



Government of **Western Australia**  
Department of **Water and Environmental Regulation**

# National End-of-Life Tyres Options project

Project report

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## Department of Water and Environmental Regulation

Prime House, 8 Davidson Terrace  
Joondalup Western Australia 6027

P +61 8 6364 7000  
F +61 8 6364 7001  
National Relay Service 13 36 77

[wa.gov.au/dwer](http://wa.gov.au/dwer)

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For more information about this report, please contact our Circular Economy Directorate staff at the Department of Water and Environmental Regulation via the waste reform email address at [wastereform@dwer.wa.gov.au](mailto:wastereform@dwer.wa.gov.au).

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# 1 Executive summary

In 2023, Australian environment ministers agreed that 'Western Australia would lead on the development of national principles for product stewardship for tyres', progressed through a national collaborative project (the project) on options for end-of-life tyres (EOLTs).

The project has sought to establish a collective understanding of the problems associated with EOLTs, including off-the-road (OTR) tyres. Conveyor belts and rubber tracks (related products) were also considered. The project has sought to identify and assess possible policy solutions (not limited to product stewardship) that could suit the Australian context, while aiming to manage tyres and related products consistent with the waste hierarchy and a circular economy.

Environment ministers were updated on the project at their June 2024 meeting (EMM). At that meeting, the project's preliminary findings were presented and an approach to stakeholder consultation was proposed. Subsequently, Western Australia (WA) engaged with key stakeholders on the project's preliminary findings, with the insights gained from the consultation informing this project report's findings.

A separate but related investigation into OTR tyres was also conducted (OTR investigation). These tyres are principally used in industries such as mining, agriculture and construction. The OTR investigation considered the challenges and opportunities (and information gaps) associated with OTR tyres and related products. The OTR investigation was conducted by a jurisdictional working group comprising representatives from New South Wales, Queensland and WA. The working group contacted key OTR stakeholders and provided them with a brief report (OTR brief) to support discussions for the OTR investigation.

See Section 6 on page 23 for the OTR investigation's key findings and further information in a separate document: *Investigation report – off-the-road tyres and related products*.

The current framework for EOLTs includes the existing regulatory settings administered by Australian governments, the current tyre collection and recycling industry settings, the existing markets for tyre-derived products (TDPs) and the initiatives and effects of the current voluntary national tyre product stewardship scheme (TPSS).

The project's outputs and findings, including the outcomes from the stakeholder consultation, were presented to Australian environment ministers at their 10 December 2024.

The project found that the existing framework for EOLTs (including the TPSS) had produced significant benefits. However, stakeholders acknowledged that the framework suffered from a range of issues, including risks and costs being borne by the community and the environment, missed opportunities for the recovery of valuable materials, non-participants benefiting from the scheme, and inequities and data gaps that typically arise from a voluntary approach.

The project found that only 'broad-based' approaches could fully address the range of identified issues with EOLTs. Broad-based approaches normally involve regulated frameworks requiring funding and engagement by product manufacturers and distributors, and can include targets, incentives and differential fees to drive outcomes. As such, broad-based options can be designed and implemented to respond to a range of challenges, with product fees on manufacturers and/or distributors financially underpinning the approach.

Of the broad-based approaches that this project assessed, a well-designed regulated product stewardship scheme (tailored to the Australian context) was considered the most capable option. Targeted options, such as market development and improved standards and design rules, were found to be 'no regrets' measures for providing foundational benefits. These could be implemented independently of other decisions, and should support a broad-based option.

The project has not sought to establish a detailed design for any future system or scheme to improve the management of EOLTs. However, the project has taken a principles-based approach to identify some possible features that would appear to be effective in driving better outcomes and support sustainable markets for TDPs.

A key project finding is that any framework for improved management of EOLTs must be fit-for-purpose in the Australian context. Also, the project found changes should be staged to:

- respond to any issues with the readiness of local markets for TDPs
- allow time for critical processing capacity expansion and the roll-out of key enabling technologies
- give certain industries that generate EOLTs time to prepare.

Some stakeholders, such as the recycling industry, see significant risks to existing markets and business models from poorly designed government intervention, particularly some styles of product stewardship. Through further consultation, some consensus emerged about the opportunities that a well-designed regulated scheme could bring, which could focus on incentives and rebates, and on ways to address non-participation, without unduly interfering in free-market processes.

This project has aimed to be consistent with the national product stewardship framework to help accelerate product stewardship investigations by states and territories, and to inform national consideration of product stewardship options.

This project report has sought to provide Australian environment ministers with information to support their decision-making with respect to EOLTs (and related products) and guide the development of national principles for tyre product stewardship.

## 2 The project and consultation

### 2.1 Project initiation and scope

In 2023, Australian environment ministers agreed that 'Western Australia would lead on the development of national principles for product stewardship for tyres', progressed through a national collaborative project (the project) on options for end-of-life tyres (EOLTs).

The project considered a range of evidence to form a collective understanding about the problems associated with EOLTs in Australia. The project also considered off-the-road (OTR) tyres used in industries such as mining and agriculture, as well as conveyor belts and rubber tracks (related products). The project conducted a high-level assessment of option classes (options) for EOLTs to see how these might address the identified problems.<sup>1</sup>

At the June 2024 environment ministers' meeting (EMM), members received an update that set out the proposed engagement approach with key stakeholders to socialise the project's preliminary findings and gain important insights to inform the project's outputs.

A discussion paper was circulated to key stakeholders (during the project's consultation phase) which set out some preliminary findings and sought feedback through an online survey and/or written submissions. A parallel OTR investigation also sought to gain input from stakeholders on the opportunities, challenges and information gaps where OTR tyres and related products were concerned.<sup>2</sup>

The project aimed to support Australian governments with their decision-making through setting out the issues and some potential policy approaches to address them – informed by insights from key stakeholders.

The approach adopted for the project closely aligns with the early stages of a policy impact analysis (PIA), as defined in the [Australian Government guide to policy impact analysis](#).<sup>3</sup> Hence the outputs of this project could be a useful input to a PIA, if the Commonwealth Government chooses to initiate that process with respect to EOLTs.

However, this project itself does not constitute a PIA or a commitment by government to regulation. In particular, the project has not completed a detailed cost-benefit analysis of the identified options, which would be needed if options for EOLTs were to be formally assessed. However, the project identified more targeted actions that might be implemented independently of any formal consideration of regulatory approaches.

### 2.2 Project methodology

The project conducted several foundational activities to establish a set of problem and opportunity statements, as well as a set of policy objectives and guiding principles. These were all refined during the project. These foundational activities included a literature review, early engagement with key stakeholders, and collaboration with Australian jurisdictions. This guided the project's high-level assessment of regulatory and non-regulatory option classes (options), which were presented to stakeholders as part of the consultation documents. This project's outputs have sought to capture the stakeholder insights gained through the consultation process.

<sup>1</sup> The project focused on option classes (which can cover many variants of each option type) to avoid comparing too many option variants. The assessment assumes options are designed to be effective in Australia, while still considering the strengths and weaknesses of each option class.

<sup>2</sup> An OTR investigation report was released alongside this project report (DWER 2025).

<sup>3</sup> The PIA guidance was updated by the Commonwealth of Australia in 2023.

### 3 Problem statement

There are many positive outcomes and trends associated with the recovery of EOLTs in Australia. Recovery rates for car and truck tyres are relatively high, and government and industry investment in recovery infrastructure is growing. Nevertheless, problems exist which are limiting circular economy opportunities and presenting risks and costs to the environment and the community.

