



Research Paper: End-of-life Tyre Management in Australia

1 Summary

At the August 2012 MWAC meeting, it was agreed that MWAC staff would carry out research into Tyre management in Australia. This paper has been developed for the purposes of providing Elected Members with an understanding regarding:

- The final destination of end-of-life tyres (in Australia and internationally);
- The problems in managing used tyres, as experienced by Local Government;
- MWAC’s current position;
- Management practices and initiatives in Western Australia; and
- The current initiatives underway to improve end-of-life tyre management.

Key finding: That MWAC supports a national, mandatory or co-regulatory Extended Producer Responsibility Scheme for the management of used tyres. In the event that an effective national scheme does not eventuate in a timely fashion, a State based Scheme should be pursued.

2 Background – Scale of the Issue

There have been numerous reports commissioned by both the State and Federal Governments, investigating various aspects of the used tyre industry. For an indicative list of these reports, refer to Appendix 1. In 2012, the Council of Australian Governments Standing Council on Environment and Water (SCEW) commissioned Hyder Consulting to carry out a *Study into the domestic and international fate of end-of-life tyres*. The final Report found that approximately 48.5 million tyre Equivalent Passenger Units (EPU) ¹ entered the waste stream in 2009-10 (compared to 41.8 million in 2007-08).

For the purposes of the Hyder Report, tyres were classified into three categories; Passenger, Truck, and Off-The-Road (OTR) tyres. The percentage that these categories of tyres contributed to the overall end-of-life tyres in Australia (EPU) is as follows:

- Passenger: 20,596,893 42.5%
- Truck: 14,673,882 30.27%
- OTR: 13,197,603 27.23%

The final destination of the total amount of end-of-life tyres is shown in Figure 1. This includes both domestic and international disposal and recycling. Figure 1 illustrates that the current destination for the majority (i.e. >60%) of used tyres within Australia is unknown. The categories of these tyres is further explored in Section 2.1.

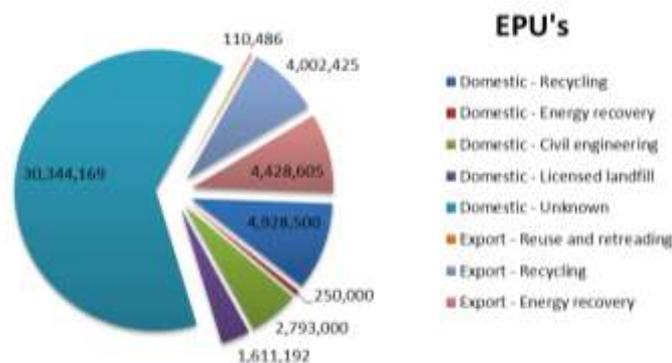


Figure 1. Final destination of end-of-life tyres 2009-10 (Hyder 2012, Figure 35).

¹ An EPU is a standardised measure for the quantity of tyres (for the Hyder Study, a new tyre was 9.5 kg, whereas a used tyre was 8.0 kg).

In Western Australia, the number of EPU's in use per capita has been relatively consistent during the 2007-08 to 2008-09 periods, at approximately 7 EPU's per capita (Hyder 2012, Figure 5). This is by far the most EPU's per capita in the country, reflecting the key industries and the vast distances travelled in Western Australia.

Table 1 (adapted from the Hyder Report, Table 8) compares WA tyre generation rates to other States. It should be noted that a key limitation to this data, is that not all ORT vehicles are required to be registered. To overcome this, the Hyder Report set the default lifespan of OTR tyres to 12 months. In 2009-10 over half of the used tyres generated in Western Australia, were Passenger tyres from the metropolitan area.

Jurisdiction	Total EPU	Percentage
ACT	403,147	0.83%
NSW	12,620,986	26.04%
NT	673,660	1.39%
QLD	11,006,907	22.71%
SA	3,598,172	7.42%
TAS	1,242,732	2.56%
VIC	10,514,094	21.69%
WA	8,408,678	17.35%
Total	48,468,376	100.00%

Table 1. End-of-life EPUs generated per jurisdiction.

2.1 Final Destination (in Australia)

Table 2 (adapted from the Hyder Study, Table 1), provides a summary of the final destination of end-of-life tyres within Australia. It should be noted that the final destination of more than 60% of end-of-life tyres is unknown. This is especially concerning, given the substantial costs associated with cleaning up contamination associated with burning stockpiles of tyres. For example, the 1991 Bindoon tyre fire, cost the State Government \$605,378.92. These costs were unable to be recovered from the owners of the site (Hansard, 2003). Other contamination incidents of note, include the 1992 fire in Salisbury, QLD. This fire is thought to have cost the fire brigade \$750,000 (URS 2006).

