22 January 2026

Committee Secretariat
House of Representatives Standing Committee on Industry, Innovation and Science
PO Box 6021
Parliament House
CANBERRA ACT 2600
By email: iis.reps@aph.gov.au

Dear committee Chair, Deputy Chair and committee members

The following correspondence is a submission of Elan Energy Matrix to be considered as part of the House of Representatives Standing Committee on Industry, Innovation and Science inquiry into the current state of the Australian tyre industry, and any challenges and opportunities for the industry within the context of a circular economy.

As one of Australia's leading tyre resource recovery operations, Elan Energy Matrix is pleased to be able to provide our perspectives issues contained in the inquiry terms of reference.

Submission Summary Points

- While 89 per cent of passenger and commercial (truck and bus) used tyres are recovered in Australia, the segment of Australia's tyre recycling market where the lowest level of recycling of waste tyres occurs is off-the-road tyres (OTR) tyres.
- Elan is strongly opposed to a mandatory product stewardship scheme for recycling of waste tyres as this will result in lower percentages of waste tyres being recycled and therefore, there will be worse outcomes for the environment and the community if such a scheme was to be introduced in Australia.
- Immediate changes that Elan recommends to improve the percentage of waste tyres which are recycled in Australia:
  - Landfill disposal of waste tyres and disposal in-pit of mining tyres must be banned;
  - It must be a requirement for all tyres imported into Australia to be linked to an accredited tyre recycler, as part of improved tracking methods for such tyres; and
  - Australia's export ban on whole baled waste tyres must be adequately enforced.
- Other possible reform options could include introducing obligations for sorting of tyres to take place at the point where they become waste tyres, i.e. the source, and consideration should be given to establishing designated waste tyre collection points.
- Tyre Stewardship Australia (TSA) does not represent the tyre recycling industry, with evidence of this being that under its scheme guidelines, the constitution of TSA requires its board to consist of "a minimum of one and up to two representatives from the tyre recycling industry with suitable knowledge and experiences"; TSA has never complied with this requirement.

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- There are risks – including to human health – associated with the use of used tyre crumb rubber in synthetic turf, soft-fall playgrounds, sporting fields, for asphalt manufacturing and road construction.

About Elan Energy Matrix

Elan Energy Matrix (www.elanem.com.au or Elan) operates an advanced tyre resource recovery facility – a tyre recycling plant – located in Welshpool, in the eastern suburbs of Perth. Elan Energy Matrix employs approximately 25 people.

Elan Energy Matrix is in the process of expanding our tyre recycling operations to all other Australian states and territories.

Information provided in this submission is drawn from our extensive experience operating in Australia's tyre recycling industry over a period of 14 years.

Tyre Resource Recovery

Up until the ban on the export of whole waste tyres from Australia which commenced in late 2021, operations at our Welshpool site for the recovery and recycling of waste tyres included a mix of exporting whole waste tyres, as well as shredding and crumbing of waste tyres after we receive them.

In 2026, the entire focus of our Welshpool operation is shredding of waste tyres, with the processed shred transported overseas to federally accepted pyrolysis plants, for recovery of oil and steel.

Elan Energy Matrix is the in the process of commissioning other new cutting-edge technologies for processing of recycled waste tyres, including a wholly onshore solution.

All technology used by Elan Energy Matrix is developed and implemented entirely within Australia.

Tyre recycling is a fragile ecosystem

Tyre recycling companies play an integral role in the recovery and recycling of waste tyres. Therefore, any new commercial hurdles which are faced by tyre recyclers – i.e. increased costs – will force recyclers out of the existing market, reducing competition and driving up the costs of recovering and recycling waste tyres. This reflects the fragile ecosystem that all stakeholders in Australia's tyre recycling chain exist – consumers, tyre manufacturers, tyre retailers/users, waste tyre transporters and tyre recyclers.

This is why operators in the tyre recycling industry, such as Elan, should not be ignored when decisions are made about the future model for the regulation of waste tyres in Australia. Further, the views of the tyre recyclers industry should take precedence over stakeholders, such as local government, on the basis that if a tyre recycler faces financial difficulty, it will close. If, for example, local government faces financial difficulty, it has the option of increasing the amount it charges rate-payers. Tyre recyclers do not have the luxury of a financial backstop, such as this.

Shared responsibility

In order to maximise the positive outcomes from the recovery and recycling of waste tyres for the environment and the community, all stakeholders in the fragile tyre recycling ecosystem – consumers, tyre manufacturers, tyre retailers/users, waste tyre transporters and tyre recyclers – must share responsibility.

Primary focus – off-the-road tyres

The segment of Australia's tyre recycling market where the lowest level of recycling of waste tyres occurs is OTR tyres, many of which are used on major mining sites in the Pilbara region of Western Australia.