Figure 1 shows the split in tonnes between reuse, recycling, energy recovery and various lawful and unlawful disposal activities for all EOLTs in Australia in 2023–24.

**Figure 1 Tyre reuse, recycling, energy recovery and disposal, and other problematic fates for end-of-life tyres in Australia (in tonnes) in 2023–24. Source: TSA 2025**

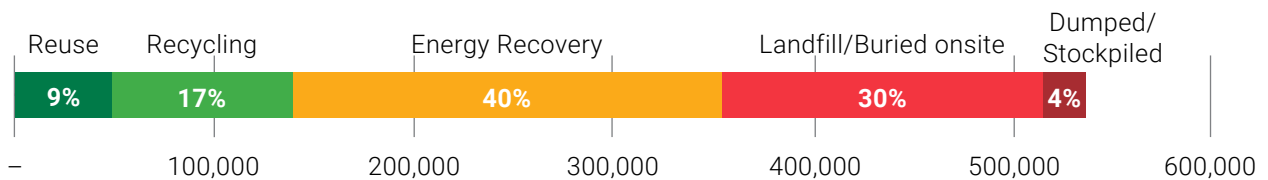


Figure 2 shows the 2023–24 estimates for the proportion of recovery versus non-recovery across the major tyre classes, passenger tyres (for cars), truck tyres and OTR tyres. Non-recovery includes legal disposal by way of landfill and onsite burial, as well as illegal dumping and stockpiling of tyres.

**Figure 2 National levels of recovery versus non-recovery for various classes of tyres in 2023–24 Source: TSA 2025**



The project found that a variety of EOLT-related issues in Australia can be grouped into three broad categories<sup>4</sup> – see Table 1.

**Table 1: Problem categories and summaries of issues for end-of-life tyres.**

Problem category	Summary of issues
Problem category 1: risks and costs to the environment and communities	Includes various impacts and cost burdens on communities and governments, and the environment (including fire risks), due to illegal disposal, unlawful operations and poor management of EOLTs across Australia (including regional and remote locations).
Problem category 2: missed opportunities for recovery and the loss of resources	Includes missed opportunities for higher-order outcomes, including higher-order recovery from existing EOLT management, along with considerable loss of resource value from disposal of OTR tyres used in industries such as mining and agriculture.
Problem category 3: limitations of and inequities in the current framework	Includes unfair benefits received by businesses not participating and contributing to the voluntary approach, as well as issues with poor practices that undermine better-practice recovery operations (and stifle investment), while data gaps continue to interfere with understanding the issues and opportunities for EOLTs.

<sup>4</sup> The review of potential issues with EOLTs considered the following sources: Arcoona Consulting 2022; Blue Environment 2024; Boxall et al. 2023; DCOH 2021; Reisman 1997; EPA SA 2010; Hyder Consulting 2011; Kaksonen et al. 2024; REC 2017; REC 2019; REC et al. 2020; TSA 2022b; TSA 2023; TSA 2024; TSA et al. 2024; URS 2006.

### 3.1 Problem category 1: risks and costs to the environment and communities

Some of the ways that EOLTs can be poorly managed include:

- illegal dumping
- illegal stockpiling
- illegal trafficking through Australia's transport and trade infrastructure (going to inappropriate destinations overseas)
- attempts at lawful management of EOLTs (either collection, transport, processing or disposal) where poor adherence to proper management practices presents risks to people and the environment.

The types of impacts that can result from poor management of EOLTs include:<sup>5</sup>

- **Tyre fires** – cause negative impacts to the environment and public health because of emissions to air, water and land, and pose higher risks where communities are in close proximity to a large fire.
- **Injuries or fatalities** – these might involve emergency workers, workers at a site where a fire occurs, and/or community members (directly impacted by a tyre fire or a resulting secondary fire).
- **Fire damage** – either where tyres are the accelerator of a fire, or a major fuel source and property is lost or damaged.
- **Increased disease risk** – especially from mosquito-borne pathogens, as mosquito breeding occurs where water collects in tyres in the environment.
- **Amenity impacts** – where illegal disposal of EOLTs into the environment negatively affects people's enjoyment of the environment.
- **Commercial impacts** – includes a reduction in the social licence of businesses involved with EOLT incidents, as well as the standing of industries linked to EOLT issues. The costs of doing business can also increase (e.g. through more regulation and higher insurance premiums)
- **Other impacts and social costs** – includes injuries from direct contact with EOLTs, inconsistency with caring for Country<sup>6</sup> (with the potential associated cultural and natural heritage impacts) and property values being undermined by negative perceptions about areas where EOLTs are dumped.

To help prevent or manage these types of potential impacts, governments and communities engage in various management activities (such as additional compliance and enforcement, emergency response and clean-up initiatives), each of which pose direct financial burdens on governments and communities and consume resources that could be directed elsewhere.

Many problems with EOLTs might be improved where a sufficient proportion of the price of new tyres is allocated to effectively incentivise EOLT collection and resource recovery.

Even though the rates of illegal activity can seem low with respect to recovery rates for EOLTs, particularly for cars and trucks (see figures 1 and 2), EOLTs form persistent waste that commonly builds up over time. This can create significant issues where there are no mechanisms for collecting and managing such tyres in the environment. Hence, ongoing management of legacy EOLT stockpiles and dumped tyres is needed to address safety and environmental risks.

Experiences in some remote parts of Australia show that without strong regional collection and recovery systems, the disposal, stockpiling and dumping of EOLTs can become a major waste problem, generating significant costs for the affected communities. Even near large population centres, governments still find that clandestine stockpiling and dumping occurs, requiring added compliance and enforcement effort and cost.

A 2024 study on the stockpiling and illegal dumping of tyres found that collectively, local governments were having to pay around \$6.5 million per year to clean up EOLTs that had been inappropriately disposed of (Blue Environment 2024). The study also found that legacy stockpiles would need between \$8.3 and \$23.3 million to be suitably managed, while the non-financial costs associated with existing dumped tyres were estimated at around \$100 million. These figures are likely to be conservative, as the project identified other circumstances where governments and communities were incurring management costs. Notably, the management of dumped tyres is far more expensive per unit than lawful recycling and disposal. Hence any reduction in illegal disposal saves on increased future costs.

<sup>5</sup> Some key sources that informed the identified potential impacts from EOLTs include Blue Environment 2024; Reisman 1997; EPA SA 2010; EPA Victoria 2014; URS 2006; CofA 2020.

<sup>6</sup> Examples of sources relating to caring for Country include CofA 2021; Hill et al. 2013; Smith 2014.

### 3.2 Problem category 2: missed opportunities for recovery and the loss of resources

Opportunities for higher-order recovery are being missed with current EOLT disposal practices (especially for high-value recovery and reuse). At present, lower-order recovery (via energy recovery) is the key market for tyre-derived products (TDPs).

Overall, the embedded value in the materials in EOLTs is not being captured to an extent that reflects Australia's resource recovery and circularity goals. Table 2 shows the quantity of materials embedded in new tyres coming into Australia.