Domestic destination	Total EPU	Percentage
Recycling	4,928,500	10.2%
Energy recovery	250,000	0.5%
Civil engineering	2,793,000	5.8%
Licensed landfill	1,611,192	3.3%
Unknown	30,344,169	62.6%
Sub total*	39,926,862	82.4%

Table 2. Final domestic destination for end-of-life EPU's 2009-10 (Hyder 2012, Table 1).

**The remaining 17.6% of tyres are accounted for in export statistics.*

Figure 2 shows the final destination of tyres as per the three categories. It is interesting to note, that the majority of tyres comprising of the unknown data (within Australia) are OTR's and Truck tyres (Hyder 2012, Figure 14). This lack of information could be due to the use of these tyres in remote areas, where there is limited access to tyre recycling (or licensed landfills). As previously discussed, not all OTR vehicles are required to be licensed for use on roads (licensing data provides a means of estimating tyre numbers).

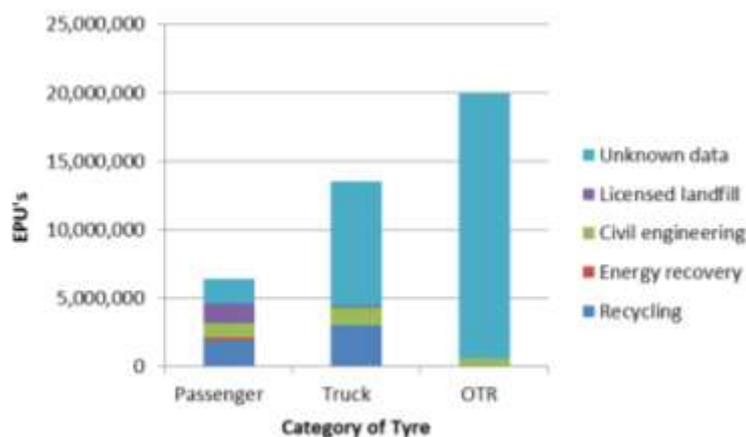


Figure 2. Domestic destination of various end-of-life tyres 2009-10 (Hyder 2012, Figure14).

The Hyder Report (2012) did not include information on the final destination of tyres within each jurisdiction as this “could reveal commercially sensitive information.” WALGA has been unable to draw a comparison between jurisdictions on the number of EPU’s disposed in licensed landfills, as the quality of data is questionable.

2.2 Final Destination (international)

Approximately 67% of all exported tyres from Australia were sent to Vietnam during 2009-10. The majority of these tyres were Passenger tyres. This is likely to be a result of the convenience of collecting and transporting material from metropolitan areas (Hyder 2012, Figure 15).

It is interesting to note that in South Australia, a widespread ban on whole tyres to landfill was introduced 1 September 2010. When comparing the export of tyres on a per capita basis, South Australia became a significant exporter of used tyres prior to the introduction of this ban.

There are a number of inconsistencies in how tyre products are reported for the purposes of export. The Hyder Report concluded that whole baled tyres were exported to Vietnam under export codes originally intended for processed products such as Tyre Derived Product (TDP). Hyder also concluded that the primary use for end-of-life tyres in other countries was energy recovery, closely followed by recycling (Hyder Report, Figure 33). It has also been identified that some jurisdictions within Australia (WA included) only export tyres for the purpose of energy recovery. Table 3 shows the amount of EPU’s that are exported for various end uses.

International destination	Total EPU	Percentage
Reuse and retreading	110,486	0.2%
Recycling	4,002,425	8.3%
Energy recovery	4,428,605	9.1%
Sub total	8,541,516	17.6%

Table 3. Final international destination for end-of-life EPU’s 2009-10 (Hyder 2012, Table 1).

3 Issues Experienced by Local Governments in Managing Tyres

Managing used tyres can cause significant problems for Local Governments. Tyres were listed as a problematic material by 82% of respondents in a recent MWAC survey, to identify priority products for an EPR Scheme. Tyres originate from a variety of sources, such as illegal dumping, bulk collection, and those brought directly to Local Government managed facilities by residents and commercial operators. As used tyres have no financial value, it can be difficult for Local Governments to recoup the costs of managing them (particularly at unmanned sites, or with illegal dumping). Local Governments from regional areas have also reported that these difficulties are also true for managing the large amounts of used conveyor belt material generated from industrial processes. The following Sections explore some of these problems in greater detail:

3.1 Illegal Dumping

Local Governments currently find it difficult to prosecute those that illegally dump tyres. Local Governments have also reported that it is difficult to recover the costs of addressing illegal dumping

due to the constraints of the *Environmental Protection Act 1986*. These constraints include difficulties in establishing a sufficient burden of proof to secure a conviction. It is extremely difficult to ascertain the overall cost imposition of managing illegally dumped tyres, as Local Governments have different approaches to collecting this type of data. In some cases, data is not collected.

