

GOVERNMENT NOTICES • GOEWERMENTSKENNISGEWINGS

DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT

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7 December 2022

NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 (ACT NO. 59 OF 2008)

CONSULTATION ON THE DRAFT SECTION 29 INDUSTRY WASTE MANAGEMENT PLAN FOR TYRES

I, Barbara Dallas Creedy, Minister of Forestry, Fisheries and the Environment, hereby intend to consider the approval of the draft Industry Waste Management Plan for Tyres, prepared and submitted by the Council for Scientific and Industrial Research (CSIR) in terms of section 29(1), read with sections 30, 31 and 32 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as set out in the Schedule hereunder.

Members of the public are invited to submit within 60 days of publication of this Notice in the Government Gazette or in a national newspaper, whichever is published last, written comments to any of the following addresses:

By post to: The Director-General: Department of Forestry, Fisheries and the Environment
Attention: Mr Dumisani Buthelezi
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The Notice can also be accessed at <http://sawic.dfre.gov.za/> under "Draft documents for comment".

Comments received after the closing date may be disregarded.



BARBARA DALLAS CREEDY
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT

SCHEDULE

INDUSTRY WASTE TYRE MANAGEMENT PLAN

**Prepared in terms of section 29 of the National Environmental Management: Waste Act,
2008 (Act No. 59 of 2008)**

NOVEMBER 2022



**forestry, fisheries
& the environment**
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



PREFACE

The Minister of Forestry, Fisheries and the Environment (*"the Minister"*) on 29 November 2019 gave notice in terms of section 29(1) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (*"NEM: WA"*), to the Council for Scientific and Industrial Research (*"CSIR"*) to develop an Industry Waste Tyre Management Plan (IndWTMP). The section 29 notice followed the rejection of all the IndWTMPs submitted by the tyre industry as stated in the Notice of closing off the section 28 of NEM: WA process that was published in Government Notice R.1151 of Government *Gazette* 42695 on 11 September 2019.

The IndWTMP constitutes sub-ordinate legislation, which is legally binding and enforceable. Accordingly, it must be implemented as a compliance mechanism to ensure that identified parties are held accountable in accordance therewith. This IndWTMP provides for the requirements for the implementation of effective and efficient waste tyre management in South Africa. This includes outlining the guidelines and requirements, which must be adhered to and complied with by all role-players concerned. Specifically, it puts forward a mandate, brief and criteria, which prospective Implementers must meet in order to be eligible for operationalising and executing waste tyre management. Accordingly, the IndWTMP, reads with the provisions of the NEM: WA and the amended Waste Tyre Regulations, 2017, in conjunction with the approved business plans submitted by multiple Implementers to establish a comprehensive waste tyre management approach and plan. Failure to manage waste tyres as prescribed in the IndWTMP is a criminal offence and is punishable in terms of sections 67(1)(d) and 68(2) of NEM: WA, respectively.

Executive Summary

The development of this IndWTMP followed the section 29 process in terms of NEM: WA. The current legislative framework as contained in the Constitution of South Africa, 1996, the National Environmental Management Act, 1998 (Act No. 108 of 1998) (NEMA), the Waste Tyre Regulations, 2017, the NEM: WA: National Norms and Standards for Disposal of Waste to Landfill, 2013, the National Norms and Standards for the Storage of Waste, 2013 and the National Pricing Strategy for Waste Management, 2016, provides the main legislative framework for the IndWTMP. On approval for implementation by the Minister, the Waste Management Bureau (WMB), must appoint multiple Implementers for the IndWTMP on contract following an open tender process. Funding for the implementation of the IndWTMP will be through a budgetary allocation from National Treasury that will be disbursed through the WMB in accordance with section 34E(1)(a) of NEM: WA.

The objectives of the IndWTMP are to:

1. Manage waste tyres in South Africa;
2. Facilitate waste tyre processing capacity in South Africa and to reduce the negative environmental impacts of waste tyres while supporting enterprise development and job creation in a circular economy;
3. Expand the waste tyre processing capacity of South Africa as quickly as possible; and
4. Develop systems to monitor progress and to manage the implementation of the IndWTMP.

Meeting these objectives will address current challenges relating to waste tyre management, including:

1. The annual inflow of waste tyres exceeding current processing capacity;
2. Over-full depots leading to backlogs at dealers;
3. Over-full depots posing a high fire risk; and
4. Institutional limitations which are not supportive of investment in waste tyre processing infrastructure.

In addition, it addresses the information requirements as outlined in section 30(2) of NEM: WA as follows:

IN TERMS OF THE ACT	ADDRESSED IN THE FOLLOWING WAY
a) The amount of waste that is generated	Refer to item 2.1
b) Measures to prevent pollution or ecological degradation	Refer to item 3.5
c) Targets for waste minimisation through waste reduction, re-use, recycling and recovery	Refer to item 3.4.2 (Table 6)
d) Measures or programmes to minimise the generation of waste and the final disposal of waste	Due to the primary use of tyres and the nature of the generation of waste tyres, it is not practical at this stage to address measures to minimise the generation of waste tyres, but it requires ongoing research, development, and innovation as outlined in item 4.8.6.

e) Measures or actions to be taken to manage waste	Refer to item 3.6
f) The phasing out of the use of specified substances	Due the primary use of tyres and the nature of the generation of waste tyres, it is not practical at this stage to address the phasing out of the use of tyres
g) Opportunities for the reduction of waste generation through changes to packaging, product design or production processes	Refer to item 4.8.6
h) Mechanisms for informing the public of the impact of the waste generating products or packaging on the environment	Refer to item 3.5 (b)
i) The extent of any financial contribution to be made to support consumer-based waste reduction programmes	Refer to item 4.7.6 (Table 7)
j) The period that is required for implementation of the IndWTMP for Waste Tyres	Refer to item 6
k) Methods for monitoring and reporting	Refer to item 4.8
l) Any other matter that may be necessary to give effect to the objects of this Act	The approval notice of the plan will specify the intervals at which the plan must be reviewed in terms of section 34 of NEMWA.

The IndWTMP will facilitate the development of an efficient, equitable, and competitive waste tyre processing value chain in South Africa by:

- a) Increasing incentives of current processing capacity;
- b) Collaborating in the creation of local markets for waste tyre products;
- c) Increasing access to international markets for waste tyre products; and
- d) Incentivising participation of Small, Medium and Micro Enterprises (SMMEs) in the waste tyre processing industry, especially those SMMEs owned by historically disadvantage persons.

The IndWTMP establishes the following Committees to support the good governance of the implementation of the IndWTMP:

- a) Industry Advisory Committee (IAC) to provide technical advice to the Implementers on an ongoing basis;
- b) Incentives Evaluation Committee to ensure impartial evaluation and awarding of incentives;
- c) Evaluation Committee for expressions of interest by processors to fast track the growth in processing capacity; and
- d) Project Steering Committees for research projects to direct research towards evidence to address the most pressing research and innovation challenges in the waste tyre industry.