**Table 2: Amounts of material in different tyre classes entering Australia in 2020–21. Source: Blue Environment 2022.**

Material	Passenger	Truck	OTR	Total
	tonnes			
<b>Rubber</b> – natural	39,000	65,000	47,000	<b>151,000</b>
<b>Rubber</b> – synthetic	73,000	28,000	20,000	<b>121,000</b>
<b>Metal</b> – steel wire	40,000	55,000	40,000	<b>135,000</b>
<b>Plastic fibre/fabric</b> – nylon	7,000	0	0	<b>7,000</b>
<b>Plastic fibre/fabric</b> – polyester	7,000	0	0	<b>7,000</b>
<b>Rubber additive</b> – carbon black	29,000	26,000	19,000	<b>74,000</b>
<b>Rubber additive</b> – silica	29,000	26,000	19,000	<b>74,000</b>
<b>Rubber additive</b> – zinc oxide	2,000	4,000	3,000	<b>9,000</b>
<b>Rubber additive</b> – sulfur	2,000	2,000	2,000	<b>6,000</b>
<b>Rubber additive</b> – other	20,000	13,000	10,000	<b>43,000</b>
<b>Totals</b>	<b>248,000</b>	<b>219,000</b>	<b>160,000</b>	<b>628,000</b>

The disposal of large OTR tyres used in industries such as mining and agriculture is still common (typically through legal onsite burial), rather than them being recovered (the national recovery rate is near 13 per cent). These tyres comprise high-value and readily recoverable materials, the value of which is lost when they are disposed of (see Table 2).

The value of lost resources not recovered from OTR tyres has been estimated at more than \$50 million per year (TSA 2024). The loss of these resources limits the availability of recovered materials to replace virgin materials in the manufacture of products. This, in turn, limits economic opportunity and job creation that local material recovery and reuse industries and markets would support.

At present, markets for TDPs rely on international demand for tyre-derived fuel (TDF). Recent growth in the capacity of the local recycling industry, including significant investment in local recycling infrastructure, has largely been underpinned by TDF market demand. As such, there are important positive outcomes from current market activities.

However, previous work indicates that international factors can create risks for consistent recovery, with several factors more likely to affect exports of lower-value TDPs. Shipping costs, commodity prices and exchange rates have been found to be correlated with changes in TDP exports, and presumably these can be associated with changes in the fates of local EOLTs, including disposal, where poor local markets exist (Hyder Consulting 2011). This may be a commercial risk when adverse external factors are reducing TDP competitiveness, especially for those products with lower margins (Toovey & Malin 2022b).

These constraints may reduce investment and provision of collection and processing when markets weaken. Also, markets for TDPs are dynamic, with competition from virgin materials and low-cost imported TDPs likely to constrain demand for locally derived TDPs, especially while some higher-value markets are still emerging.

Altogether, these factors might affect the sustainability of recovery operations and constrain local investment in infrastructure. It is thus worthwhile to consider how to support the industry over time to increase the supply of TDPs into more sustainable higher-value markets with higher margins. Also, concerted efforts to improve local end markets for high-value TDPs could help drive more investment.

Any future policy interventions should therefore support, and build on, existing functioning systems and markets and avoid unnecessary disruptions. However, consistent with the waste hierarchy and circular economy concepts, opportunities to expand and improve recovery systems and markets in support of local and higher-order recovery outcomes should remain a policy focus for governments. As more demand exists for higher-value TDPs, then switching away from lower-value markets could eventually result in tens of millions to more than 100 million dollars in added resource value,<sup>7</sup> depending on which higher-value markets expand faster and potentially offer better margins.

In addition, high recovery and an emphasis on higher-order outcomes should provide environmental sustainability improvements. These improvements can be assessed by several means, including life cycle assessment (LCA), which quantifies the embedded energy and materials, as well as the emissions and impacts that are derived from across a product's value chain: from the extraction of raw materials; to material refining processes, to manufacture of products and their distribution into markets; then on to a product's use and finally to its end-of-life fate).

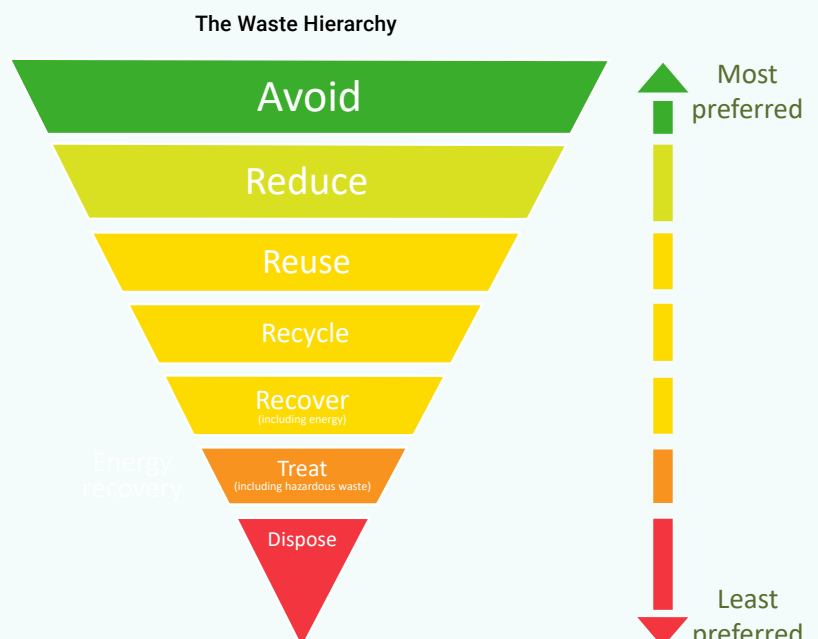
Life-cycle benefits can occur when a product's life-cycle impacts are mitigated (fully or partially) through outcomes that contribute to environmental sustainability. A recognised way to help mitigate life-cycle impacts of products is through the beneficial use of waste-derived products and materials, either in the same types of products or in other unrelated products. Substantial life-cycle benefits can result from higher-order outcomes from EOLTs. Also, life-cycle benefits should emerge from existing recovery pathways for on-road tyres. Improved life-cycle benefits can also result from less transportation, which may favour some local use cases.

While this project on EOLTs did not conduct a LCA or aim to investigate the life-cycle implications for recovery for EOLTs in any detail, there is enough available information to reasonably conclude that life-cycle benefits result from higher recovery and higher-order outcomes.<sup>8</sup>

### High recovery and higher-order outcomes

High recovery levels and higher-order outcomes are being sought across all waste streams under the 2018 National Waste Policy (and its associated action plan). This includes 2030 targets of 80 per cent recovery and a 10 per cent reduction in waste, along with a target to significantly increase the use of recycled content by governments and businesses.<sup>9</sup>

Achieving higher-order outcomes is a key policy aim to support Australia's transition towards a circular economy, including waste avoidance, reuse and higher-order recovery (such as high-quality crumb rubber, tyre-derived polymers, rubber products and carbon black).<sup>10</sup> Higher-order outcomes are more consistent with waste management options ranked higher on the waste hierarchy (see the waste hierarchy diagram from the 2018 National Waste Policy below).



<sup>7</sup> These estimates were informed by several sources, including REC et al. 2020; REC 2017; Toovey & Malin 2022a; TSA 2023; TSA 2022a; TSA 2025.

<sup>8</sup> Several sources relating to LCA informed a high-level review of life-cycle benefits from EOLT recovery, including TSA & EI 2024; TSA et al. 2024; Maga et al. 2023; Scope 3 Consulting 2022; Piotrowska et al. 2019; Rasutis 2014.

<sup>9</sup> See CofA 2018 and CofA 2019 for the National Waste Policy and its action plan.