Examples of where illegal dumping occurs in the metropolitan area includes: recreational land, vacant land and through the verge collection system. Metropolitan Local Governments have reported that the majority of tyres that are dumped are passenger tyres.

The issues relating to illegal dumping in non-metropolitan areas are different in that there is a need to cater for all three categories of tyres. It should be noted that larger tyres are more problematic to manage and dispose of. As in the metropolitan area, it is difficult to police illegal dumping of tyres. Anecdotal evidence suggests that tyres generated in the metropolitan area, are been disposed of within the boundaries of peri-urban Local Governments. WALGA was not able to determine the degree to which this occurs.

3.2 Storage and Transport to End Markets

Table 4 outlines a number of hazards associated with stockpiling tyres, as adapted by WALGA in italics, from the GHD *Review of management and operation of used tyre stockpiles* (2006) for the Department of Environment and Conservation (DEC). These hazards also relate to general illegal disposal of tyres.

Categories	Hazards and Risks
Environmental	Fire
	Leaching
	Mosquitoes
	Weeds
	Vermin
	Visual impact
	<i>Loss of resource</i>
Social and Cultural	Health issues
	Fire hazards
	Aesthetics
Financial	Liability costs
	Degradation of used tyres
	Disposal costs
	Site closure and remediation
	<i>Costs of clean-up, transport, end-use gate fee also enforcement, investigation and prosecutions.</i>

Table 4. Hazards and risks associated with used tyre stockpiles.

Local Governments have reported that it is not always possible to comply with site licensing conditions for stockpiling tyres. The *Environmental Protection Regulations 1987* stipulate that storing over 500 tyres (in connection with a tyre fitting business) or over 100 at any other place is considered to be pollution of the environment. As a result, many metropolitan Local Governments with transfer stations operate on a '100 tyre limit' basis. The time taken to reach this limit is thought to be dependent on the demographic and industry types of the area serviced by a transfer station (e.g. in Canning this takes 6-8 weeks, whereas the JRF Transfer Station in the Western Suburbs only has a few collections each financial year).

In the non-metropolitan area, it is not possible for Local Governments to operate on these terms. For example, the Meru Landfill (City of Greater Geraldton) has the ability to hold 1,000 tyres at any point, whereas the City of Kalgoorlie-Boulder has a license condition stating a limit of 2,500.

There is a cost involved in transporting tyres to markets. In most cases, tyre recyclers provide quotes based on the type of tyre and the location of collection these can vary markedly. For example, WALGA obtained a price list from the company Tyrecycle for various classifications of tyres. Examples of differences include:

Passenger tyre (1 EPU): \$1.68 (metro) \$2.08 (non-metro)

Light truck tyre (2 EPU's): \$3.56 (metro) \$4.26 (non-metro)

3.3 Cost of Recycling / Disposal

As end-of-life tyres do not have a monetary value, it is difficult for many Local Governments to justify paying higher costs for recycling, when the cost of sending tyres to landfill is much less (especially in the non metropolitan area). Table 5 and 6 detail the various management approaches taken by some Local Governments and Regional Councils in Western Australia. These approaches and charges were correct as of November 2012.

The equipment required to process tyres is expensive (especially for Truck and OTR tyres). Given the current lack of grant funding for waste related infrastructure, any cost associated with establishing collection infrastructure and processing equipment needs to be recovered through the fee for service.

Local Government	Tyre classification	Cost (collection/transport/recycling)	Individual load
Western Metropolitan Regional Council	Predominately passenger tyres	Recycling Company 1: Passenger tyres - \$1.76ea 4x4 tyres - \$3.77ea Truck tyres - \$33.90	Approximately 100 passenger tyres (1.5 tonnes or 187.5 EPU's)
Southern Metropolitan Regional Council	Passenger tyres ('dumped in the greenwaste stream') as well as tyres from equipment used onsite	Suppliers of new tyres can remove used earthmoving tyres at \$200 to \$500ea Recycling Company 1: Earthmoving tyres L5 & L2 - 20.5 to 25 - \$129ea Truck tyres - \$9.90ea Passenger tyres - \$1.54ea Waste tracking - \$33.50 (per load)	
Mindarie Regional Council	Truck tyres Passenger tyres	Recycling Company 1: Passenger tyres - \$1.50 4x4 tyres - \$3.21 Truck tyres - \$7.48 Waste tracking - \$37.50 (per load) Also 2 hours of staff time and truck usage/diesel to deliver load (approx. \$200 per load)	Since the new Financial Year there have been five deliveries - ranging from 3.37 to 5.43 tonnes in weight (or 421.25–678.78 EPU's).