Legacy stockpiles (pre-30 November 2012), are managed in accordance with stockpile abatement plans approved by the Minister and are thus excluded from the IndWTMP.

Definitions

In this IndWTMP, any word or expression to which a meaning has been assigned in the NEM: WA, or in the Waste Tyre Regulations, 2017, bears that meaning, and unless the context otherwise indicates—

Collection points	means areas of business from which waste tyres are collected, or a commercial area where waste tyres may be collected including but not limited to, mines, farms, and tyre dealers.
Implementer	means a registered company, appointed by the Waste Management Bureau in terms of a valid Memorandum of Agreement, for the purpose of implementing the Industry Waste Tyre Management Plan.
Industry Waste Tyre Management Plan	means this Waste Tyre Management Plan once approved by the Minister in terms of section 29 of NEM: WA.
Landfill	means an engineered waste disposal site.
Legacy stockpile	means a waste tyre stockpile which was in existence on or before 30 November 2012.
Micro-depot	means a facility with the capacity to store more than 100m ² of waste tyre that is registered with the competent authority and being smaller than 500m ² that is used by micro collectors for storage of waste tyres.
Micro-collector	has the meaning as assigned to it in section 1 of the Waste Tyre Regulations, 2017.
Mutilate	means mutilation of a tyre as per regulation 6(2) of the Waste Tyre Regulations, 2017.
National Norms and Standards for Disposal of Waste to Landfill	means the Norms and Standards published under Government Notice R636 in Government Gazette 36784 of 23 August 2013.
National Norms and Standards for the Storage of Waste, 2013	means the Norms and Standards published under Government Notice 926 in Government Gazette 37088 of 29 November 2013.
Pre-processing facility	means a facility where pre-processing of waste tyres is done.
Project Steering Committee	means the committee appointed to direct research projects and ensure alignment with the Waste Research, Development, and Innovation Roadmap.
Tyre levy	means the environmental levy on tyres paid into the National Revenue Fund by the tyre producer, importers or producers of tyres and collected by the South African Revenue Service in terms of section 13B of the NEM: WA, read with Part 3 of Schedule No. 1 to the Customs and Excise Act, 1964 (Act No. 91 of 1964), as amended.
Tyre producer	has the meaning as assigned to it in section 1 of the Waste Tyre Regulations, 2017.

Waste disposal facility	means any site or premises used for the accumulation of waste with the purpose of disposing of that waste at that site or on that premises.
Waste tyre	has the meaning as assigned to it in section 1 of the Waste Tyre Regulations, 2017.
Waste tyre depot operator	means a person or entity responsible for the operation of a Depot.
Waste tyre transporter	means any person who conveys or transfers or entity duly registered with the Waste Management Bureau and duly appointed in terms of this IndWTMP, who conveys or transfers waste tyres between any of the following facilities: a producer, a tyre dealer, a waste tyre storage site, a depot, a collection point where waste tyres may be collected or a waste tyre processor.
Waste Tyre Regulations, 2009	means the Regulations published under Government Notice No. R149 in Government Gazette No. 31901 of 13 February 2009, as amended by Government Notice No. 1493, published in <i>Government Gazette</i> No. 40470 of 2 December 2016.
Waste Tyre Regulations, 2017	means the Regulations published Government Notice No. 1064 in Government Gazette 41157 of 29 September 2017 as amended from time to time.

Acronyms

CSIR	Council for Scientific and Industrial Research
CWM	Chemicals and Waste Management Branch
DSBD	Department of Small Business Development
DSI	Department of Science and Innovation
DTIC	Department of Trade, Industry, and Competition
IAC	Industry Advisory Committee
IndWTMP	Industry Waste Tyre Management Plan
IP	Intellectual Property
NEM: WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
OTR	Off the Road tyre, mainly used for the Giant truck vehicles in mine areas
RMI	Retail Motor Industry
SARS	South African Revenue Service
SATMC	South African Tyre Manufacturers Conference
SAWIS	South African Waste Information System
SMME	Small, Medium, and Micro Enterprises
TDF	Tyre Derived Fuel
TEPA	Tyre, Equipment, Parts Association
TIASA	Tyre Importer Association of South Africa
WMB	Waste Management Bureau
WRIU	Waste Roadmap Implementation Unit

Table of Contents

Executive Summary	ii
Definitions	iv
1 Introduction	1
2 State of waste tyre management in South Africa, 2020.....	1
2.1 How many waste tyres in South Africa?.....	1
2.2 Waste tyre backlogs (stockpiles) at Depots	2
2.3 Existing waste tyre network, 2020	8
2.4 Legal framework for managing waste tyres	9
2.5 Waste tyre management model (2017-2021)	10
2.5.1 Waste Tyre Management	10
2.5.2 Employment and SMMEs, 2020	11
2.5.3 Waste tyre levy, 2020	12
2.5.4 Financing of micro-collectors and micro depots, 2020	12
2.5.5 Financing of waste tyre depots, 2020	12
2.5.6 Financing of transporters, 2020	13
2.5.7 Financing of waste tyre processors, 2020	13
2.6 Prominent role-players include the following stakeholders:	13
2.7 Overview of waste tyre processing and off-take markets	14
2.7.1 Energy recovery (TDF)	14
2.7.2 Pyrolysis	15
2.7.3 Material recycling (grinding and devulcanization)	15
2.7.4 Product recycling (Reuse)	16
3 Industry Waste Tyre Management Plan	16
3.1 Vision	16
3.2 Mission statement.....	16
3.3 Guiding Principles for the IndWTMP	16
3.4 Strategic Objectives.....	17
3.4.1 Objective 1: Establishment of a viable waste tyre processing industry	17
3.4.2 Objective 2: Expand the waste tyre processing capacity of South Africa	17
3.4.3 Objective 3: Develop systems to monitor progress and performance	20
3.5 Measures to prevent pollution and ecological degradation	21
3.6 Measures to manage waste tyres effectively.....	21
3.7 Priority areas for interventions	22
3.7.1 Reducing the environmental impact of waste tyres management	22
3.7.2 Incentives for establishing a waste tyre processing industry	22
3.7.3 Improved data and information	22
3.7.4 Waste tyre storage site locations	22
3.7.5 Capacity building	23
4 Waste tyre management model adopted by this IndWTMP	24
4.1 Introduction.....	24
4.2 The need for an Industry Advisory Committee	25
4.3 The need for multiple Implementers	25
4.4 Approach for dealing with the annual waste tyre-stream	27
4.5 Approach for dealing with waste tyre stockpiles at Depots	27
4.6 Governance of the Industry Waste Tyre Management Plan.....	28
4.7 Financial Arrangements.....	29
4.7.1 Tyre levy.....	29
4.7.2 Micro-collectors of waste tyres and micro depots.....	29
4.7.3 Pre-processing at depots	29
4.7.4 Transporters of pre-processed waste tyres to processors	30
4.7.5 Processors.....	30
4.7.6 Implementers	30
4.8 Monitoring and reporting.....	31
4.8.1 Reporting requirements in terms of the Waste Information Regulations, 2012	31