<sup>10</sup> Several sources were reviewed to assess higher-order outcomes, including 3R Group Limited 2020; DCOH 2021; Kaksonen et al. 2024; MRA 2021; REC 2017; TSA et al. 2024; Valentini & Pegoretti 2022.



### 3.3 Problem category 3: limitations of and inequities in the current framework

The industry-led voluntary national tyre product stewardship scheme (TPSS) has been operating since 2014.<sup>11</sup> The TPSS aims to reduce the amount of EOLTs negatively impacting the environment by way of landfill, illegal dumping or undesirable exporting, while increasing the recycling rate for EOLTs. The TPSS has helped bring more coherence and focus across the tyre value chain to support better collection and recycling standards among scheme participants (and across the whole industry), and assisted with developing emerging markets for TDPs.

Nevertheless, the TPSS has been constrained by it being a voluntary scheme: it has largely achieved all it can, given the limitations of a voluntary approach.

As such, a range of issues affect the current framework for tyres (including the TPSS), including:

- **Insufficient participation (including free-riders)** – most vehicle importers and some importers of loose tyres are yet to participate in the voluntary TPSS.<sup>12</sup>
- **Rogue operators** – some tyre collectors undercut the pricing of better-practice collection and processing operations to unfairly gain market advantage, while typically producing poor outcomes.
- **Higher-order outcomes** – there are a lack of effective incentives for higher-order recovery (including waste avoidance and waste minimisation), along with incentives to underpin processor investment in higher-order recovery.<sup>13</sup>
- **Data gaps** – lack of information around the fates and impacts of some EOLTs is a barrier to improving EOLT outcomes, including for emerging tyre classes that are rapidly expanding, such as electric vehicle (EV) tyres.
- **Regional issues and stockpiling** – the inability to meaningfully address regional disparities (and/or stockpiles of used tyres)

contributes to an inequitable approach to tyre management in Australia. Inconsistent collection of EOLTs from businesses in some regional and remote areas also introduces the possibility of regulatory issues emerging (especially where stockpiling occurs at businesses), which in turn creates risks (and costs) for some tyre-fitting businesses.

#### Problem statement – key insights from stakeholders

- Stakeholders expressed a range of views about what problems were their priorities.
- The tyre industry, local governments, and research organisations broadly agreed with the framing of the problems.
- Recyclers mostly indicated systemic issues with the voluntary scheme and loss of value from OTR tyres.
- Some stakeholders (including some mining stakeholders) wanted consideration of upstream impacts (through the whole value chain) to be captured as part of framing the problem (which could be informed by conducting suitable LCAs).
- Stakeholders consistently indicated wider stakeholder representation in scheme governance was important to meaningfully address problems.
- Some stakeholders indicated poor regional and remote outcomes had environmental and cultural heritage implications and should be part of the problem statement.
- Some stakeholders indicated that EV tyres would have some unique issues (such as higher wear rates), and that the differences in EV tyre construction and constituents might pose some recovery challenges, with any formal assessment likely to need better information to assess the implications of this rapidly expanding tyre market sector.

<sup>11</sup> The national TPSS, which Tyre Stewardship Australia administers, is governed by scheme guidelines. It has received an ACCC authorisation that allows for the imposition of a levy on importers and manufacturers that are scheme participants (see [www.tyrestewardship.org.au/about-tsa/scheme](http://www.tyrestewardship.org.au/about-tsa/scheme)).

<sup>12</sup> Some TPSS non-participation may relate to disagreements over the voluntary approach, while other TPSS non-participation might relate to cost avoidance and be a more typical free-rider issue.

<sup>13</sup> Barriers to higher-order outcomes also exist. These can include, more complex product development; extra work to ensure the availability of commercial off-take markets; more advanced skills and technology; and potentially higher capital investment.



### 3.3 Policy objectives and guiding principles

As part of the project, Australian governments wanted to understand how different options for EOLTs could contribute to some key policy objectives and align with a set of guiding principles. Keeping the options compatible with key legislation and suitable for the Australian context were also priorities.

#### 3.3.1 Policy objectives

The project sought to assess how the options might contribute to the following policy objectives:

- environmental protection; human health protection; emissions reduction; waste avoidance; resource recovery; equitable and sustainable markets; and improved data and information.

The project's policy objectives reflect the aims and targets in the 2018 National Waste Policy (NWP) and its associated action plan, Australia's environmental protection safeguards, Australia's emissions reduction framework and other frameworks for supporting Australian industries, while also supporting quality and openness with respect to data.

#### 3.3.2 Guiding principles

In addition, the project assessed how the options might align with the following guiding principles to support better outcomes:

- the precautionary principle; a circular economy; outcomes focused and efficient; being equitable; being resilient; being open and fair; supporting flexibility and innovation; and the polluter pays principle.

The principles align with key considerations for governments, such as reducing risks to the community by applying the precautionary principle, being equitable, being efficient in

the way expected outcomes are achieved, and making producers and consumers responsible for managing end-of-life products.

Together, the policy objectives and guiding principles helped the project's assessment support findings that could give effect to a more circular economy. The project's assessment also sought to emphasise outcomes-focused and efficient approaches, allowing flexibility and innovation to help control business costs, while also meaningfully addressing the issues with EOLTs.

#### Policy objectives and guiding principles – key insights from stakeholders

- Some research stakeholders and peak bodies wanted clearer and more recognisable terminology used in the guiding principles.
- Examples included a preference for use of the term 'polluter pays principle' and ensuring descriptions of cost minimisation were not misinterpreted as a focus on cost reduction at the expense of improved outcomes.
- Some recycling stakeholders wanted to ensure the policy objectives would give effect to existing resource recovery targets in the NWP (and its action plan), particularly with respect to different classes of products – on-road tyres are performing well but OTR tyres and related products are performing poorly.
- Other stakeholders emphasised separate matters under the NWP and its action plan, including waste avoidance, waste as an essential/public service, improving disposal practices, regional and remote access to recovery opportunities, supporting higher-value outcomes, improved market development and better use of waste-derived products.



## 4 Options assessment

### 4.1 Assessed option classes

For this project a high-level assessment of options (option classes) for EOLTs was conducted. The decision to assess option classes helped to give focus to broader aspects of what might address EOLT issues. The assessment reviewed a variety of policy options and noted the range of option variants under each option class.<sup>14</sup> Across option variants there were various features that might, or might not, be suitable in the Australian context. Detailed assessments of option variants was outside the project's scope but might occur separately.

The project's options assessment covered the following option classes:

- Option class 1: Voluntary scheme (and existing policy, industry and market settings)
- Option class 2: Regulated product stewardship
- Option class 3: Government fees and rebates system
- Option class 4: Off-the-road tyres measure (plus Option Class 1: Voluntary scheme)
- Option class 5: Disposal bans
- Option class 6: Standards and design rules
- Option class 7: Programs targeting issues
- Option class 8: Market development

Table 3 provides a summary description and some key characteristics of the options classes.

<sup>14</sup> The assessment of options reviewing a range of sources, including: 3R Group Limited 2020; ADEME 2022; DCOH 2021; Kaksonen et al. 2024; KPMG 2015; PSI 2015; TSA 2023.

Table 3 Descriptions for end-of-life tyre options, along with their key characteristics (drivers, costs, recovery potential, opportunities and challenges).

