Transport and Infrastructure Net Zero Consultation Roadmap

Take the survey

Department of Climate Change, Energy, Environment and Water

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Tyre Stewardship Australia

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Yes

5 First name
Ben

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9 Who are you answering on behalf of?

Organisation

10 Organisation name

Tyre Stewardship Australia

11 What best describes you or your organisation?

Not for profit

12 What sector do you represent?

Heavy road vehicles (trucks, buses etc.)
Light road vehicles (cars, utes etc.)
Infrastructure

13 What state or territory do you live in?

Victoria

14 Postcode

3121

15 What area best describes where you live?

City

16 1. Do you support the proposed guiding principles?

Not answered

17 1.1 Please add details to your response.

Not answered

18 2. Do you support the use of the avoid-shift-improve framework as a

tool to identify opportunities for abatement?

Not answered

19 2.1 Please add details to your response.

Not answered

20 3. Do you agree the development of a national policy framework for active and public transport will support emissions reduction?

Not answered

21 3.1 Please add details to your response.

Not answered

22 4. What should be included in a national policy framework for active and public transport and how should it be developed?

Not answered

23 5. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the movement of people contributes to transport emissions reduction?

Not answered

24 6.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure that the movement of goods contributes to transport emissions reduction?

Not answered

25 6.2. How would these actions address the identified challenges and opportunities for emissions reduction in the movement of goods?

Not answered

26 7. Do you agree with the proposed net zero pathway for light road

vehicles?

Not answered

27 7.1 Please add details to your response.

Not answered

28 8. The Australian Government is currently developing an Australian New Vehicle Efficiency Standard and has already begun to implement actions in the National Electric Vehicle Strategy.8.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce light vehicle emissions?

Not answered

29 8.2 How would these actions address the identified challenges and opportunities to reduce light vehicle emissions?

Not answered

30 9. Do you agree with the proposed net zero pathway for heavy road vehicles?

Not answered

31 9.1 Please add details to your response

Not answered

32 10. The proposed pathway for heavy road vehicles relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels.Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.

Not answered

33 10.1 Please add details to your response. Why did you rank them in that order?

Not answered

34 11. What role should low carbon liquid fuels play in the heavy vehicle decarbonisation?

Not answered

35 12. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce heavy vehicle emissions?

Not answered

36 13. Do you agree with the proposed net zero pathway for rail?

Not answered

37 13.1 Please add details to your response.

Not answered

38 14. The proposed pathway for rail relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels.Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.

Not answered

39 14.1 Please add details to your response. Why did you rank them in that order?

Not answered

40 15. What role should low carbon liquid fuels play in rail decarbonisation?

Not answered

41 16. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce rail emissions?

Not answered

42 16.1 How would these actions address the identified challenges and opportunities to reduce rail emissions?

Not answered

43 17. Do you agree with the proposed net zero pathway for maritime?

Not answered

44 17.1 Please add details to your response.

Not answered

45 18. The Australian Government is engaging in consultation as part of the development of the Maritime Emissions Reduction National Action Plan and those consultations will also inform the final Roadmap and Action Plan. 18.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce maritime emissions?

Not answered

46 18.2 How would these actions address the identified challenges and opportunities to reduce maritime emissions?

Not answered

47 19. Do you agree with the proposed net zero pathway for aviation?

Not answered

48 19.1 Please add details to your response.

Not answered

49 20. The Australian Government has already engaged in consultation on aviation decarbonisation through the development of the Aviation White Paper and those consultations will also inform final Roadmap

and Action Plan.

Not answered

50 20.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce aviation emissions?

Not answered

51 21. Do you agree with the proposed net zero pathway for transport infrastructure?

Not answered

52 21.1 Please add details to your response.

Not answered

53 22. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce transport infrastructure emissions and ensure that transport infrastructure is ready for and enables low-emission transport modes?

Not answered

54 22.1 How would these actions address the identified challenges and opportunities to reduce transport infrastructure emissions?

Not answered

55 23. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the energy mix is ready to support transport emissions reduction?

Not answered

56 24. How should the use of low carbon liquid fuels (LCLFs) be prioritised across different transport modes over time to achieve maximum

abatement?