4.8.2	Reporting requirements in terms of the Waste Tyre Regulations, 2017	32
4.8.3	Reporting progress on implementation of the IndWTMP.....	32
4.8.4	Reporting by the Implementer	32
4.8.5	Evaluation	33
4.8.6	Research Development and Innovation	33
4.8.7	Enterprise development and job creation.....	33
5	Duties, roles, and responsibilities of each actor in the implementation of IndWTMP.....	34
5.1	The Implementer	34
5.2	The Department	36
5.3	The WMB.....	36
5.4	Industry Advisory Committee.....	37
5.5	Tyre producers.....	37
5.6	Tyre dealers	37
5.7	Person nominated in control of a collection point where waste tyres may be collected	38
5.8	Depot Operator with pre-processing	38
5.9	Waste tyre transporters	38
5.10	Micro-collectors of waste tyres.....	39
5.11	Operators of a depot	39
5.12	Waste tyre processors.....	39
5.13	Tyre users and consumers.....	40
6	Implementation timeframe and migration pathways.....	40
6.1	Timeframe	40
6.2	Migration pathway from WMB to Implementer	40
6.3	Transition between Implementers.....	41
7	Compliance with the IndWTMP and relationship with other legislation.....	42
	Schedule 1	43
1.	Functions of the committee.....	43
2.	Operations of the committee.....	43
3.	Attendance.....	44

List of tables

Table 1: Storage occupation per depot, August 2020	2
Table 2: Tyre units per depot by type as of 13 August 2020 (data obtained from the WMB).....	4
Table 3: Jobs created and maintained in the waste tyre value chain	11
Table 4: SMMEs created in the waste tyre value chain.....	12
Table 5: Typical calorific values of tyres compared to other types of fuels	15
Table 6: Projected national targets for increased processing and reduction of stockpiled waste tyres in South Africa	19
Table 7: Geographical region demarcation	26
Table 8: Proposed percentage budget allocation.....	31

List of figures

Figure 1: Waste tyre management infrastructure network in South Africa, 2020.....	8
Figure 2: Geographic distribution of waste tyres by Type.....	9
Figure 3: Trend in waste tyre processing since 2013 in South Africa	11
Figure 4: Increase in processing capacity and decrease in stockpiles at Depots over time	20
Figure 5: The Waste Management Hierarchy.....	24
Figure 6: Schematic illustration of the tyre management model with contracts and flow of funding indicated	25
Figure 7: Outline of Implementer regions by colour. (Region 1 yellow, Region 2 green, Region 3 red).....	26
Figure 8: Waste Tyre management process flow	34

1 Introduction

The National Development Plan (NDP) of South Africa calls for the absolute reduction in the total volume of waste disposed to landfills each year, increased recycling of waste, the development of green products and services, and carbon-pricing to reduce carbon emissions. However, the durability of tyres makes landfilling problematic since buried tyres tend to re-surface, compact poorly, and do not degrade due to their long chain polymers being protected by antioxidants and anti-ozonants. In addition, the high calorific value of waste tyres poses a significant fire risk, while burning of tyres release pollutants including particulates, carbon monoxide (CO), sulphur oxides (SO₂), oxides of nitrogen (NO_x), volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), chlorinated dioxins and furans, hydrogen chloride, benzene, polychlorinated biphenyls (PCBs); and metals such as arsenic, cadmium, nickel, zinc, mercury, chromium, and vanadium.

The waste tyre situation is critical and with a recycling rate of approximately 20% in 2020, South Africa needs to create an enabling environment for the uptake of waste tyres in a circular economy.

The main challenges to address by the IndWTMP include:

- a) Annually, more waste tyres are being generated than are being managed in South Africa;
- b) Depots are over-full;
- c) Waste tyre transporters are unable to offload at over-full depots resulting in collection backlogs which force dealers to store waste tyres, in contravention of regulation 10 of the Waste Tyre Regulations, 2017;
- d) Investors require surety of supply to invest in waste tyre processing infrastructure; and
- e) The current under-developed waste tyre processing industry must be established as a viable sector in South Africa.

2 State of waste tyre management in South Africa, 2020

This section sets the context against which the IndWTMP was developed. Section 3 and beyond outlines the plan for waste tyre management in South Africa.

2.1 How many waste tyres in South Africa?

The significant variance across roleplayers in the waste tyre industry with regard to accuracy, robustness, and verifiability of industry data posed a significant challenge to the development of the IndWTMP. Some roleplayers report data at high levels of transparency and confidence, whilst others have almost no record keeping and consequently no data which emphasises the need for a national audit on waste tyres in South Africa.

A good example of incomplete data was the significant variance found across sources quoting the annual waste tyre stream of South Africa. Consequently, a figure was derived by calculus based on confirmed data: an average of 13 million tyres are sold in South Africa each year through a network of between 1 400 to 2 000 dealerships. The estimated total weight of these new tyres is 300 000 tonnes. Passenger vehicle tyres (including SUV/4x4 & Light Truck Radial Tyre (LTR)) contribute an estimated 89% (average 10.2kg/tyre) and

commercial vehicle (truck) tyres (average 66.9kg/tyre) 11% to the total number of tyres (excluding OTR tyres). Applying an 18-20% reduction in weight between new and waste tyres, results in an estimated 240 000 – 250 000 tonnes of end-of-life tyres (excluding OTR tyres) per year in South Africa. The majority of which are returned to the dealerships and fitment centres when new tyres are fitted.

An estimated OTR waste tyre stream of 20 000 tonnes per annum was added to derive a total estimated annual flow of waste tyres in South Africa ranging between 250 000 and 300 000 tonnes. Updated industry data suggest that 206 272 tonnes of waste tyres were generated in 2021. This number is in the same order of magnitude of the CSIR estimate and therefore the industry number is used for the setting of targets outlined in item 3.4.2.

2.2 Waste tyre backlogs (stockpiles) at Depots

Uncollected waste tyres that are not processed are stockpiled at Depots. Of the 26 registered Depots in 2020, 24 were more than 90% full (see Table 1). The post-November 2012 waste tyre stockpiles at Depots (i.e., all waste tyres stockpiled since November 2012) in South Africa are estimated to be as high as 900 000 tonnes of which only 150 000 tonnes is accounted for at Depots. The waste tyre units (listed as loose tyres, bales, and pap scrap) per Depot by type as on 13 August 2020 is provided in Table 2.