Option number	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8
Option class	Voluntary scheme (and existing settings)	Regulated product stewardship	Government fees and rebates system	Off-the-road tyres measure (and Option 1)	Disposal bans	Standards and design rules	Programs targeting issues	Market development
Key elements	Broad characteristics of the option classes							
<b>Description</b>	Voluntary approach coordinated by an independent administrator, with their activity costs covered by scheme fees. This is a market-based approach for collection and recovery, where the scheme administrator encourages participation and monitors the participants' compliance with scheme guidelines.	Regulated approach, usually with an economic instrument and some oversight of an independent administrator/s to coordinate a scheme and its financial transfers. Many possible settings, with some variants only specifying higher-level aims, while others might specify a scheme in detail.	Regulated approach, employing economic instruments, with the government managing compliance and financial transfers relating to fees and rebate payments.	Regulatory approach, potentially with an economic instrument, focused specifically on OTR tyres (in addition to Option 1).	Regulatory approach, with government monitoring and compliance, potentially requiring more illegal dumping monitoring and enforcement resources.	Regulatory requirements and quasi-regulatory requirements setting product specifications for the Australian market.	Non-regulatory intervention with funding incentives to address specific issues.	Non-regulatory intervention with funding, communications and government procurement, with involvement from government and some industry partners.
<b>Drivers</b>	Value-chain relationships and brand protection. Recovery more likely where recovery costs are somewhat competitive with disposal.	Product fees can be used to incentivise collection, recycling and higher-order recovery, and support waste minimisation.	Rebates from product fees used to incentivise collection and/or recovery.	Regulation of OTR tyre disposal by users and/or specific fees on OTR tyres, with rebate system.	Regulation supported by compliance and monitoring, underpinned by regulated penalties.	Changing product requirements and consumer expectations.	Application of funding to address specific issues.	Increased knowledge about recycled products benefits supports demand. Government procurement.
<b>Costs incurred<sup>15</sup></b>	Brand owners (low). Ongoing costs to governments to manage existing tyre issues.	Brand owners (medium). Potential for lower costs to government with schemes helping to manage some tyre issues.	Brand owners (variable). High government cost to administer and regulate (unless cost recovered).	Governments, brand owners and holders of tyres.	Waste holders from business and community. Government costs for compliance.	Brand owners and consumers. Some government costs to support standards.	Governments, or industry when a fee is charged and used for funding programs.	Mostly governments and some industry partners.
<b>Recovery<sup>16</sup></b>	Australia: car tyres 88%; truck tyres: 85%; OTR tyres: 13%.	Alberta: 2022–23 recovery: on-road tyres 97%; OTR tyres 78%. British Columbia: 2023 recovery around 97% (OTR tyres not covered). Finland/Sweden/Norway: 2014 recovery: 92.9%, 98.8%, 96.4% respectively.	California: 2019 recovery: 80% diversion; 35% material recovery, but lower recovery since 2019. Denmark: typically more than 90% recovery (includes OTR tyres).	No OTR-specific schemes assessed, but new targets for OTR tyres in Chile are 25% by 2023; 75% by 2027 and 100% by 2030.	Variable depending on the level of increase in recovery by the reduction in disposal, minus any increased illegal disposal.	Can underpin longer-term recovery improvements.	Some programs support tyre recovery, including some targeting recovery from legacy stockpiles.	Can support more recycled content use by target markets.
<b>Challenges</b>	Poor direct influence over the market. Insufficient fees to incentivise better-practice collection and recovery (particularly regarding OTR tyres and some regional and remote areas).	Optimisation of fees and incentives is needed to support coverage, access and higher-order recovery. Gaining representation across the value-chain for decisions and governance.	Better outcomes may need special measures or reviews to respond to market changes, <sup>17</sup> along with variable rebates and fees. Usually low industry involvement in governance.	Only improves OTR tyre issues. OTR recovery and market barriers may need time to resolve. Duplication of administration, if done with voluntary scheme.	Likely to drive more illegal disposal, if done in isolation, due to a lack of markets and incentives to support recovery.	Requires a deep understanding of product design and needs to support workable changes.	Government-directed funding may end up supporting projects with poor outcomes or focus on non-critical issues.	Results take more time. Without incentives, industry tends to target tyres that are easier to collect.
<b>Opportunities</b>	Low intervention option, allowing industry to lead the approach, with lower government involvement.	Can focus on key issues and drive market changes. Some types of schemes may support governance with better representation.	Can support good outcomes by improving recovery competitiveness with respect to disposal.	Targets a high recovery opportunity. May have minimal impact to the existing approach.	Blocks easy disposal options and can complement other options.	Can underpin longer-term sustainable improvements.	Aims to address priority issues (such as illegal dumping and stockpiling).	Targets demand-side issues, by supporting sustainable markets for TDPs.

<sup>15</sup> **Costs incurred** – this reflects where costs lie more immediately (but not necessarily where costs might ultimately lie). The costs for managing EOLTs can fall on different groups, depending on the management context, including: consumers paying via changes in price (or via disposal charges); private waste holders might bear the costs (when they are not the original consumers and are not reimbursed by others); the community might pay for EOLT management (often via the taxation system); brand owners might incur costs (that are typically passed to consumers) under various approaches; or there can be some combination.

<sup>16</sup> **Recovery** – sources for recovery figures: Australia (TSA 2024); Alberta (ARMA 2023); British Columbia (TSBC 2023); Scandinavia (FTR et al. 2014); California (GHD 2024); Denmark (DTTEF 2024); Chile (Kaksonen et al. 2024); programs (PSI 2015; USTMA 2022). Various controls on landfill of EOLTs already exist in some Australian jurisdictions, with Victoria and South Australia only allowing disposal of shredded tyres to landfill (SV 2019; EPA SA 2010) and WA imposing a tyre landfill exclusion zone near the Perth region (Boxall et al. 2023).

<sup>17</sup> **Challenges** – Australia's used oil scheme has experienced issues with fees and payments due to changes in external factors (Australian Government 2021). Some key challenges for disposal bans are set out in DCOH (2021).

## 4.2 Option assessment results

Table 4 provides an overview of how each option class performs under the high-level options assessment, which was based on a broad qualitative analysis. This assessment was informed by consultation with states and territories and the Australian Government.

**Table 4 Option comparison to address problem categories, policy objectives and guiding principles**

	Problem category 1 (risk and costs)	Problem category 2 (resource loss)	Problem category 3 (system issues)	Policy objectives	Guiding principles
<b>Broad characteristics of the option classes</b>					
<b>Option 1</b> Voluntary scheme – current settings	Low – medium	Medium	Low – medium	Low – medium	Medium
<b>Option 2</b> Regulated product stewardship	High	High	High	Medium – high	Medium – high
<b>Option 3</b> Government fees and rebates system	High	Medium – high	High	Medium	Medium – high
<b>Option 4</b> OTR tyre measure (+ Option 1)	Medium	Medium – high	Medium	Medium	Medium
<b>Targeted option classes</b>					
<b>Option 5</b> Disposal bans	Low – medium	Low – medium	Low	Low – medium	Medium
<b>Option 6</b> Standards and design rules	Low – medium	Medium	Low	Low – medium	Medium
<b>Option 7</b> Programs targeting issues	Low – medium	Low – medium	Low	Low – medium	Medium
<b>Option 8</b> Market development	Low – medium	Medium	Low	Medium	Low – medium
<b>Highest ranked option/s</b>	Option 2 & Option 3	Option 2	Option 2 & Option 3	Option 2	Option 2 & Option 3
	High	Medium – high	Medium	Low – medium	Low

The assessment set equal weightings across all elements to provide a simple filtering mechanism. It considered the degree to which option classes might help address the three problem categories, while also giving effect to the policy objectives and aligning with the guiding principles.<sup>18</sup>

<sup>18</sup> The project did not apply weightings to the elements of the assessment. However, the transition to a circular economy and the need to protect the environment and human health were key points of focus and these themes were reflected in the problem statement and captured within the policy objectives and guiding principles. Future work could employ multicriteria analysis with weightings.