Not answered

57 25. What are the best ways for the Australian Government to work collaboratively with industry, business, governments and communities to implement the proposed pathways?

Not answered

58 25.1 What are good domestic or international examples of partnership and collaboration on transport and transport infrastructure emissions reduction that could inform the final Roadmap and Action Plan?

Not answered

59 25.2 What opportunities can Government leverage to show leadership in Australia and internationally?

Not answered

60 26. What measures and metrics should be used to evaluate the final Transport and Infrastructure Net Zero Roadmap and Action Plan?

Not answered

61 26.1 What other data and evidence could governments use and how could this offer further insights on the pace, scale and location of transport emissions reduction pathways?

Not answered

62 27. Do you have any feedback on the proposed review process?

Not answered

63 28. Do you have any further feedback on the Consultation Roadmap and proposed pathways?

Not answered

64 28.1 Is there anything missing? Are the sections appropriately integrated? Is the Roadmap appropriately ambitious?

Not answered

65 29. Is there any further information or documentation that you wish to be considered with your submission?

Not answered

66 Would you like to upload a document?

Yes

67 Have you removed any identifying information from your submission?

Yes

68 Upload a submission

Submission - TSA - Net Zero Transport and Infrastructure.pdf

69 Upload a submission

Not answered

70 Upload supporting file

Not answered

71 Upload supporting file

Not answered

25 July 2024

Australian Government
Department of Infrastructure, Transport, Regional Development, Communications, and the Arts
GPO Box 594
CANBERRA ACT 2601

BY EMAIL
NetZero@infrastructure.gov.au

Dear Australian Government

Transport and Infrastructure – Net Zero Consultation Roadmap

Tyre Stewardship Australia (TSA) was formed to implement the national Tyre Product Stewardship Scheme (the Scheme). The Scheme's principal aim is to develop commercial markets for the approximately 540,000 tonnes or 67.5 million (passenger tyre equivalents units) of tyres which reach their end-of-life each year in Australia (2022-23 figures).

As TSA is focused on creating a circular economy for tyres in the context of the transition towards a net zero emissions Australia by 2050, we welcome and appreciate the opportunity to contribute to the development of the Transport and Infrastructure Net Zero Consultation Roadmap.

Our key message is that tyres can make a material contribution to decarbonisation.

This is true when tyres are in use, on and off-the-road; and again, when they are recovered and processed as tyre derived material.

Tyres underpin the two biggest sectors of the Australian economy - transport and mining - and TSA works with both sectors to understand their challenges and share our expertise.

Of note, TSA funds research into tyres, including, as it relates to the transition to net zero. A current project, as an example, is the '*Implications of the Transition to EVs for End-of-Life Tyre Recovery*.'

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To discuss this submission and our work further please contact Sandra Scalise, Director, Strategic Marketing Communications [redacted]

This submission can be made public.

Yours sincerely

[redacted]

Lina Goodman
Chief Executive Officer
Tyre Stewardship Australia
[redacted]

TSA Submission

Net zero pathways for each transport mode

The following section of our submission responds to the key questions below posed in relation to the **road transport** mode – both light and heavy – with a specific focus on passenger, truck and bus tyres.

Q: What additional actions by governments, communities, industry and other stakeholders need to be taken now and, in the future, to reduce vehicle emissions?

Q: How would these actions address the identified challenges and opportunities to reduce vehicle emissions?

Tyres as energy efficiency products:

Transport is on track to become Australia's largest source of climate warming emissions by 2030, and tyres, all in, can account for 20 to 30% of the fuel consumption of vehicles[1]. Accordingly, as tyre design, and particularly their rolling resistance coefficient (rolling resistance), can affect vehicle efficiency so significantly, tyres designed for high rolling resistance/energy efficiency should be thought of as a proven product[2] to aid the transition to net zero road transport.

Energy efficient tyres can:

- reduce the fossil fuel consumption and tailpipe emissions (scope 1) of internal combustion engine vehicles; and
- reduce the electrical energy consumption and non-tailpipe emissions (scope 2) of electric vehicles.

Importantly, energy efficient tyres may be one of the least cost approaches to reducing emissions from road transport, with the added benefit of achieving fuel cost savings for consumers.