Table 1: Storage occupation per depot, August 2020

Provinces	Depots	Depot size in m ²	Storage occupation %
Gauteng	Glen Austin	9 400	100%
	Waltloo	1 000	90%
	Klerksoord	18 565	90%
	Midrand	9 500	100%
	Tembisa	4 000	100%
	Randfontein	26 320	100%
	Westonaria	26 961	100%
	Springs	28 000	100%
TOTAL GP		123 746	
KwaZulu-Natal	Cato Ridge	15 000	100%
	Hammersdale	4 678	100%
	Ladysmith	4 500	90%
	Richards Bay	1 000	69%
TOTAL KZN		25 178	
Western Cape	Atlantis	22 920	100%
	Mossel Bay	1 300	100%
TOTAL WC		24 220	
Mpumalanga	Ferrobank	7 467	100%
	Nelspruit/Mbombela	11 265	94%
	Belfast	50 000	100%
TOTAL MP		68 732	
Free State	Bloemfontein	42 000	97%

Provinces	Depots	Depot size in m ²	Storage occupation %
	Kroonstad	50 000	100%
TOTAL FS		92 000	
Eastern Cape	East London	4 612	98%
	PE Markman	7 495	100%
	Ngcobo	42 827	94%
	Uitenhage/Kariega	18 800	65%
TOTAL EC		73 734	
Northern Cape	Upington	4 170	100%
North West	Rustenburg	8 500	95%
Limpopo	Polokwane	30 000	100%

Table 2: Tyre units per depot by type as of 13 August 2020 (data obtained from the WMB)

Province	Depots	Weight in KG																		
		8,5	13,5	13,5	65	65	110	2	85	50	520		1000							
Province	Depots	Number of Units																		
		Loose tyres											Bales					Pap scrap		
		Passenger	4 x 4	Light commercial	Heavy Commercial	Buffed Heavy Commercial	Agricultural	Motor Cycles	Solids & Industrials	Aircraft	OTR	Total	Passenger	4X4	Motor Cycles	Truck	Light commercial	Total	Pap Scrap	Cut/Scrap
Gauteng	Glen Austin	6 033	1 547	1 768	6 050	0	2 513	605	2 562	605	662	22 345	620	0	0	0	0	620	0	0
	Waltloo	25 676	17 864	0	0	0	0	0	0	0	0	43 540	135	100	0	0	0	235	0	0
	Klerksoord	0	50	790	19 163	0	0	0	0	0	779	20 782	2 662		0	0	0	2 662	0	0
	Midrand	161 990	67 257	24 649	130 503	0	6 673	16 260	7 206	7 126	1 764	423 428	191	194	0	0	0	385	1 big pile	6
	Tembisa	11 363	4 301	3 274	2 206	0	549	1 402	284	726	1 044	25 149	489	160	48	0	0	697	0	0
	Randfontein	493 108	399 384	4 591	178 462	0	2 153	4 713		68	618	1 083 301	222	0	0	0	0	222	0	0
	Westonaria	365 172	293 906	6 383	9 282	0	5 655	4 245	154	0	401	685 198	622	20	0	0	0	642	1 big pile	0
	Springs	44 652		3 768	18 575	0	1 022	0	3 421	200	528	72 403	277	0	0	0	0	277	0	0

TOTAL GP		1 107 994	785 077	44 692	364 241	0	18 565	27 225	13 831	8 725	5 796	2 376 146	5 218	474	48	0	0	5 740	0	0	6
Northern Cape	Upington	985	1 047	4 932	18 015	0	4 516	3 698	3 786	0	306	37 285	7	442	0	0	0	449	1	0	0
TOTAL NC		985	1 047	4 932	18 015	0	4 516	3 698	3 786	0	306	37 285	7	442	0	0	0	449	1	0	0
North West	Rustenburg	3 101	6 522	3 221	12 416	0	484	33	249	0	1 602	27 628	382	492	0	0	0	874	1	0	0
TOTAL NW		3 101	6 522	3 221	12 416	0	484	33	249	0	1 602	27 628	382	492	0	0	0	874	1	0	0
KZN	Cato Ridge	4 000	3 718	3 996	2 665	0	3 190	600	500	0	2 543	21 212	24	119	0	143	5	291	4		
	Hammersdale	0	0	0	2 853	0	0	0	0	0	0	2 853	56	0	0	0	0	56	36		
	Ladysmith	1 256	430	708	1 063	0	1 632	84	210	0	563	5 946	77	77	0	0	6	160	1 big pile	2 860	84
	Richards Bay	62	24	882	0	0	45	720	0	0	5	1 738	44	87	0	0	0	131		560 kg	0
	TOTAL KZN	5 318	4 172	5 586	6 581	0	4 867	1 404	710	0	561	31 749	19	69	0	143	11	94	2 860	0	
Western Cape	Atlantis	118 666	159 850	10 900	30 262	0	9 400	5 242	16 549	0	804	351 673	54	301	1 pile	0	0	355	5	0	99
	Mossel Bay	57	38	1 376	902	0	614	475	471	0	16	3 949	67	100				116	2	6	15

TOTAL WC		118 723	159 888	12 276	31 164	0	10 014	5 717	17 020	0	820	355 622	121	401		0	0	471	7	6	114
Limpopo	Polokwane	243	130 3	53 482	18 071	0	741 3	109 0	575 9	117 2	150 64	103 597	128	787	0	0	896	181 1	3	0	16
TOTAL LP		243	1 303	53 482	18 071	0	7 413	1 090	5 759	1 172	15 064	265 433	128	787	0	0	889	1 811	3	0	16
Mpumalanga	Ferrobank	470	1 029	6 595	10 688	1 028	3 807	131	377	57	716	24 428	103	145	0	0	0	248	0	857	0
	Nelspruit/Mbombela	5 917	4 824	8 917	20 096	0	9 480	4 944	2 100	169	6 752	57 282	32	173	0	0	0	205	0	0	0
	Belfast	10 116	7 731	44 352	157 984	0	27 143	0	3 515	811	3 808	245 344	1 712	2 695	0	2 527	2	4 936	313	0	313
	TOTAL MP	16 503	13 584	59 864	188 768	1 028	40 430	5 075	5 992	1 037	11 276	327 054	1 847	1 013	0	2 527	2	5 389	313	857	313
Free State	Bloemfontein	27 502	93 408	83 187	103 559	0	14 294	8 390	8 857	24	2 119	333 340	3 432	0	0	0	0	3 432	1	0	0
	Kroonstad	33 678	8 217	8 521	49 281	0	3 438	0	2 807	0	1 524	107 466	1 022	1 611	0	0	0	2 633	1	0	160
	TOTAL FS	61 180	101 625	91 708	152 840	0	17 732	11 390	11 664	24	3 643	440 806	4 454	1 611	0	0	0	6 065	2	0	160
Eastern Cape	East London	8	106	4 001	5 667	0	551	833	186	0	97	11 441	220	586	0	0	0	806	0	0	0
	PE Markman	57 224	23 129	1 264	21 802	0	1 531	183	728	0	1 206	49 843	369	165	0	0	0	534	4	1	1
	Ngqobo	40 089	34 495	9 493	24 373	0	2 310	1	2 902	0	499	74 073	1 015	1 542	0	0	0	2 557			218