Table 5. Examples of the costs associated with recycling.

Local Government	Approach	Cost
Canning	Tyres are shredded and mixed with general waste at the transfer station prior to transport to landfill.	Minimal. The shredding equipment used for green waste is also used to shred tyres. Cost of landfill is additional.
Greater Geraldton	Tyres are sent to a DEC licensed monofill (ex-quarry site). Of late, larger tyres have been discouraged.	Passenger tyres - \$2.85ea (w/o rims) Passenger tyres - \$4.50ea (with rims) Truck tyres - \$280ea Investigating alternatives.
Kalgoorlie - Boulder	Tyres are sent to landfill. License condition states tyres are to be shredded prior to burial (can either be buried individually, or mixed with general waste).	Costs were not provided.
Three Springs	Tyres are stockpiled on site, and then buried in batches of approximately 50. A GPS reading is recorded for future reference.	Costs were not provided.

Table 6. Examples of the costs associated with other approaches.

3.4 Limited disposal options

There are only a limited number of companies in Western Australia that are actively accepting and recycling tyres. Some of these companies are listed below:

- Tyrecyclers WA (ELAN Energy Management); and
- Carbon Polymers (using Tyre Collections Pty to collect tyres).

It should be noted that a list of all the registered/licensed transporters and recyclers of used tyres in Western Australia has been requested from the DEC; however a response is yet to be received. Mindarie Regional Council has advised that to overcome issues related to unpredictable pickups from recyclers (Mindarie can accept up to 20-150 domestic tyres a week from customers), they have obtained a controlled waste license to transport tyres to recyclers. This has assisted in gaining operation control of the number of tyres stored on site.

4 MWAC's Current Position

MWAC has long advocated for Extended Producer Responsibility (EPR) Schemes to be established for problematic materials. Using the EPR approach, means that producers and consumers alike take responsibility for the products they generate. This position is further outlined in the *WALGA Extended Producer Responsibility Policy Statement* (endorsed June 2008).

5 Practices & Initiatives in Western Australia

5.1 Current Management Practices/Uses for Tyres

Disposal via Landfill

The disposal of tyres in landfill is permitted under the *Environmental Protection Regulations*. Part 6 14(2) states:

"...tyres may be disposed of by burial under a final soil cover of not less than 500 mm —
(a) in batches separated from each other by at least 100 mm of soil and each consisting of not more than 40 m3 of tyres reduced to pieces; or
(b) in batches separated from each other by at least 100 mm of soil and each consisting of not more than 1 000 whole tyres; or
(c) in the case of tyres in any volume or number in a dump existing on 4 December 1992, at the location of that dump in accordance with such conditions as are imposed by the Chief Executive Officer in respect of that burial for the purpose of ensuring that drainage, safety, soil erosion and soil stability at, and in the vicinity of, the site of that burial are adequately controlled."

As outlined in this Paper, many Local Governments are using this method to manage used tyres. For example, the Shire of Three Springs accepts and stockpiles tyres at their landfill facility. Tyres are then buried onsite (typically in batches of approximately 50) with a GPS location recorded for future reference.

Energy Recovery

Energy Content

There have been a number of studies comparing the energy values of various materials. One such study, *Case for Increasing the Global Capacity for Waste to Energy* (Castaldi M.J. & Themelis N.J. 2010), compares the available energy of various waste products when used as an alternative fuel source. It should be noted that this study is predominately based on the American and European experience. As such, there could be differences in these values when applied to the Australian context, or mixed as a supplement with traditional fuels. It should also be noted that there are a number of variables affecting the amount of energy that will be recovered from alternative fuels. Figure 3 demonstrates that tyres have a high amount of energy present as opposed to other fuel types such as Municipal Solid Waste.

Note: The study found the composition of MSW to be ~66% biogenic, containing approximately 2800 kWh of heating content with a capability of yielding nearly 700 kWh of electricity in modern waste to energy (WTE) facilities. The definition of ASR is Automotive Shredder Residues (also known as Auto Flock in Australia).