### Options analysis – key insights from stakeholders

- Some stakeholders wanted further details on the options, with some wanting multicriteria analysis and/or a cost-benefit analysis to support consideration of the options.
- Some stakeholders had concerns that governments might pick problematic options for a formal assessment. Some were particularly concerned that more compatible scheme designs would not be assessed.
- The recycling industry typically viewed landfill bans as the most effective option, emphasising the low recovery rates for OTR tyres.
- A range of stakeholders across most sectors saw the value of a broad-based approach to address issues such as non-participation, rogue traders and lack of data. Some stakeholders also recognised opportunities for a scheme to incentivise collection from regional and remote areas and support higher-order TDPs (and their development).

## 5 Off-the-road tyre investigation

OTR tyres are generally a group of very different tyre products, with higher costs for their collection and processing (especially from some parts of regional and remote Australia).

However, the value of the materials in OTR tyres tends to be higher, which may help support higher-order outcomes over time.

As most OTR tyres are costly (often in the tens of thousands of dollars per tyre for larger tyres), there are good reasons to optimise their operational service life, while also minimising risks around unexpected tyre failures. This means that better-practice operation and maintenance of OTR tyres can support some higher-order outcomes (including waste avoidance, re-treading and repair). Better-practice operations in Australia already properly consider optimising tyre service life, but wider adoption might convey a range of further benefits to the economy, while supporting increased circularity.

However, once tyres are deemed to have reached end-of-life, the challenge is to find pathways and methods that can reduce costs for their handling, collection and processing.

The OTR investigation explored several themes to provide a better understanding of the existing costs and how they might be reduced over time.

Conveyor belts have some similarities to large OTR tyres with respect to transport costs and some aspects of logistics, but the processing and existing markets for conveyor belts are likely to differ. There are some opportunities for the repair and reuse of conveyor belts, depending on the level of damage incurred during their operational life, with some higher-order recovery already occurring.

Details about rubber tracks are not as forthcoming, but it seems there may be some opportunities for recovery that warrant further research.

See Section 6 on page 23 for the OTR investigation's key findings and the separate *Investigation report – off-the-road tyres and related products* (DWER 2025) for more detailed information.

### OTR tyre investigation – stakeholder insights

- More work is needed to understand the opportunities and challenges for different OTR tyres (and related products), including product quantities, how long products last, product compositions, entry locations into Australia and usage locations.
- Provision of guidance and information could help establish benchmarks for better-practice operations. Leading organisations would be able to demonstrate adherence to these benchmarks, which in turn could support environmental, social and governance (ESG) reporting. Other organisations could use these resources to improve tyre circularity and potentially reduce some costs.
- Some businesses have transported end-of-life products from remote Australia to metropolitan recycling facilities because of the significant barriers that remote operations face.
- To improve tyre recovery services across Australia, more work is needed to address the critical barriers to establishing recovery operations in different parts of the country.
- Conducting a lifecycle assessment across the full value chain for tyres and related products<sup>19</sup> should help stakeholders understand where impacts are occurring and where benefits are to be found (and also support ESG reporting requirements).
- Some stakeholders are interested in the higher-value material in OTR tyres. However, technological readiness, market settings and OTR user readiness need to be better understood to support higher-order recovery for these products.

<sup>19</sup> Lifecycle assessment ideally extends over the production, use and recovery phases of products, including resource extraction and refining, product manufacture, product use and the reverse logistics for end-of-life products, along with the range of potential end-of-life management options.

## 6 Project findings

The project found that the existing EOLT framework had produced significant benefits. Nevertheless, Australia still suffered from a range of issues, including issues due to Australia's reliance on a voluntary product stewardship approach. Also, the environment and communities were continuing to bear the brunt of various impacts, with significant costs being passed on to governments and communities. In addition, significant loss of value is occurring when EOLTs do not go to recovery or go to lower-order recovery.

The project found that only broad-based approaches could fully address the issues associated with EOLTs (with a regulated product stewardship scheme being the most capable option). Other targeted options could complement a broad-based approach (with timing being a key consideration). The project reviewed a range of potential features for an overall EOLT framework – see Table 5 for the most promising candidate features identified.

A key project finding is that any framework for improved management of EOLTs must be fit-for-purpose in the Australian context. Also, some types of changes may need to be staged to recognise the readiness of local markets for TDPs, as well as to allow time to expand critical processing capacity and enabling technologies, along with giving some industries that generate EOLTs more time to prepare.

### 6.1 The existing framework

The project identified some key problems with the existing framework. These included costs to communities and the environment, missed opportunities for the recovery of valuable materials, and inequities and data gaps arising from the voluntary nature of the scheme.

Improvements across all these areas will require new and different approaches. Ideally these will recognise and build on the positive developments among the current EOLT collection and recovery systems and markets for the resulting products.

While individual problems may be addressed through targeted interventions, the project has identified that well-designed broad-based options have the potential to address multiple issues. These could be complemented by discrete targeted options, as adjunct measures to underpin improved environmental outcomes and longer-term higher-order sustainable markets for tyre-derived products.

### 6.2 Broad-based approach

The project's assessment found that two of the options – regulated product stewardship (Option 2) and a government fees and rebates system (Option 3) – were best placed to address the problem categories and meet the policy objectives and guiding principles.

The explanation for the higher scores for Options 2 and 3 lies in these broad-based options typically having stronger incentives. Both options also involve approaches that can be designed to target the problems and drive outcomes.

Regulated product stewardship (Option 2) scored marginally higher than a government fees and rebates system (Option 3). This was because industry is likely to find innovative ways to achieve product stewardship scheme objectives and respond to possible eco-modulation settings that encourage improved outcomes (such as waste avoidance and repair).

In addition, both options have the strongest potential to ensure that the costs for managing and recovering EOLTs are borne by those manufacturing, importing and using the tyres rather than governments and the broader community.

There are concerns that the regulated product stewardship models used in some international jurisdictions would not be desirable or effective in the Australian context. Consistent with these concerns, the project found that any broad-based option – such as a regulated product stewardship scheme (or fees and rebates system) – would need to be developed with the Australian context in mind. This would involve adopting the best elements of other approaches and adapting them to the Australian setting. This would help to ensure implementation of an option avoided unnecessary disruptions to existing recovery operations and suitably considered market readiness for any key changes.

The project found that a specific measure for OTR tyres (Option 4) operating alongside the current voluntary scheme (and other existing settings) might also achieve some significant improvements, primarily by addressing aspects of problem category 2 (lost value). However, this option fails to address critical limitations with voluntary approaches, particularly issues around rogue operators in the recycling industry and non-participants who receive an unfair benefit. Furthermore, it also does not offer solutions for recovering passenger and truck tyres in remote and regional areas.

While some of these issues could be addressed through complementary targeted measures, others are still best addressed through a broad-based approach (such as options 2 or 3).

Note that pursuing different approaches for different tyre classes could introduce unnecessary complexity and administrative inefficiency, especially considering significant overlaps in collection networks, processing infrastructure and end markets for TDPs. Any design of a framework for implementing either Option 2 or 3 should address the specific challenges for different classes of tyres through individual provisions and/or staggered transition timeframes for full adoption. Longer timeframes for introducing OTR-specific elements would give the relevant industry sectors more time to prepare and adapt.