	Uitenhage/ Kariega	25 708	25 212	741	3 534	0	257	34	904	0	8	30 690	0	0	0	0	0	0	0	0	0
TOTAL EC		123 029	82 942	15 499	55 376	0	4 649	1 051	4 720	0	1 810	166 047	1 604	2 293	0	0	0	3 897	4	0	219
																			0		
Total RSA		1 437 076	1 156 160	291 260	847 472	1 028	108 670	45 683	63 731	10 958	40 878	4 027 770	13 780	7 582	48	2 670	902	24 790	331	3 723	828

2.3 Existing waste tyre network, 2020

The geographic distribution of the waste tyre management infrastructure network in 2020 as registered with the WMB is depicted in Figure 1. The network is distributed throughout South Africa and is concentrated in Gauteng with some processing in North-West and Kwa-Zulu Natal and one plant per province in the Western Cape, Eastern Cape, and Northern Cape.

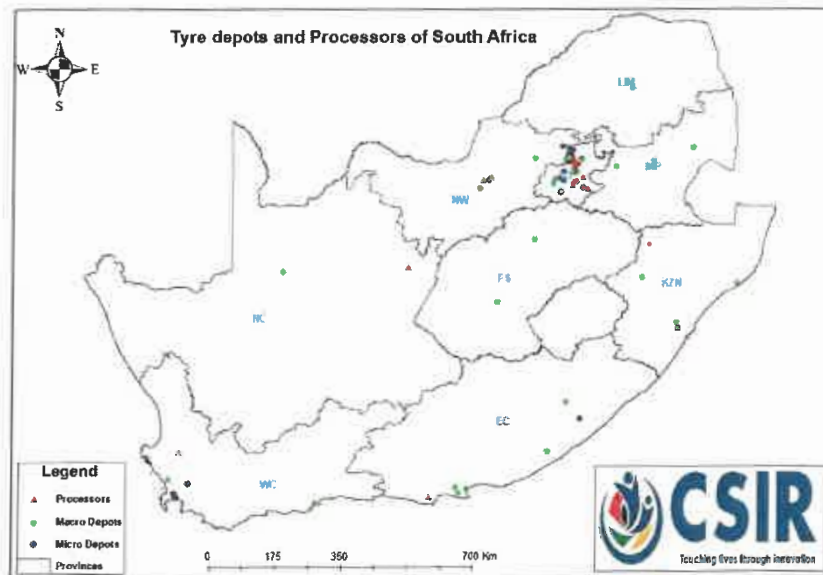


Figure 1: Waste tyre management infrastructure network in South Africa, 2020

The geographic distribution of the waste tyres is illustrated in Figure 2. The restrictions on the disposal of waste tyres to landfill in areas without sufficient coverage, add to the potential negative environmental impacts of waste tyres.

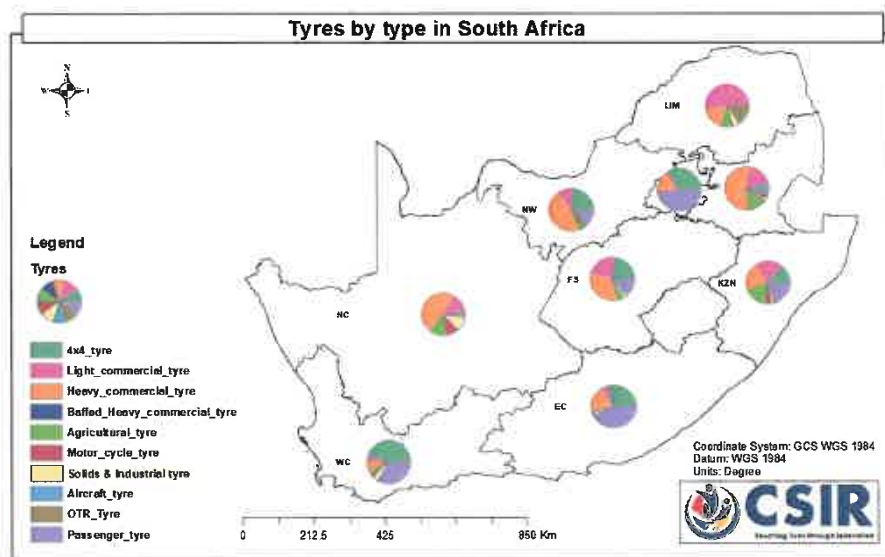


Figure 2: Geographic distribution of waste tyres by Type

2.4 Legal framework for managing waste tyres

Waste tyres are regulated under NEMA, NEM: WA, the NEM: WA: National Norms and Standards for Disposal of Waste to Landfill, 2013, and the Waste Tyre Regulations, 2017. The Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA): Waste Tyre Regulations, 2009, banned the disposal of whole tyres to landfill from 30 June 2011 and quartered tyres from 30 June 2014; allowing only the disposal of shredded tyres to landfill. The NEM: WA: National Norms and Standards for Disposal of Waste to Landfill, 2013 introduced waste disposal restrictions on waste tyres, prohibiting the disposal to landfill of whole and quartered tyres effective from August 2018. Failure to manage waste tyres as prescribed in the IndWTMP is a criminal offence in terms of section 67(1)(d) of NEM: WA and is punishable in terms of section 68(2) of NEM: WA.

The Waste Tyre Regulations of 2017 outline a number of prohibitions on tyre management, as follows:

"No person may;

- a) manage waste tyres in a manner which does not comply to these Regulations;*
- b) recover or dispose of a waste tyre in a manner that is likely to cause pollution of the environment or harm to health and well-being;*
- c) dispose of a waste tyre at a waste disposal facility;*
- d) recover any financial contribution in terms of a waste tyre management plan from a subscriber to the IndWTMP, unless authorised by law; or*
- e) export waste tyres in whatever form unless the exportation of such waste tyres is authorised by the Minister in writing."*

Regulation 5(1) of the Waste Tyre Regulations, 2017, provides that the following persons must register with the WMB, in a format specified by the WMB:

- a) A tyre producer;

- b) A tyre dealer;
- c) A person in control of a collection point where waste tyres may be collected;
- d) A waste tyre stockpile operator,
- e) Waste tyre processors;
- f) An owner or operator of a waste tyre pre-processing facility;
- g) A waste tyre depot operator;
- h) A micro-collector of waste tyres;
- i) A waste transporter; and
- j) An owner or operator of a waste tyre storage site.