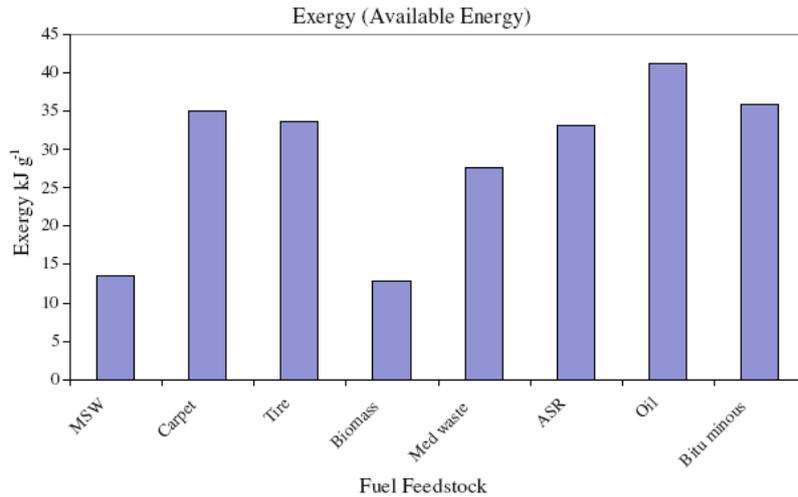


Figure 3. Available energy bound in several types of waste (Castaldi and Themelis 2010, Figure 10).

Regulatory Constraints

The *Environmental Protection Regulations* contain provisions for used tyres to be used in energy recovery/thermal treatment processes. Any facility that is designed to thermally treat over 100kg of waste per hour requires a works approval (to establish the facility) and then a license to operate (Category 60 prescribed premises). The DEC is able to place a series of conditions on the facility as part of the current licensing system. The DEC has specifically encouraged potential proponents to discuss their proposals with the staff of the Industry Regulation Branch to be fully informed of how the legislative requirements translate to individual proposals. DEC also suggested that suitably qualified environmental consultants are engaged to assist in preparing the documents required by DEC. It should be noted that in situations where the specific location of a facility is yet to be determined, the information provided by DEC staff will only be general in nature. The *Environmental Protection Regulations* outline the following requirements for stack emissions:

14.(1)(a)(i) "the emissions from the chimney of that incinerator do not exceed the following levels —

particulate matter	50 mg/m ³
carbon monoxide	1 g/m ³
zinc	3 mg/m ³
cadmium	3 mg/m ³
aluminium	3 mg/m ³
dioxins	5 parts per thousand million

or such other levels as are approved by the Chief Executive Officer; and

(ii) smoke discharged does not exceed a shade of 1 when compared with the Australian Miniature Smoke Chart (AS 3543 1989)."

As discussed in Section 2.2, the Hyder Report (2012) concluded that all tyres exported internationally from Western Australia are used for energy recovery.

Community Perceptions

It has been historically difficult for Local Governments (or tyre recyclers) to come to an agreement with a facility that operates a kiln/incinerator. This is due in part to community perceptions of waste to energy technologies. An example of where an Australian community has raised concerns at a proposal to use alternative fuels was at the Berrima cement works in New South Wales. In 2004, the company Blue Circle Southern Cement (BCSC) submitted a proposal to substitute 30% of coal use with alternative fuels (i.e. 20,000 tpa of a liquid oily material, 10,000 tpa of a carbon rich by-product from the aluminium industry and 30,000 tpa of used tyres) in a kiln at its facility. The community was very concerned, and called upon numerous State Government agencies to complete studies and reviews of the proposal. One of these included an independent environmental assessment of the proposal commissioned by the then Department of Infrastructure Planning and Natural Resources (DPINR) to assist in making a decision. The following extract from the assessment details the key concerns raised by the community:

"There has been community concern over the proposal, appearing to border on alarm for some people. Key issues raised by the community and interest groups have included: the reputed poor environmental reputation of cement kilns burning wastes; toxicity of the pollutants potentially generated, especially dioxins; claims that the proposal would be in breach of the Stockholm

convention on persistent organic pollutants; concern that there is 'no safe' level for any dioxins which are released; alleged underestimation of dioxin emissions by conventional testing; unease that the cement works would become a 'toxic waste incinerator'; allegations that the trials treated the residents as unsuspecting 'guinea pigs'; the need for a more thorough assessment through an Environmental Impact Statement rather than a Statement of Environmental Effects; overstated greenhouse reduction claims by the proponent; preferred alternative uses of the resources to burning, etc. These concerns have been addressed in this assessment and responses provided. The community response appears to have contributed to intensity of the environmental assessment."

Another factor influencing the use of tyres for energy recovery has been movements in recent years to 'cleaner fuels' such as natural gas. The disposal of used motor oil by this method has also been affected by this changing attitude.

The Environmental Protection Authority and the Waste Authority are currently carrying out a review of Waste to Energy. The recommendations of this review could have implications for the regulatory arrangements that are currently in place. The review findings are yet to be released.