Vehicle efficiency:

For new vehicles and trailers coming into the country, the Australian Design Rules (ADR) are our national standards and safeguard for road vehicle safety, anti-theft, and emissions.

TSA provided a submission in support of the new vehicle efficiency standard (presumably a new ADR) which will enable Australia to catch up with the world on new vehicle efficiency and emissions. The TSA submission highlighted that 'For cheaper, cleaner cars – Don't forget the tyres!'.

[1] Council of the European Union, *First reading with view to adoption of regulation* https://data.consilium.europa.eu/doc/document/ST-14649-2019-INIT/en/pdf (accessed 22 July 2024).
[2] European Commission, Tyres, *Energy Efficient Products*, https://energy-efficient-products.ec.europa.eu/ecodesign-and-energy-label/product-list/tyres_en (accessed 22 July 2024).

The TSA's submission also expressed support for the changes that are being made to introduce a new fuel quality and noxious emission ADR to catch up with European Union (EU) - Euro 6d standards[3] (noting Euro 7 standards have now been approved by the EU).

Taken together, the new vehicle efficiency standard, and the new fuel quality and noxious emission standard, will deliver billions of dollars of savings to Australians including through reduced health impacts and fuel costs[4].

The TSA submission made it clear that, as Australia has finally caught up with the rest of the world on these standards, further benefits can now be realised by catching up on tyre labelling standards.

International tyre labelling:

The frontrunners in implementing tyre labelling programmes, considering rolling resistance as an indicator for fuel efficiency, include the EU, Japan, and South Korea.

The programmes are based on the United Nations Economic Commission for Europe Regulation (UNECER) 117.02 which is the globally accepted standard on 'tyres, rolling resistance, rolling noise and wet grip'. The UNECER 117.02 has been strengthened over time and is now at revision four[5].

The EU tyre label based on UNECER 117.02, (Regulation (EU) 2020/740) as an example, is aimed at helping consumers to be better informed when buying new tyres. The communication messages are simple (see Figure 1).

The label includes five grades of rolling resistance - A to E. These denote a difference in rolling resistance/fuel consumption. For example, switching from Class E tyres to Class A tyres can reduce fuel consumption by circa 7.5%[6] (see Figure 2).

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[3] Australian Government, DITRDCA, *Questions and Answers on the new ADRs for Light Vehicle Noxious Emissions*, https://www.infrastructure.gov.au/questions-and-answers-new-adrs-light-vehicle-noxious-emissions (accessed 22 July 2024).
[4] Minister for Climate Change and Energy, *Joint Media Releas: Delivering Australians more choice of cars to save on fuel,* https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-delivering-australians-more-choice-cars-save-fuel (accessed 22 July 2024).
[5] Consolidated Automotive Regulations, *UN R117/02 (Rev.4),* https://consautoregs.com/unece/un-r117-02-rev-4 (accessed 22 July 2024).
[6] Ford, *The 2021 EU Tyre Label Explained,* https://www.ford.co.uk/owner/your-vehicle/tyres/eu-tyre-labels#:~:text=Fuel%20efficiency%20is%20measured%20according,consumption%20of%20up%20to%207.5%25. (accessed 22 July 2024).