The registered role-players report to the WMB on a computerised monitoring and data-capturing programme, the intellectual property (IP) of which rests with the WMB.

Section 2(4)(q) of NEMA provides that:

"The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment."

In addition, section 28(1) of NEMA provides that:

"Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment."

An important provision that was subsequently inserted is section 28(1A) of NEMA, provides that:

"Subsection (1) also applies to a significant pollution or degradation that— (a) occurred before the commencement of this Act; (b) arises or is likely to arise at a different time from the actual activity that caused the contamination; or (c) arises through an act or activity of a person that results in a change to pre-existing contamination."

Section 24 of the Constitution of South Africa, 1996, read with sections 2(4)(p), 28(1) and 28 (1A) of NEMA, introduces the polluter pays principle. In addition, the polluter pays principle will apply in respect of persons that have caused, are causing, or will cause pollution and degradation, even where the event occurred before the coming into force and effect of NEMA, and potentially provides for ongoing liability and responsibility, long after the event.

2.5 Waste tyre management model (2017-2021)

2.5.1 Waste Tyre Management

In 2018/19, approximately 54 460 tonnes of waste tyres were processed through different technology options in South Africa. Figure 3 shows the trend in waste tyre processing since 2013 in South Africa.

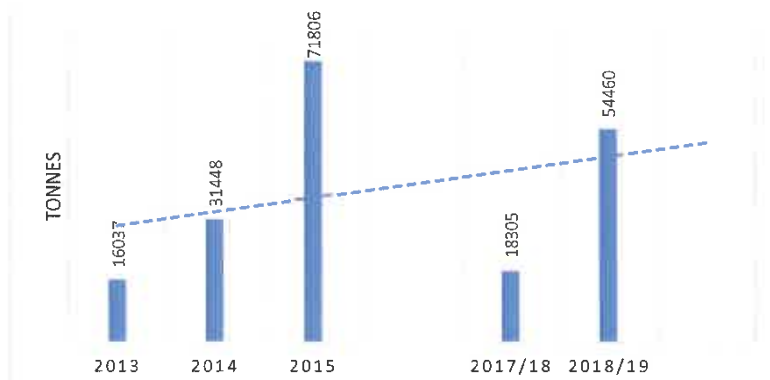


Figure 3: Trend in waste tyre processing since 2013 in South Africa

The tonnages processed through each technology option in 2018/19 were as follows.

- Energy Recovery (Tyre derived fuel (TDF)): 17 243 tonnes;
- Crumbing and pyrolysis combined: 31 911 tonnes; and
- Product Recycling (Reuse): 5 306 tonnes.

Despite the increase, the figures were from a very low base, and the total for 2018/19 of approximately 50 000 tonnes remains far below the estimated annual inflow of waste tyres. Consequently, serious concerns about the overall management of waste tyres remains.

2.5.2 Employment and SMMEs, 2020

Data on job creation and formal SMMEs is provided in Table 3 and Table 4. The overall year-on-year growth in employment and SMME development in waste tyre management is clearly insignificant.

Table 3: Jobs created and maintained in the waste tyre value chain

Category	2018/19			2019/20		
	Created	Maintained	Total	Created	Maintained	Total
Transporters	102	395	497	65	442	507
Waste tyre storage sites	163	192	355	50	345	355
Waste tyre processors	69	156	225	33	176	225
Total	334	743	1077	148	963	1087

Table 4: SMMEs created in the waste tyre value chain

Stage in waste tyre value chain	2018/19	2019/20
Processors	12	3
Transporters	80	0
Secondary Industries	54	16
Micro Depots/cooperatives	18	0
Waste tyre storage sites	24	0
Total	188	19

2.5.3 Waste tyre levy, 2020

The Customs and Excise Act, 1964 (Act No. 91 of 1964) (as amended), implemented an Environmental levy of R2.30/kg on tyres which is payable by tyre producers to the South African Revenue Service (SARS). The levy is in support of recycling and is based on a logistics-cost recovery model and remained unchanged since its inception in 2012. SARS has been collecting the levy directly since 1 February 2017. It is not ring-fenced for waste tyre management and the WMB accesses this funding through a budgetary allocation from National Treasury to pay for waste tyre management initiatives and activities such as the collection, transport, and management of waste tyres at depots.

2.5.4 Financing of micro-collectors and micro depots, 2020

The remuneration model for micro-collectors is R6.00 per tyre, with a monthly limit of 1000 tyres per micro-collector. Micro depots are paid R6 000 per month plus the following additional incentives:

- a) R50 per micro depot if at least five micro-collectors each delivers ten tyres with a minimum of two thousand tyres being collected at the micro depot during the month;
- b) A volume incentive paid per month as follows:
 - i. R1000 for 3000 to 4000 waste tyres collected
 - ii. R1500 for 4001 to 5000 waste tyres collected
 - iii. R2000 if more than 5000 waste tyres are collected

Although the monthly limit imposed on micro-collectors limits the growth potential of micro-collectors, it is applied to enable the WMB to manage payments within their allocated budget.

2.5.5 Financing of waste tyre depots, 2020

Depots are being financed on a cost recovery basis. The Depot Operator contracts stipulate the type of expenses that should be incurred based on depot operations. The approved budget is included in the service level agreement between the Depot Operator and the WMB. The level of detail contained in these contracts is problematic, as it does not allow for any flexibility of cost allocation between different budget line items. Due to the cost recovery model many depots have fallen short on their monthly expense obligations, with many not being SARS compliant due to not paying their respective taxes.

A further complication is that most pre-processing equipment are owned by the WMB or a third party. The equipment is rotated between depots which creates bottle necks in the supply of pre-processed waste tyres in the form of, for example bales or crumbs.

All land lease agreements for depots and waste tyre storing sites are between the WMB and the respective land-owners.

2.5.6 Financing of transporters, 2020

Primary transporters receive payment based on the tonnage multiplied by a rate per tonne, whilst secondary transporters are compensated based on the travel distance between waste tyre storage sites and waste tyre processors multiplied by a rate per kilometer.

2.5.7 Financing of waste tyre processors, 2020

Contracted waste tyre processors receive waste tyres delivered to their gate fully subsidised (i.e., at no cost to the processor). An additional processing fee of R0.31/kg is paid to processors by WMB for every tonne of waste tyres processed.