5.2 Small Scale Uses

There have been a number of instances in which used tyres have been incorporated into innovative projects in Western Australia. Some of these include:

- Rammed earth house construction;
- Soft paving for children's play areas;
- Alternative flooring;
- Brake pads;
- Traffic calming devices;
- Retaining walls and embankments; and
- Garden beds.

Unfortunately, these types of projects do not use large volumes of used tyres.

6 Western Australian State Government Initiatives

6.1 WA Waste Strategy

End-of-life tyres were identified as a problematic waste stream in the Waste Authority's Draft Waste Strategy. In the finalised Waste Strategy, tyres are only mentioned as an example of a material that is difficult to recycle due to economic challenges. It appears that the Waste Authority will be taking action on tyres through the National Voluntary Scheme (refer to Section 7.2 Federal Initiatives). Should the National Scheme fail to resolve the economic challenges in Western Australia, the Waste Authority could take action, at the two year review point (Appendix 2).

6.2 Tyre Landfill Exclusion Zone

The most recent policy tool that has been used to specifically address tyres (in 2007), involved creating a Tyre Landfill Exclusion Zone within and surrounding the Perth metropolitan area (Figure 4). This initiative is in s5 of the *Environmental Protection Regulations 1987*, and is likely to be attributed to the Bindoon fire and moves to stimulate a market. If tyres are disposed in the exclusion zone, written approval is required from the Chief Executive Officer of the Department Environment and Conservation (DEC).

WALGA staff have not been able to establish the effectiveness of this measure, particularly if it is enforced. This measure has not resolved the issues Western Australia faces in developing a competitive, mature, tyre recycling industry.

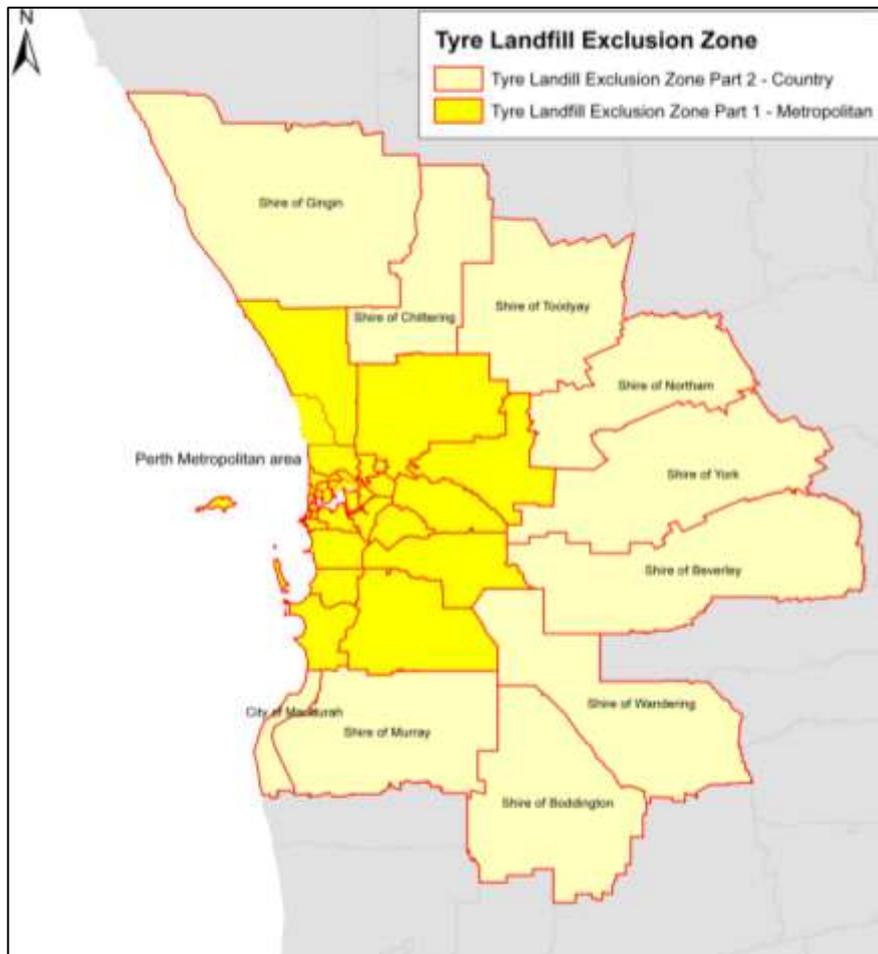


Figure 4. Tyre Landfill Exclusion Zone.