According to TSA data, 89 per cent of both passenger and commercial (truck and bus) used tyres are recovered in Australia. According to figures published by the Government of Western Australia's Department of Water and Environmental Regulation (DWER) – on behalf of all federal/state/territory governments – 77 per cent of passenger tyres and 78 per cent of truck tyres in Australia were recovered in 2022/23.

The corresponding figures for OTR tyres are:

- 12 per cent recovered (TSA); and
- 8 per cent recovered (DWER figures).

In addition, the federal government's existing National Waste Policy Action Plan stipulates that there should be an 80 per cent average recovery rate from all waste streams by 2030. The passenger and commercial tyres waste stream is already either meeting this target or exceeding it (according to the percentages outlined above).

Given this, there is currently no credible public policy evidence that the recovery and recycling of passenger and commercial used tyres warrants any form of intervention in the market as it currently exists – regulatory/legislative intervention or otherwise. If there is intervention in this market, there is a risk that the current levels of recovery and recycling of waste passenger and commercial tyres could decrease, resulting in negative community and environmental outcomes.

This is tangible evidence that the only segment of the waste tyre recovery and recycling market where intervention – regulatory/legislative or otherwise – should be considered is OTR tyres.

Elan is strongly opposed to a mandatory product stewardship scheme for recycling of waste tyres

Elan Energy Matrix is strongly opposed to the introduction of a mandatory product stewardship scheme for recycling of waste tyres.

If government moves to regulated product stewardship and/or a government fees/rebate system for the recycling of waste tyres, there will be significant negative commercial and other impacts on tyre recyclers which will force recyclers to exit the waste tyre market and even close.

This will reduce competition between tyre recyclers and drive up recovery and recycling prices, which will ultimately result in lower percentages of waste tyres being recycled. The end result will be worse outcomes for the environment and the community.

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Claims that the only way to increase the percentages of tyres which are recovered and recycled is to make participation in Australia's tyre recycling scheme mandatory are false. Therefore, Elan Energy Matrix does not support such change.

Primary recommendation – ban landfilling of waste tyres and disposal in-pit of mining tyres

The most effective solution to addressing the issue of low recovery rates of waste OTR tyres would be for the introduction of a prohibition on landfilling of waste tyres. This reform would force organisations who are a part of the tyre recycling ecosystem to abandon their current prevailing practice of disposing of tyres in landfill – notably on Pilbara mining sites – and instead, seek to have these tyres recycled. Such reform would also promote superior environmental outcomes.

Further recommendation – stronger enforcement

Elan Energy Matrix is supportive of efforts and further investment to strengthen the enforcement of existing laws which regulate the disposal of waste tyres in Australia. For example, Australia's export ban on whole baled waste tyres and shredded tyres where the shred pieces are not small enough to be legally exported is not currently adequately enforced – and it should be.

Other possible reform options for the regulation of waste tyres in Australia

Elan recommends that the following elements are considered if a new model for the recycling of waste tyres in Australia is to be considered:

- The introduction of obligations for sorting of tyres to take place at the point where they become waste tyres, i.e. the source;
- Better capturing data for the tracking of tyres – all imported tyres should be tracked and all waste tyres should be tracked, including where transporters drop off waste tyres;
- Consideration should be given to establishing designated waste tyre collection points;
- Capturing and preventing "free riders" (i.e. stakeholders who are receiving funds for the collection of waste tyres, but are not recycling them);
- A free market for tyre recyclers must be maintained – meaning Australia must not adopt a model where there is one recycler (e.g. British Colombia, Canada) or a model where there is one recycler per district (e.g. Italy);
- Given the serious market failure in recycling of OTR tyres, consideration should be given to federal government subsidies and/or grants being made available to tyre recyclers for the operation of circular economy facilities in parts of Australia where there are high numbers of waste tyres, but there are inadequate or no local tyre recycling operations and/or such operations are commercially unviable;
- Government should require that the governance challenges that TSA has are fixed, as a priority (further information about this is provided below); and
- Altering the distribution of funds retained by TSA from the $0.25 levy on each equivalent passenger tyre unit for imported tyres so that in addition to TSA receiving a share of this, a separate fund is established where tyre recyclers are able to apply for financial support for

innovation, research and development and other initiatives which are designed to enhance the tyre recycling industry (as things stand, TSA is receiving the entirety of funds from this levy – and, among other things, it is using this resource to actively lobby and advocate against the interests of tyre recyclers in many instances).

The most effective way of increasing participation in the tyre recycling scheme is through the establishment of a separate fund to provide financial support to tyre recyclers (as outlined above). This initiative would create a financial incentive for tyre recyclers to be involved in the scheme, which, in turn, would ensure that more tyre recyclers would actively participate in the scheme than is currently the case.

Inadequate industry representation – TSA

TSA does not represent (and never has represented) the interests of the tyre recycling industry.

