultural_impacts
- Queensland Environmental Protection Act 1994, including section 6A and section 319.
- Queensland Government, Consultation paper: A review of statutory protections for wastewater treatment plants under the Environmental Protection Act 1994, July 2026.
- Queensland Water Directorate (qld water), Queensland Election Manifesto, statutory protection for wastewater treatment plants against emerging contaminant claims.
- US EPA, Draft Guidance for Reducing Risk from Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS) in Biosolids. Updated June 29 2026. <https://www.epa.gov/system/files/documents/2026-06/draft-guidance-reducing-risk-pfoa-pfos-biosolids.pdf>
- Water Services Association of Australia (WSAA), 2025. *Weighing Up the Options: Sustainable Biosolids Management across Australia & New Zealand*. Prepared by AtkinsRéalis in partnership with ANZBP.