6.3 Controlled Waste Tracking

Used Tyres are classified as a Controlled Waste under the *Environmental Protection (Controlled Waste) Regulations 2004*. This means that Local Government (as well as the recycling industry) are required to complete controlled waste tracking forms and submit them to the DEC every time tyres are transported by a generator or accepted by another party. The DEC charges users of the system in the order of \$37.50 for each movement of controlled waste. It is not clear how this information is used by the DEC.

7 Current Management Practices & Initiatives

7.1 Future Alternative Uses for Used Tyres

There are a number of alternative uses for end-of-life tyres. The following points detail some of the uses that have been previously identified. It should be noted that they are not in wide scale use and would require a significant degree of investigation and investment to be commercialized. Particular attention should be given to using discarded tyres in line with the Waste Management Hierarchy (for example, using tyres to create moulded rubber products is preferred over sending the material to landfill).

Use in civil construction

In 2010, WALGA commissioned ARRB Consulting to investigate the feasibility of using recycled products in local road construction and other maintenance activities. ARRB concluded that:

“Baled tyres and shredded tyres encased in a geotextile can be used as a lightweight fill for access roads and roads across marginal soils. Baled tyres can also be used for retaining structures on road widening operations...”

‘Chipping’ tyres reduces the weight and outwards pressure of alternative materials (such as rock) in road embankments. This assists in lowering overall construction costs. Shredded tyres can also be used as drainage aggregates in the construction of roads and drains (Tyrecycle, 2012). Recovered

rubber can also be used in road pavements, as rubber modified binders (Houghton et al. 2004). Industry research has found that the rubber reduces noise and increases the longevity of a road (Tyrecycle, 2012).

Recovered Rubber and moulded products

The ARRB Report also identified that "*crumb rubber can be used to manufacture soft paving for children's play areas. It can also be used to manufacture temporary and permanent traffic calming devices and for bases for temporary bollards*". Granulated rubber can also be used in athletic tracks and under synthetic grass sporting fields, as it has the ability to absorb impact and reduce the risk of injury (Tyrecycle 2012 and Houghton et al. 2004).

Using recycled rubber in internal flooring/matting results in a hard wearing product, with non-slip properties. Technology is also available that allows recycled rubber to be used as a noise reducing insulator under flooring and inside walls (Tyrecycle, 2012 and Houghton et al. 2004). Recovered rubber can also be used in vehicle brake pads, as well as an adhesive for tiles (preventing the tiles from cracking when a building moves, and for its water-resistant properties).

In terms of closed loop recycling (i.e. when a tyre is recycled into a new tyre), there are a number of opportunities. For example, rubber can be recycled into passenger tyres, solid forklift tyres and mobile garbage bin wheels. This is achieved by mixing recycled rubber with uncured rubber before it is baked (Tyrecycle, 2012).

7.2 Federal Initiatives

Voluntary Product Stewardship Scheme

In 2008, the Federal Government released a range of documents outlining a potential product stewardship scheme for tyres - this included a Regulatory Impact Statement (RIS) on the various options. At the time, MWAC provided a number of recommendations to the Federal Government, highlighting the issues faced by Local Government in managing end-of-life tyres. At the conclusion of the consultation period, a decision was made by the Federal Government to progress a voluntary (rather than mandatory or co-regulatory) approach to Tyre Product Stewardship.

During the Consultation period on the Draft Guidelines for the Tyre Product Stewardship Scheme, MWAC again raised a number of concerns with the Federal Government on the practicalities associated with employing a voluntary approach to Product Stewardship. Although many of the comments were taken on board (e.g. inclusion of a target), the Voluntary Scheme is still unlikely to meet the needs of Local Government, particularly in relation to the issue of illegally dumped tyres and ensuring that producers and consumers alike take responsibility in managing end-of-life tyres.

As a result of discussions with the Federal Government, and the Chair of the Tyre Implementation Working Group, it appears that the Voluntary Scheme will begin early 2013, with the formation of Tyre Stewardship Australia (TSA) and will continue for a period of 10 years (subject to review). The first independent review will be after two years, although TSA will review the contractual options for retailers, fleet operators and Local Governments after one year. It is anticipated that the findings of the review will be forwarded to the Federal Government, to ensure that the Voluntary Scheme is functioning effectively.

8 Conclusion

A substantial change in the legislative approach to problematic materials such as used tyres is required in order to resolve the issues experienced in Western Australia, that have resulted in a situation where a limited portion of used tyres are recycled. MWAC therefore supports a national, mandatory or co-regulatory Extended Producer Responsibility Scheme for the management of used tyres. In the event that an effective national scheme does not eventuate in a timely fashion, a State based Scheme should be pursued.

9 References

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Legislation

Environmental Protection Act 1986

Environmental Protection Regulations 1987

Environmental Protection (Controlled Waste) Regulations 2004.