### 6.3 Complementary targeted approaches

The project found that the broad-based options and some targeted options were likely to be compatible. Importantly, initiatives to support improved standards and design rules (Option 6) and market development (Option 8) could provide foundational benefits to support the broad-based options.

These ‘no regrets’ options could be implemented in the absence of adopting a broad-based option or complement a broad-based option. However, disposal bans (Option 5) should be treated with more caution because these can produce poor outcomes, such as increased illegal dumping, if implemented in isolation. Thus, disposal bans might be an adjunct to a broad-based option (once established), providing regulatory settings to help drive activity towards improved outcomes once more viable recovery pathways are properly established.

### 6.4 Potential features of suitable framework

While it is beyond this project’s scope to arrive at detailed broad-based or targeted option designs, it identified some potential features of an EOLT framework that could drive better outcomes and support sustainable markets for TDPs.

While some features might be incorporated into a broad-based option, other features may be more relevant to targeted interventions, which could complement a broad-based approach. These candidate features also aim to address different product lifecycle stages, from design and production to consumption and post-consumption.

The project’s focus on candidate features is consistent with other conceptual frameworks that consider the full life cycle of products, which aim to minimise impacts and maximise benefits.<sup>20</sup>

See Table 5 for a summary of the candidate features that may help improve Australia’s management of EOLTs.

<sup>20</sup> This has broad alignment with other policy conceptions of how to maximise the benefits of product stewardship (see Florin, Talwar & Read 2023).

**Table 5 Candidate features to support improved end-of-life tyres outcomes**

Candidate feature	Possible measure	Comments
Improved regional and remote collection	Differential incentive	Similar approaches have been used in other situations to overcome geographical barriers. <sup>21</sup>
Improved higher-order recovery	Differential incentive	Similar approaches used in Australia's used oil scheme and tyre product stewardship schemes elsewhere. <sup>22</sup>
Incentives informed by real costs	Suitable fee scale	To help ensure fees are more commensurate with actual costs.
Improved tyre quality for beneficial characteristics	Eco-modulated fees	Specific tyre characteristics for different tyre classes can convey key benefits. <sup>23</sup> Modulated fees could support tyres meeting design rules and standards for preferred tyre characteristics.
Increase recycled content	Eco-modulated fee	Emerging focus requiring traceability for improved verification.
Support tyre recyclability	Eco-modulated fee	Emerging focus with research and innovation being key.
Reduced toxicity of tyre constituents	Eco-modulated fee	Recognised issue with research and innovation being key.
Improved standards, R&D and market development	Incentives, other mechanisms and standards	The overall framework could support local market development, improved standards and practical research.
Framework flexibility and governance	Governance and review systems	Adjustable settings informed by multi-stakeholder review process.
Clear and measurable outcomes-based targets	Option design approach	Allowing industry to determine the most cost-effective approaches to meet the objectives.
Compatibility with functioning markets and systems	Option design approach	Options should integrate with functional aspects of existing approaches and markets and build on those successes.
Mechanisms to manage illegally dumped and/or legacy tyres	Option design approach	Options under the framework should include provisions to support recovery of legacy dumped and stockpiled tyres to prevent these costs falling on local communities.

<sup>21</sup> BITRE 2018; Kaksonen et al. 2024; Matthews 2005.

<sup>22</sup> Deloitte Access Economics 2020; Kaksonen et al. 2024.

<sup>23</sup> Examples include: lower rolling resistance for long-haul trucks reduces emissions and costs (Sliggers & de Graaff 2017; Bijina et al. 2022; Valentini & Pegoretti 2022); improved durability and lower tyrewear particle emission rates with better quality tyres (Giechaskiel et al. 2024; HELCOM 2022; Mattsson et al. 2023); benefits from better quality truck tyres that can be retreaded (EY 2016; DCOH 2021); and management systems for choosing OTR tyres and their operational use, which can lead to several benefits, including improved tyre repairability.



## 6.5 Correct for the Australian context

The project found that some approaches in other countries had specific features which could be adapted to support better outcomes in Australia. It did not identify any specific options that seemed entirely appropriate for the Australian context.

Hence, the consideration of candidate features alongside an assessment of option classes provided a way to identify the preferred features, with the freedom to see how one or more option classes might reasonably incorporate a set of those preferred features.

Keeping the assessment high level aimed to allow any potential formal assessment enough latitude to propose options that would be lawful in Australia and meet our international obligations, while also being compatible with our market-based economy.

## 6.6 Additional findings informed by stakeholder insights

The stakeholder consultation process provided some key insights into the common issues for the industry. The process also revealed what parts of the preliminary findings had caused concern among different stakeholders.

Based on the project's consultation, a wide coalition of stakeholders wants to move forward with some form of regulated product stewardship. This coalition includes most tyre brands and most tyre importers, most automotive servicing and tyre-fitting chains, the local government sector and some key automotive brands. Such a broad coalition is a good start ahead of further engagement to get a greater level of consensus across most sectors.

However, many recyclers held significant concerns around mandatory approaches negatively affecting their existing operations, especially if the wrong approach were adopted. This was a consistent message.

Many recyclers felt that more regulation in the form of disposal bans across key sectors would support increased recovery and meet national recovery targets, especially to improve recovery for OTR tyres. Recyclers argued that on-road tyres were already being recovered at high levels, commensurate with national recovery targets.

Nevertheless, several recyclers cited some key issues that should be addressed, including:

- increasing participation in the current voluntary scheme
- reducing rogue trading activities (that undermine better practice recovery)
- improving data
- developing markets
- supporting increased infrastructure and technology adoption
- boosting their role in decision-making around any scheme (including the current voluntary scheme).

However, to address these types of issues some form of intervention will be needed, whether through a wider range of targeted options (with significant costs falling on governments), or some form of broad-based approach, potentially accompanied by a narrower set of targeted complementary options.

Parts of the recycling sector indicated they may be able to agree to a less interventionist model of regulated product stewardship (or fees and rebate system), if it were designed to:

- eliminate non-participation (including free-riders) and reduce opportunities for poor or misleading practices by those claiming to be recyclers (rogue traders)
- provide improved data collection – which could help them meet any future traceability requirements (to prove their products have verifiable recycled content)
- include the recycling industry in key decision processes, including representation within the scheme and input into investment decisions
- provide rebates/incentives for transport and other costs (especially transport from regional and remote areas)
- not unduly interfere in price setting or commercial arrangements between retailers, tyre fitters, collectors and processors.

The mining industry (a key OTR tyre use sector) would broadly like a solution that is not cost prohibitive and has clear environmental benefits (such as life-cycle benefits).

The project was unsuccessful in its attempts to fully engage with key agricultural stakeholders. Nevertheless, the project's findings suggest the agricultural sector may have a low level of readiness for any changes (if changes emerge). Hence, if changes emerge, a staged approach is recommended to accommodate any sector's low readiness for change.

## 6.7 Future considerations

A significant level of support for regulated product stewardship exists across a diverse set of stakeholders but, as discussed, some groups have also raised concerns. As such, further progress towards identifying suitable options for EOLTs should aim to engage all key stakeholders. This could help build a stronger sense of ownership around the process and may allow for more acceptance of any future requirements or regulation.

This process might also help with designing the range of options to be tested under any potential formal assessment (including options for comparison using a cost-benefit analysis).