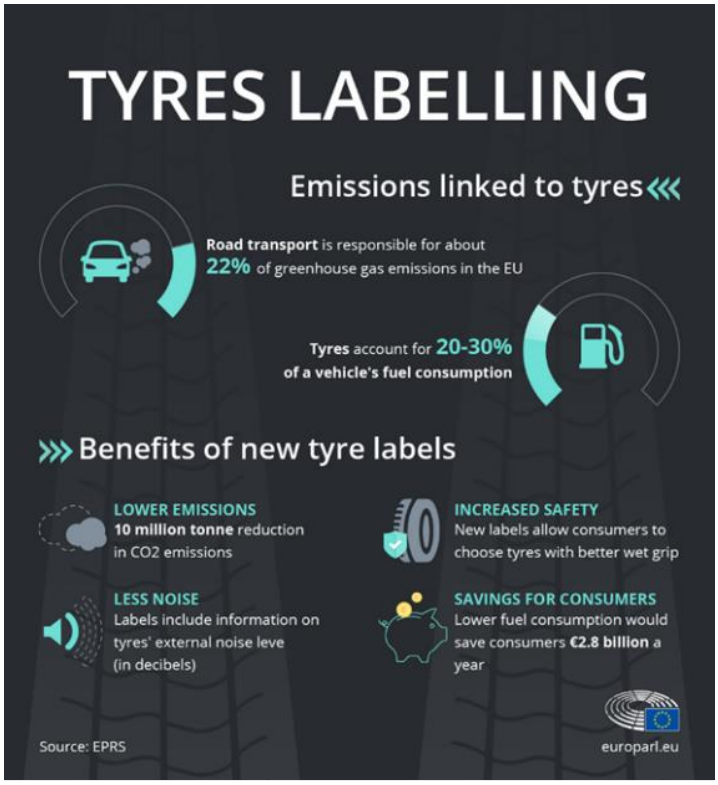

Figure 1: Infographic on tyres and emissions in the EU[7].

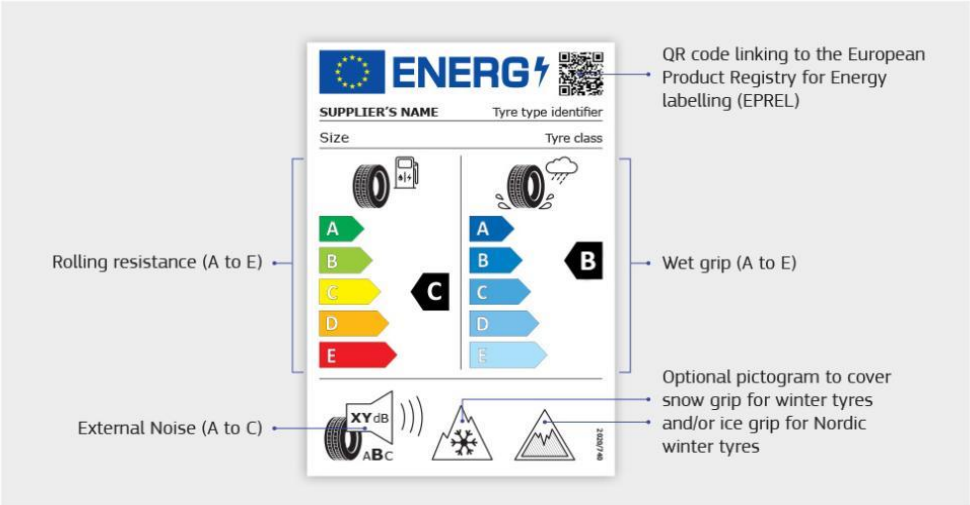

Figure 2: EU tyre label[8].

[7] European Parliament, *Tyre pollution: lowering car emissions with new EU tyre labels.* https://www.europarl.europa.eu/topics/en/article/20200423STO77731/tyre-pollution-lowering-car-emissions-with-new-eu-tyre-labels (accessed 22 July 2024).
[8] European Commission, *Energy Efficient Products,* https://energy-efficient-products.ec.europa.eu/ecodesign-and-energy-label/product-list/tyres_en (accessed 23 July 2024).

Australia should review the ADR:

The current ADR for tyres includes the fitting (ADR 96-00), and on-tyre labelling, quality, and safety parameters (ADR 23-03) that passenger tyres must meet.

The overall intent of the ADR is that harmonisation is achieved between the ADR and the UNECER, where this makes sense. However, there seems to be a significant lag between changes to global best practice and changes to the ADR.

Further, at the present time it is unclear how and to what extent, the ADR are enforced for in-service vehicles and trailers.

For imported (new and second-hand) vehicles, the Commonwealth Government receives a statement of compliance by the vehicle importer. Presumably, there is not any issue with non-compliance in respect to the ADR at this point, including as it relates to tyres.

However, for in-service vehicles and trailers, the *Australian Light Vehicle Standards Rules 2015* require a vehicle that is subject to an ADR when built or imported continue to comply with the ADR. Compliance sits with the states/territories, but it is not clear if they are enforcing compliance.