Appendix 1: Tyre Reports from State and Federal Government

State Government (previous reports):

- Technology and Market Development for Tyre Derived Products – November 2006
- Investigation into the Environmental, Social and Economic Impacts of a Potential Banning of Used Tyres to Landfill and of Mandatory Recycling of Used Tyres - September 2006
- Review of Management of Used Tyres at Landfill Sites – August 2006
- Report for Review of management and operation of used tyre stockpiles Stockpile Guidelines - June 2006
- Draft Used Tyre Strategy for Western Australia – November 2005
- Sustainable Strategic Solutions Report: Used Tyre Recycling Industry Triple Bottom Line Analysis – July 2005

Federal Government (previous reports):

- Study into domestic and international fate of end-of-life tyres – May 2012
- Regulatory Impact Statement for End-of-life Tyres Management – April 2008
- Market Failure in End-of-Life Tyre Disposal – September 2006
- Financial and Economic Analysis of the Proposed National Used Tyre Product Stewardship Scheme – December 2005
- Economics of tyre recycling – June 2004
- Environmental impact of end-of-life vehicles: an information paper - 2002
- A national approach to waste tyres: a summary of submissions - November 2001
- A national approach to waste tyres – June 2001



MINISTER FOR ENVIRONMENT; WATER

Your Ref: 05-070-03-0001AMT:HS
Our Ref: 42-16878

Hon Mayor Alannah MacTiernan
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Western Australian Local Government Association
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WEST PERTH WA 6872

Dear Ms MacTiernan *Alannah*

Thank you for your letter dated 5 September 2012 regarding the proposed Product Stewardship Scheme for Tyres which is due to be introduced Australia-wide in 2013. I apologise for the delay in responding.

As you would be aware, this is a national scheme, developed by industry and supported by the Standing Council on Environment and Water (SCEW) which includes Environment Ministers from all jurisdictions as well as the Australian Local Government Association. The original intention was to develop a regulatory or co-regulatory scheme. In accordance with the *"Best Practice Regulation: A Guide for Ministerial Councils and National Standard Setting Bodies"* guidelines, regulation should only be introduced if it can be demonstrated, through a Regulatory Impact Statement (RIS), that its implementation would result in a net benefit to the community.

In November 2009, the then Environment Protection and Heritage Council (EPHC) considered the findings of a RIS on end-of-life tyres. The RIS indicated an overall net cost of regulatory intervention. Consequently, the EPHC sought to encourage the tyre industry to develop a voluntary industry-led scheme to improve the management of used tyres across Australia.

Subsequently, a national Tyre Implementation Working Group comprising industry and Government representatives was formed to design a voluntary scheme, and has been supported by both the previous EPHC and SCEW.

The Tyre Implementation Working Group has consulted widely, and the characteristics of the scheme have resulted from striking a balance between a workable voluntary system and improved outcomes for end-of-life tyre management.

Scheme participation will require commitments by scheme members, specifically producers and importers of tyres, through the payment of a levy on each tyre entering the Australian market place under the control of a scheme member. The scheme levy will pay for the administration and operation of the scheme by a not-for-profit company called Tyre Stewardship Australia, which will be established to administer and operate the scheme.

As the proposed scheme will be voluntary, and the first full review of the scheme would be two years after its introduction, consideration of any associated regulatory activity would be more appropriate after that review. In addition, performance measures are likely to be reviewed once the scheme has commenced operation and may also be refined subsequently to incorporate more defined performance measures.

The Tyre Implementation Working Group identified a number of complementary measures, including increased consistency of other regulatory systems in Australia; development of standards for loose replacement tyres; and progressing better Government procurement policies. These measures could be considered to align with the National Waste Strategy.

Western Australia has a number of State-based initiatives to reduce illegal dumping and litter, including the creation of a new offence of dumping waste under the *Environmental Protection Act 1986*, with increased penalties to deter illegal dumping. In addition, more local government officers are being authorised under the Act to be able to investigate and enforce litter and illegal dumping offences.

End-of-life tyres have also been identified as a problematic waste in the Waste Authority's Western Australian Waste Strategy "*Creating the Right Environment*". The Government's emphasis will be to achieve the best outcome for Western Australia from the proposed scheme, through the work of the Waste Authority. Prior to the start of the scheme, the Waste Authority will consult with key stakeholders, including local government and the tyre industry, to develop a statewide approach. If the scheme subsequently falls short of expectations, at that stage the Waste Authority may consider supporting supplemental activities to address any issues.

I trust this information is of assistance.

Yours sincerely



**HON BILL MARMION MLA
MINISTER FOR ENVIRONMENT; WATER**

30 OCT 2012