2.6 Prominent role-players include the following stakeholders:**The Tyre Industry**

- a) Tyre Producers
- b) Importers
- c) Dealers (represented by TEPA, an association with the greater RMI)

All users of new tyres (consumers) who generate waste tyres:

- a) General public
- b) Government services
- c) Mining
- d) Agriculture
- e) Transport
- f) Tyre producer (OEM vehicles)

All entities playing a role in the waste tyre value chain:

- a) Vehicle dealerships
- b) Fitment centres
- c) Waste tyre collectors (including micro-collectors) and transporters
- d) Waste tyre processing companies
- e) Users and consumers of waste tyre products (cement kilns and other TDF users, road construction, ports, racing track builders, educational facilities, furniture/crafts manufacturers, farmers/feedlot operators, other)
- f) Second-hand tyre dealers

Research institutions, including:

- a) Universities
- b) Science Councils
- c) Chemical industry

2.7 Overview of waste tyre processing and off-take markets

Advancements in the technology behind various recovery methods increasingly enables more effective conversion of waste tyre to a broader range of energy and material applications. Waste tyres are a valuable resource. With the legal prohibition of disposal of waste tyres to landfill, South Africa has an opportunity to utilise this resource by establishing a waste tyre processing industry in the country. However, reliable information on the state, upcoming initiatives and projects regarding waste tyre processing in South Africa is not available. This is mainly due to uncertainty associated with the management of waste tyres and the need for private sector players to keep any market information (including business plans) confidential, in order to safeguard their competitive advantage until the IndWTMP has been approved. The IndWTMP will, if implemented correctly, create the necessary economies of scale and surety in the supply of waste tyres, which will create the required platform for the development of a waste tyre processing industry in South Africa. The aforementioned information regarding waste tyre processing will then start to enter the public domain.

The international experience points towards four main technology options for waste tyre processing, namely:

- a) Energy recovery (TDF)
- b) Pyrolysis
- c) Material recycling (crumbing)
- d) Product recycling (reuse)

Re-treading is not considered an "end-of-life" use for tyres and hence is not considered a technology option for waste tyre processing.

The following sections present some basic background information on each waste tyre processing technology, based on international experiences. The feasibility of each technology in the South African context needs to be assessed by means of a detailed pre-feasibility study prior to incentives being developed.

2.7.1 Energy recovery (TDF)

The international literature denotes fuel consisting of partly or fully shredded tyres as TDF. Tyres typically have a calorific value of 32 MJ/kg, (Table 5) which compares well with other types of fuel, especially with coal. Energy recovery in the form of utilising waste tyres as a fuel source presents a seemingly obvious waste tyre processing solution for South Africa given the country's dependence on coal. However, an assessment of the need for retrofitting to allow TDF to be used in current available technologies in South Africa is required.

Internationally, the cement industry is one of the biggest consumers of whole, partly, or completely shredded tyres as TDF. It has been shown that the high temperatures in cement kilns (>1200 °C), ensure the complete combustion of a tyre. The ash and steel cord are permanently bound to the clinker and does not seriously impair its physic-chemical properties apart from a slightly longer cement binding time and a slightly greater water demand. The combustion of tyres in cement kilns could be cleaner compared to coal with suitable scrubbing, but this along with a ratio for potential co-firing must be verified for South Africa.

Apart from the cement industry, TDF may also serve the brick-making and power generation industries due to expected improvements in the thermal efficiency of furnaces and steam boilers when co-firing coal with ground rubber wastes. The last mentioned needs to be verified for South Africa.

Table 5: Typical calorific values of tyres compared to other types of fuels

Fuel	Energy (Gigajoule/tonne)	Emissions	
		kgCO ₂ /tonne	kgCO ₂ /Gigajoule
Tyres	32.0	2 270	85
Coal	27.0	2 430	90
Pet Coke	32.4	3 240	100
Diesel oil	46.0	3 220	70
Natural gas	39.0	1 989	51
Wood	10.2	1 122	110

2.7.2 Pyrolysis

The pyrolysis of waste tyres decompose rubber elastomers at temperatures between of 400–700 degrees Celsius, in the absence of oxygen. The process requires specialised pyrolytic furnaces, which depending on the technology employed, can operate at normal or reduced pressure, in an atmosphere of a neutral gas (mainly nitrogen).

The pyrolysis of tyres provide several chemical compounds in solid, liquid, and gaseous form, which after processing can be used in the petrochemical, energy, or iron and steel industries. For example, the solids from tyre pyrolysis include fly ash, soot, the charred remains of the oxides and sulphides of zinc, silica and steel. The gasses contain hydrogen, carbon monoxide, and dioxide, aliphatic hydrocarbons, and hydrogen sulphide. Liquids includes aromatic hydrocarbons and oils with a high calorific value, which on removal of contaminating sulphur compounds, are usually mixed with diesel oils and other petrochemical products. However, the capital outlay and high operating cost of these processes on commercial scale along with subsidies on fossil fuel has hampered viability and is the main reason why pyrolysis of used tyres is rarely used on industrial scale. Nevertheless, ongoing research to improve efficiencies and mounting costs of fossil-based energy and petrochemical raw materials is gradually increasing the competitiveness of this technology.

2.7.3 Material recycling (grinding and devulcanization)

Material recycling, including crumbing, is a popular means of managing used tyres. It consists mainly of mechanical grinding and devulcanization and produces several useful products. Separation of rubber, steel belts, and textile overlays on tyres is costly, but once separated the materials can be reused. Several industries use rubber crumbs in various grain sizes, the steel is sent for smelting, whereas the textile cord, after cleaning, is either combusted as recovered energy or used to produce thermal insulation materials for the construction industry.

Devulcanization decompose vulcanized natural rubber by breaking down the poly-, di-, and monosulphur cross-linking bonds formed during the original vulcanization process. Devulcanization degrades the chains in natural rubber polymer, which means that regenerated rubber loses some of the properties of natural

rubber. Regenerated rubber is used by the rubber industry as additives to rubber mixtures, cable housings, rubber mats and slabs, and footwear.

2.7.4 Product recycling (Reuse)

Product recycling involves the complete or partial use of tyres (in their original form) for another purpose without any physical or chemical treatment. Because of its shape and sizes, high elasticity, good damping properties of vibrations, noise and shocks, tyres are used in construction, as protective barriers along roads and waterfront banks, artificial reefs, road substrates, and insulation for foundations. Other uses include playgrounds and park applications. Product recycling (reuse) remains a comparatively small component of waste tyre processing industry.

3 Industry Waste Tyre Management Plan

3.1 Vision

A South Africa free of negative environmental impacts of waste tyres.

3.2 Mission statement

To realise the economic potential of waste tyres in the circular economy by moving waste tyres up in the waste management hierarchy.