In respect to tyres, anecdotally, 'grey import' non-ADR compliant new and used tyres are entering our markets and being sold and used on in-service vehicles and trailers, which may have implications for road safety and tyre wear emissions.

Tyre wear emissions:

When driving a vehicle, tyre wear particles are being released into the environment. And as we transition to electric vehicles - with no tailpipe emissions - tyres will become the leading source of particulate matter pollution from vehicles.

Particulate emissions from non-exhaust sources, specifically tyres and brakes, are a result of the friction required for braking and maintaining traction on the road, which are essential for road safety. However, particulate matter can impact human health and the environment.

The United Nations Economic Commission for Europe is undertaking work on the topic of abrasion performance, whilst investigating the correlation between abrasion rate and durability. The aim is to consider the inclusion of both abrasion rate and durability in a new proposed regulation.

Though not a significant global warming emission source, the particulate emissions from tyres do have an impact on human health and the environment. TSA is monitoring work underway internationally, and government should also be monitoring developments, including Euro 7, that will, among other things, set limits on the emissions stemming from the abrasion of tyres and brakes while driving.

It is important to ensure that any changes to tyres, for example for fuel efficiency and for EV (Electric Vehicles) specific designs, are also achieving benefits in respect to particulate pollution.

Tyre repair and retreading – easy emissions savings:

Finally, tyre repair and retreading are an important means to reduce emissions from heavy vehicle transport and for off-the-road tyres such as the giant tyres used at mines.

Retreading uses a process where the remainder of the worn tyre's tread pattern is buffed off to expose a new fresh surface. Then a new, precured tread is bonded to the casing. The re-treaded tyre can then be put back in service without compromising safety or quality.

Retreading a truck or bus tyre can increase its lifespan by up to 3 times with related emissions savings[9], and the repair and retread of off-the-road tyres also offers impressive benefits.

Retreading's main competitor today, for truck and bus tyres, is the low-end non-retreadable tyres (new and used) most often imported from Asia. These tyres may not be ADR compliant.

Although the cost of retreaded tyres is competitive over time when compared to the number of kilometres travelled, customers with short term cash constraints have an increasing tendency to turn towards low-end non-retreadable tyres[10].

Importantly, although all new tyres are imported in Australia, re-treading does occur locally (e.g., Bandag) as does repair (e.g., Tyre Doctor) supporting jobs and our strategic resilience.

[9] Bridgestone, *Why Retread Tyres,* https://www.bridgestone.com.au/tyres/bandag/why-retread (accessed 23 July 2024).
[10] Ernst and Young, *The socio-economic impact of truck tyre retreading in Europe*, https://www.etrma.org/wp-content/uploads/2019/09/201611-ey_retreading_lr.pdf (accessed 23 July 2024).

Actions for net zero pathways for each transport mode

1. ***Introduce energy efficiency labelling for tyres via a new ADR.***
   Just as government provides and improves standards (i.e., Greenhouse and Energy Minimum Standards) to enable consumers and businesses to make informed choices on purchasing energy efficient (i.e., Energy rating label) appliances and equipment, consideration should be given to providing consumers with support, including standards, labelling, awareness/education, and incentives, to choose energy efficient tyres.

   A standard could be introduced via a new ADR that is harmonised with UNECER 117.02. Notably, the EU regulation includes the testing regime related to tyre wear and wet grip which is expected to save EU motorists further billions by averting premature tyre purchases – a benefit that has gained media coverage in Australia[11].

   Tyre energy efficiency labelling would spur and achieve inclusive consumer action in reducing emissions from transport, including consumers who retain or choose new internal combustion and hybrid vehicles. Emphasis in communications can be on the fuel cost savings to consumers.

2. ***Review the ADR.***
   Noting the above recommended ADR update, the new vehicle efficiency and other ADR updates, and that the Roadmap mentions that new ADR will be introduced for electric vehicles, it seems obvious that an overall review of the ADR is needed to position Australia for net zero road transport.

   This review could consider the challenges and opportunities, including the current time delay challenges some vehicle producers/importers are facing when trying to import more efficient vehicles, and how to keep Australia up to speed with international safety standards.

   The benefits of alignment with global best practice are significant from social, economic, and environmental perspectives, and a review should be prioritised to achieve benefits for Australia.