Under TSA's scheme guidelines, the constitution of TSA requires its board to consist of "a minimum of one and up to two representatives from the tyre recycling industry with suitable knowledge and experiences".

TSA has never complied with this requirement. At present, it still does not have a representative of the tyre recycling industry on its board. Among other things, this prevents the tyre recycling industry from having an adequate voice around the TSA table.

The committee should also take into consideration that TSA was established by the Australian Tyre Industry Council, the industry organisation which represents tyre manufacturers (not tyre recyclers).

A tyre recycling levy is already in place

One of the consequences of this inadequate representation of tyre recyclers on the TSA board involves the $0.25 levy which is collected by TSA from every equivalent passenger tyre unit for every tyre which is imported into Australia. TSA receives all of the funds generated by this levy and the tyre recycling industry receives nothing. Among other things (and as mentioned above), this is detrimental to innovation, as well as research and development in the tyre recycling industry.

Support for research and development

Since establishment, Elan has entirely financed its own research and development and it is continuing to do this, which has equated to a multi-million dollar contribution from Elan. Research and development conducted and financed by Elan includes exploring emissions reduction by feeding back into our process light fractions of gas which can't be condensed, instead of releasing this into the atmosphere.

Additional support for research and development from government would result in an uptick in the number of tyre recycling facilities across Australia.

Crumb rubber risks

There are risks – including to human health – associated with the use of used tyre crumb rubber in synthetic turf, soft-fall playgrounds, sporting fields, for asphalt manufacturing and road construction.

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In 2023, the European Commission introduced a ban on the use of used tyre crumb rubber as infill for synthetic turf sporting fields because of concerns about impacts to living organisms in the environment, including human health risks. The risks to human health stem from exposure of sporting field users to polycyclic aromatic hydrocarbons within crumb rubber.

A far safer approach to recovery of used tyres is utilising pyrolysis technology.

Elan Energy Matrix commissioned leading environment consulting firm, JBS&G (www.jbsg.com.au) to carry out a review of public domain literature about the safety of microplastics, focusing on used tyre crumb rubber. The findings of this review have been published by JBS&G in a report, “Review: Health and Environmental impacts of Used Tyre Crumb Rubber”.

Key points in the report:

- The report examines risks associated with the use of used tyre crumb rubber in synthetic turf, soft-fall playgrounds, sporting fields, for asphalt manufacturing and road construction.
- The report found that in addition to there being risks posed by the use of crumb as infill, the contribution of tyre-wear particles to environmental impacts to the overall burden from toxic chemicals within crumb rubber is greater than that from the use of crumb as infill.
- The environmental risks from the release of tyre rubber into the environment is being legally tested via litigation initiated in the US.
- The use of crumb rubber for asphalt manufacturing and road construction presents risks to workers during construction and longer-term risks to the environment from road wear materials.
- In September 2023, the European Commission implemented a ban on the sale of microplastics which are intentionally added to cosmetics, personal care products and detergents, as well as the use of used tyre crumb rubber as infill for synthetic turf sporting fields.
- The ban was introduced because of concerns about impacts to living organisms in the environment, including human health risks.
- The risks to human health stem from exposure of users of the sporting fields to polycyclic aromatic hydrocarbons within crumb rubber.
- There is an eight-year transition period from when the ban was implemented in 2023 – to, among other things, accommodate the anticipated lifetime of synthetic turf sporting fields – meaning the ban will come into force in 2031.
- With used tyre crumb rubber used as infill for synthetic turf sporting fields and soft-fall playgrounds in Australia, there are questions about whether users of these facilities are exposed to unacceptable health risks.
- This, in turn, raises the question about whether or not Australia should consider a similar ban on the use of crumb rubber infill for synthetic turf installed in Australian sporting facilities and soft-fall playgrounds.

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- The information reviewed clearly demonstrated that crumb rubber is released from the fields and playgrounds and enters the environment, predominantly via storm-water run-off, into nearby water-courses and via storm-water systems.
- The review found that there are specific toxic impacts from some of the chemicals within the rubber to various marine organisms.
- Evidence about the impact on human health is less compelling.
- The review has examined an alternative approach to recovery of used tyres – pyrolysis.
- More research is required to better understand the risks in an Australian context.
- The review has concluded that government and regulators should adopt a precautionary approach for the use of crumb rubber infill for synthetic turf sporting fields.
- Such a precautionary approach could be in the form of new guidelines for environmental and human health risk assessments, as part of planning/approvals processes for new sporting facilities that will use synthetic turf, running tracks and playground mats containing crumb rubber.

A copy of this report is an attachment to this submission.

Further information/engagement

If members of the committee would like any further information about the content in this submission or you would like to meet with us and/or visit our site in Welshpool, please arrange for the Committee Secretariat to make contact with either myself or our Canberra-based government relations advisor (Hamish Arthur, MCM Strategic Communications –[redacted]).

Yours sincerely

[redacted]

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