To help ensure the relevant stakeholder sectors become engaged and invested in securing better outcomes, there may be merit in considering ways to get wider adoption of a minimum level of participation. This might include encouraging current non-participants to the voluntary scheme to become participants or looking towards other approaches to support equivalent outcomes. This could cover both typical free riders that are purely cost sensitive and key stakeholders that have chosen to not participate in the voluntary scheme for other reasons.

Also, any future process to assess and develop options for EOLTs (and related products) should allow for staged approaches to accommodate different levels of readiness for full participation. Staging full participation would allow all relevant product classes to be eventually managed to support improved circularity.

Thus, some of the pre-conditions for underpinning an improved framework for EOLTs (and related products) could be wider engagement, a drive to increase some minimum level of initial participation, and the capacity to employ a staged process towards full participation.

Overall, this could help to:

- collect data and allow for development of a monitoring and compliance system consistent with the current voluntary scheme (potentially informed by the existing scheme guidelines)
- establish improved traceability for TDPs and control rogue traders
- pool more funds to start work on no-regrets actions, such as standards, market development, product research, co-funding of regional infrastructure, and stockpile clean-up.

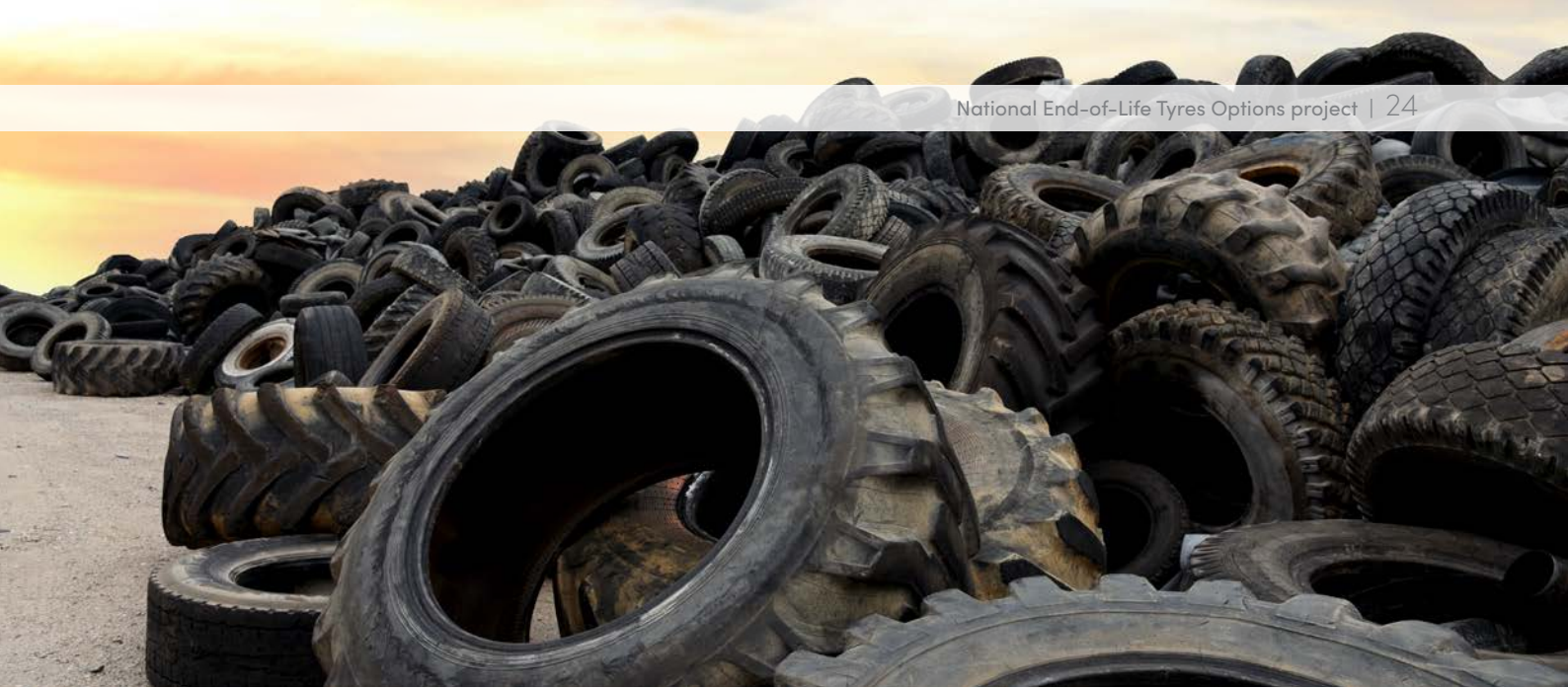
These types of changes might encourage the relevant parties to increase their stake in any future processes and outcomes, and underpin their active involvement in developing and improving the overall framework for tyres and related products.



## Glossary

Some of the definitions have been sourced from the TPSS guidelines released by Tyre Stewardship Australia.

Term	Definition
CofA	Commonwealth of Australia
Eco-modulated fees	Fees paid to support a system to manage end-of-life products that can vary based on the environmental sustainability of the products.
EMM	Environment ministers' meeting – a periodic meeting between Australian environment ministers to assess key environmental issues and progress policy solutions.
End-of-life tyre	A tyre deemed to be no longer capable of performing the function for which it was originally made
Environmental sustainability	Relates to the adoption of systems and practices that reduce impact on the environment and use natural resources sustainably.
EOLTs	End-of-life tyres
EPA SA	Environment Protection Authority, South Australia
EPA Victoria	Environment Protection Authority, Victoria
EPU	Equivalent passenger unit – a standardised measure for tyre quantities based on the weight of tyre material in a typical car tyre.
Higher-order recovery	Recovery, where more resource value is captured from products and materials, which typically might require more advanced or sophisticated methods and interventions to maximise that resource capture.
LCA	Life cycle analysis
Life cycle analysis	Life cycle analysis is a systematic approach for evaluating the environmental impacts of a product, process, or service throughout its entire life cycle, from raw material extraction to disposal.
Lower-order recovery	Recovery, where the capture of resource value from products and materials is more limited, which might require less advanced or sophisticated methods and might need less intervention, reflecting the reduced resource value captured from waste.
NWP	National Waste Policy



Term	Definition
Off-the-road tyre	Typically larger tyres used in industries such as mining and agriculture, which are made to operate under specific use cases that differ to the conditions usually encountered on normal sealed or unsealed roads.
OTR	Off-the-road
PIA	Policy impact analysis – formal Commonwealth process to compare policy options, which typically includes economic assessment across various options and associated public consultation.
Recovery	Where material and energy resources are captured from waste for some other use with an aim to gain some net benefit.
Recycling	Where material resources are captured from waste for some other use with an aim to gain some net benefit.
SV	Sustainability Victoria
TDF	Tyre-derived fuel – a fuel derived from end-of-life tyres, which can include a range of tyre-derived materials used to produce energy or heat (including whole tyres or shredded tyres).
TDP	Tyre-derived product – any product produced from rubber, steel, textile or other material recovered from recycling end-of-life tyres.
TPSS	Tyre product stewardship scheme – a national industry-led voluntary product stewardship scheme for end-of-life tyres.
TSA	Tyre Stewardship Australia

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**Department of Water and Environmental Regulation**

Prime House, 8 Davidson Terrace Joondalup WA 6027  
Locked Bag 10 Joondalup DC WA 6919

Phone 08 6364 7000