3. ***Enforce the ADR.***
   Further, government should consider how to support a level playing field (noting the impact on competition for retreads) by ensuring that all tyres imported are compliant with the ADR. Consideration could also be given to providing incentives in favour of using retreads.

[11] Drive, *New tyre law introduced in Europe, Australian regulators watching – report* https://www.drive.com.au/news/new-tyre-law-introduced-in-europe-australian-regulators-watching-report/ (accessed 24 July 2024).

The benefits include significant emission savings. Road safety may already be at risk from non-ADR compliant tyre imports.

Supporting transport's net zero pathways

The following section of our submission responds to the key questions below posed in relation to a net zero pathway for **transport infrastructure** – with a specific focus on both passenger, bus and truck tyres, and the off-the-road tyres that are used in mining, agriculture and other industries.

Q: What additional actions by governments, communities, industry and other stakeholders need to be taken now and, in the future, to reduce transport infrastructure emissions and ensure that transport infrastructure is ready for and enables low-emission transport modes?

Q: How would these actions address the identified challenges and opportunities to reduce transport infrastructure emissions?

End-of-life tyres as emission saving product:

When tyres reach their end-of-life they represent a significant resource that can be processed to create tyre derived material (TDM), such as powder fine 'crumb rubber.' This TDM can then be used in several applications, including transport civil engineering applications, to achieve significant emissions savings and performance benefits.

The recent TSA report Tyre Stewardship Australia | Life Cycle Assessment of end-of-life tyres[12], examines the emissions of end-of-life passenger and truck tyres, and product applications that use TDM.

Further, a recent report by the NSW EPA, examined the carbon abatement cost curve for several materials including tyres - noting that TDM can be used in asphalt, and as tyre derived fuel (TDF) for high-temperature heat applications such as cement and steel production (Figure 3).

[12] TSA, *Life Cycle Assessment of End-of-Life Tyres,* https://www.tyrestewardship.org.au/wp-content/uploads/2024/06/TSA-Life-Cycle-Assessments-of-end-of-life-tyres.pdf (accessed 23 July 2024).

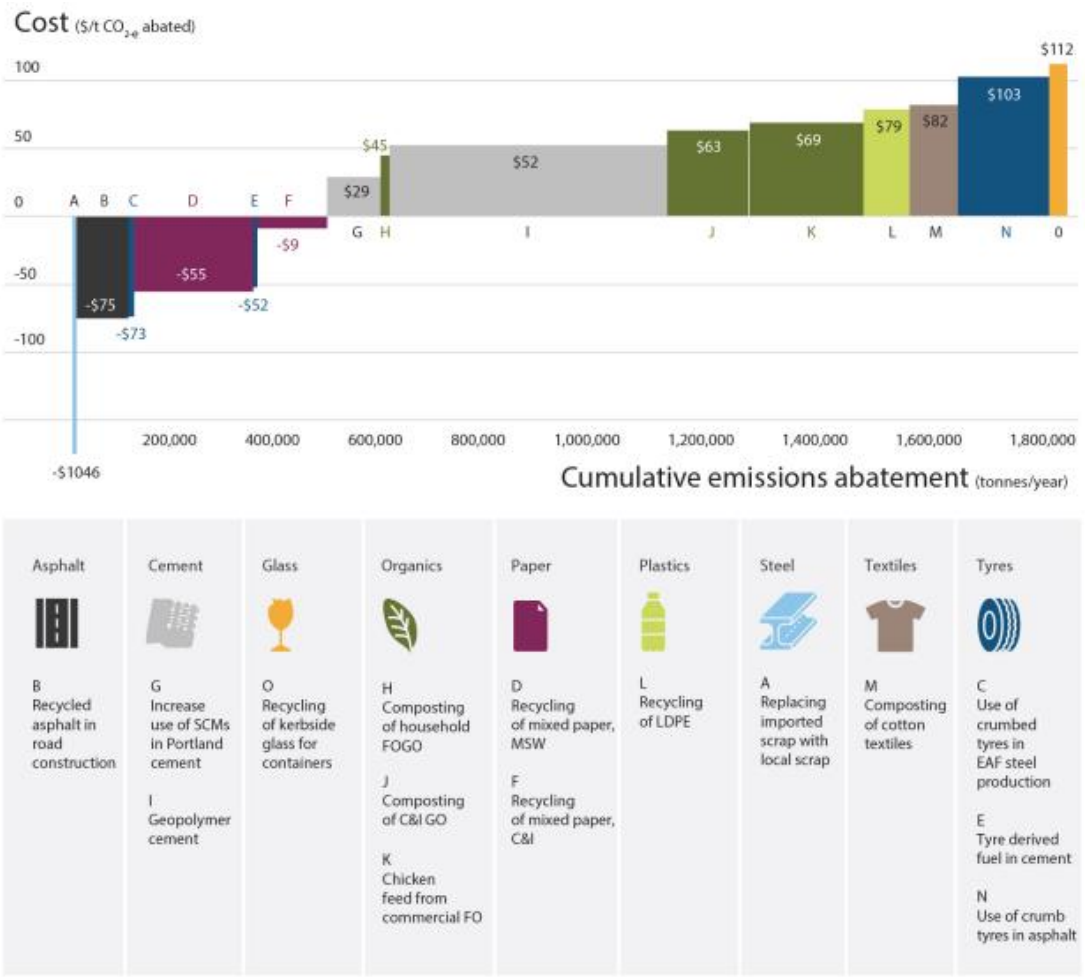

Figure 3: Carbon abatement cost curve including for tyres[13].

Crumb rubber in roads:

Turning end-of-life tyres into crumb rubber and using this material in roads is the big emission saving opportunity. Since its inception, TSA has played an important part in better understanding, supporting, and promoting the sustainability and performance value contributed using crumb rubber in road construction.

Crumb rubber can be used in two main applications:

1) Incorporation of crumb rubber into asphalt mixes – wet or dry
2) Incorporation of crumb rubber into spray seals (a thin layer of binder sprayed onto a road surface to create a barrier impervious to water).

Crumb rubber in road applications can deliver road performance benefits including:

[13] NSW EPA, *Carbon Abatement Opportunities for Circular Economy,* https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/recycling/carbon-abatement-opportunities-circular-economy.pdf (accessed 23 July 2024).

- Longer road pavement lifespan and less maintenance.
- Improved adhesion and bonding with aggregates.
- Improved skid resistance, better road grip and smoother vehicle brake application.
- High resistance to moisture/water absorption hence reduction to damage during rains.

An example of the inclusion of crumb rubber in roads and transport infrastructure includes a demonstration project by Southern Sydney Regional Organisation of Councils (SSROC) which showed how crumb rubber can make council roads more sustainable and reduce capital and operating expenditure by extending road life[14] [15].

In addition, TSA has recently commissioned lifecycle assessment (LCA) research with support from life cycle assessment experts at Edge Impact, who conducted technical elements and verified this research according to global standards. The research identified that replacing conventional polymer modified binders with crumb rubber in various asphalt mix designs can reduce GHG emissions by 7%. This means that if the remaining use of conventional polymer modified binder in Australia were replaced with crumb rubber modified binder an additional 17,000 tonnes of crumb rubber would be used, and this would result in an estimated 10,000 tonnes CO_2e of avoided emissions per year.

This is just one scenario. Other examples where emissions can be reduced by including TDM in road construction applications are outlined below.

TSA market development fund:

TSA has disbursed over $10 million from our market development fund to support projects that increase the consumption and range of applications for TDM. Transport project products that show notable emission reductions include:

- **Rubber T-Lok safety barriers[16]**
  For every 1km of Rubber T-Lok Barrier produced, 12 tonnes of end-of-life tyres are used - equivalent to 2,000 passenger tyres[17].

  In an LCA conducted by Saferoads, preliminary results demonstrate that every 5.49m of Rubber T-Lok barrier that replaces a conventional concrete crash barrier will avoid 72.94kg

[14] Southern Sydney Regional Organisation of Councils, *Life Cycle Assessment and Potential Environmental Benefits of Crumb Rubber Asphalt using field data*, https://ssroc.nsw.gov.au/wp-content/uploads/2024/05/SSROC-LCA-crumb-rubber-asphalt-FINAL.pdf (accessed 23 July 2024).
[15] TSA, *Australia's largest council-led recycled rubber road project paves the way* https://www.tyrestewardship.org.au/news/australias-largest-council-led-recycled-rubber-road-project-paves-the-way-for-environmental-and-economic-results/ (accessed 24 July 2024)
[16] SafeRoads, *Rubber T-Lok Barrier,* https://www.saferoads.com.au/rubber-t-lok-barrier (accessed 23 July 2024).
[17] TSA, *Recycled Concrete Safety Barriers, SafeRoads & University of Melbourne*, https://www.tyrestewardship.org.au/project/t-lok-rubber-safety-barrier/ (accessed 23 July 2024).

CO_2e. This means that for every 1km of barriers laid, this would be an avoidance of 13.3 tonnes CO_2e.

See case study:
Tyre Stewardship Australia | T-Lok Rubber Safety Barrier: Tyre Recycling Innovations - Tyre Stewardship Australia

- **Permeable pavement.**
  Permeable pavement is a product that can be made from a blend of virgin rock, end-of-life tyres, and a specific binder to create a porous product. There have been numerous case studies for this type of product demonstrating its use in carparks, bike lanes and footpaths to replace other porous and non-porous conventional materials.

  See case study:
  Tyre Stewardship Australia | Innovative Tyre Recycling: Porous Lane Waste Tyre Permeable Pavement

  Further, the recent LCA published by TSA, demonstrated that for every 1000m² of pavement containing end-of-life tyres, there could be 800kg CO_2 e emissions reduction potential, when replacing a conventional permeable pavement. Recent industry studies suggests that, compared to traditional asphalt or concrete pavements, this emissions avoidance may be even larger, due to the higher embodied carbon of these conventional materials.

Government procurement:

All tiers of government have a role to play in supporting and growing the onshore market for end-of-life tyre applications through their substantial procurement programs.

This procurement can act as a lever to pull more tyres towards recovery, and from recovery towards more favourable higher order outcomes like using crumb rubber to make Australian roads more durable and cheaper overall.

At the federal level, there is significant policy support for this government procurement, including the Australian Government's National Waste Policy Action Plan (Annexure 2022) Target 4: 'Significantly increase the use of recycled content by governments and industry'.

'All in' product stewardship scheme:

Australia generated approximately 540,000 tonnes or 67.5 million (passenger tyre equivalents units) end-of-life tyres in the 2022-23 financial year. Despite substantial effort by Scheme contributors and

participants, TSA, all tiers of government, and others, the current voluntary Scheme is falling short of community expectations.

Accordingly, TSA is actively advocating for a stronger approach to product stewardship.

At the current time:

- Unrecovered material: Being that which is landfilled, buried onsite, stockpiled, or dumped, continues to be a huge portion of the fate of end-of-life tyres, at 42% in 2022-23.

  Stockpiles and dumping are especially prevalent and problematic in urban fringe, and regional, rural, and remote locations where councils and communities withstand the worst of these illegal activities.

- Recovered material: Being materials separated, sorted, or processed for the purposes of reuse, recycling, or energy recovery, has dropped in recent years, down to 58% in 2022-23.

  Less than 30% of the portion that is recovered is used in Australia for applications such as asphalt for road surfacing, permeable pavement, and concrete road barriers. Although there is a range of circular applications for end-of-life tyres, the lack of consistent onshore demand for these products has resulted in most recovered material being exported to be burnt as fuel.

A stronger stewardship scheme would result in significantly better resource recovery rates, that could then support greater levels of higher order outcomes including recycling.

Actions supporting transport's net zero pathways

1. **Government should mandate recycled content for the construction of roads and related infrastructure.**

   Government procurement policies should set clear, unambiguous requirements for the inclusion of recycled content in road construction and related infrastructure such as safety barriers.

   This will support significant emission reductions and support government goals in respect to waste and resource recovery, and the circular economy

2. **Government should introduce a compulsory stewardship scheme for tyres and conveyor belts.**

   An 'all in' product stewardship scheme would result in significantly better resource recovery rates for tyres which will result in emissions savings and other public benefits.

…

End