3.3 Guiding Principles for the IndWTMP

Guiding principles for the implementation of the IndWTMP are:

1. The Department through the WMB is the custodian of the IndWTMP.
2. The WMB must monitor and oversee the implementation of the IndWTMP.
3. Implementers report to the WMB.
4. Implementers are appointed on contract through an open tender by the WMB.
5. Implementers must submit annual business plans and budgets to the WMB.
6. The approved business plans and budgets of the Implementers will derive from the extent of the services to be provided by each Implementer.
7. Funding for the implementation of the IndWTMP will be through a budgetary allocation from National Treasury that will be disbursed through the WMB in accordance with section 34E(1)(a) of NEM: WA.
8. Industry involvement in the implementation of the IndWTMP must be through the IAC.
9. The implementation of the IndWTMP must be open and transparent.
10. Environmentally sustainable management of waste tyres must be ensured.
11. The "polluter pays" principle applies.

3.4 Strategic Objectives

The objectives of the IndWTMP are to:

1. Establish a viable waste tyre processing industry in South Africa to reduce the negative environmental impacts of waste tyres, while supporting enterprise development and job creation in a circular economy.
2. Expand the waste tyre processing capacity of South Africa as soon as possible.
3. Develop monitoring systems to ensure transparency and to measure progress.

Measurable targets for selected performance indicators such as waste tyre processing (refer to Table 6) must be implemented to measure progress against the objectives of the IndWTMP. Other performance indicators including, SMME development, job creation, incentives provided to different stakeholder groups, and skills development/training provided must also be applied.

3.4.1 *Objective 1: Establishment of a viable waste tyre processing industry*

Establishing a viable waste tyre processing industry must focus on the fundamentals of industry development including:

- a) Identify or create a demand for the commodity or product through user awareness campaigns and advertising.
- b) Secure the supply of commodity or product by increasing the surety of supply of waste tyres to waste tyre processors;
- c) Provide stable institutional and regulatory environment to promote private investment. The Department must establish an independent evaluation committee with representation by the DTIC to evaluate the expressions of interest received from waste tyre processors.
- d) Provide incentives to overcome market entry challenges. This will be done via objective 2 (item 3.4.2).

The establishment of the waste tyre processing industry must reduce the negative environmental impacts associated with improper handling, storage, and disposal of waste tyres, while providing opportunities for labour intensive enterprise development. Environmental performance targets must relate to increased processing and recycling rates, auditing of environmental performance, and legal compliance at all facilities.

3.4.2 *Objective 2: Expand the waste tyre processing capacity of South Africa*

An urgent need lies with increasing the 2020 tyre processing rates of approximately 20% per annum as quickly as possible to achieve the Vision and Mission of the IndWTMP. Waste tyre processing is done by the private sector, but in order to accelerate progress, collaboration and incentives are required. Incentives must be developed for selected functions of key roleplayers in the waste tyre value chain including:

- a) subsidised transport;
- b) incentivised pre-processing to allow for profit-seeking at depots;
- c) subsidised pre-processing equipment on a cost sharing basis;
- d) subsidised investment in pollution abatement technologies and equipment on a cost sharing basis;
- e) subsidised delivery of pre-processed waste tyres to waste tyre processors;

- f) a processing fee (annually adjusted for inflation) paid to waste tyre processors;
- g) establishing a forum to support accessing international investment opportunities;
- h) providing binding supply contracts between the Implementers and waste tyre processors to support investment in the sector; contracts beyond 5-years will be between WMB and the waste tyre processor to support investment in the sector;
- i) capacity building, mentoring, and training programmes aimed at new business development in waste tyre processing targeting SMMEs and designated groups; and
- j) investment in research, development, and innovation in waste tyre processing and management.

An Incentives Evaluation Committee must be established by the WMB within three months of the implementation of the IndWTMP to evaluate applications. The WMB must provide the secretariat for the committee including the following functions:

- a) scheduling of meetings;
- b) distribution of all documents associated with applications to be reviewed to all committee members at least one week prior to meetings;
- c) minute taking including a full record of decisions; and
- d) obtaining sign-off of the minutes and record of decisions by all committee members in attendance.

The Implementers must budget for incentives as part of their business plans submitted to the WMB. The incentives evaluation committee will comprise of representatives from the following organisations:

- a) 2 officials from CWM branch of the Department;
- b) 1 official from WMB; and
- c) 1 official from DTIC.

The stipulated processing fee must be adjusted annually in line with inflation.

National targets for waste tyre processing and reduction in stockpiles at Depots are set as follows (see Table 6, base year is 2023):

- i) Processing/recycling of 25% by 2024, 30% by 2025, and 80% by 2035 of the annual inflow of waste tyres, and
- ii) 20% reduction in current stockpiles in 2023, 40% reduction in 2028 and 90% reduction in 2038.

Table 6: Projected national targets for increased processing and reduction of stockpiled waste tyres in South Africa

year	Indicative annual inflow of new waste tyres (tonnes) ^b	Processing target for the annual inflow of waste tyres	Indicative Tonnes of new inflows to be processed	Tonnes of new inflows that will still go to stockpile	Stockpile if nothing is done to reduce the stockpile (tonnes)	Indicative Tonnes of stockpile to be processed to reach targets ^c	Indicative total amount of tyres to be processed to reach targets (tonnes)	Stockpile if everything goes according to plan (tonnes)
2023	209366	20%	41873	167493	1067493	75625	117499	991867
2024	212507	25%	53127	159380	1226873	86916	140043	1064331
2025	215694	30%	64708	150986	1377859	97613	162321	1117704
2026	218930	35%	76625	142304	1520163	107694	184320	1152314
2027	222214	40%	88885	133328	1653491	117140	206025	1168502
2028	225547	45%	101496	124051	1777542	125928	227424	1166625
2029	228930	50%	114465	114465	1892007	134037	248502	1147053
2030	232364	55%	127800	104564	1996570	141445	269245	1110171
2031	235849	60%	141510	94340	2090910	148128	289638	1056383
2032	239387	65%	155602	83785	2174696	154064	309666	986104
2033	242978	70%	170085	72893	2247589	159228	329313	899770
2034	246623	75%	184967	61656	2309245	163596	348563	797829
2035	250322	80%	200258	50064	2359309	167143	367400	680751
2036	254077	85%	215965	38112	2397421	169843	385808	549020
2037	257888	90%	232099	25789	2423209	171670	403769	403139
2038	261756	95%	248668	13088	2436297	172597	421265	243630

Notes:

^a As per Item 2.1^b Assuming a conservative growth rate of 1.5% per year.^c The target is based on 900000 tonnes of stockpiled tyres (this includes all stockpiled tyres as stipulated in appendix C.) and present the basis for calculating the overall target for reductions in stockpiled waste tyres.

The anticipated increase in waste tyre processing capacity over time in line with achieving the national targets is illustrated in Figure 4.

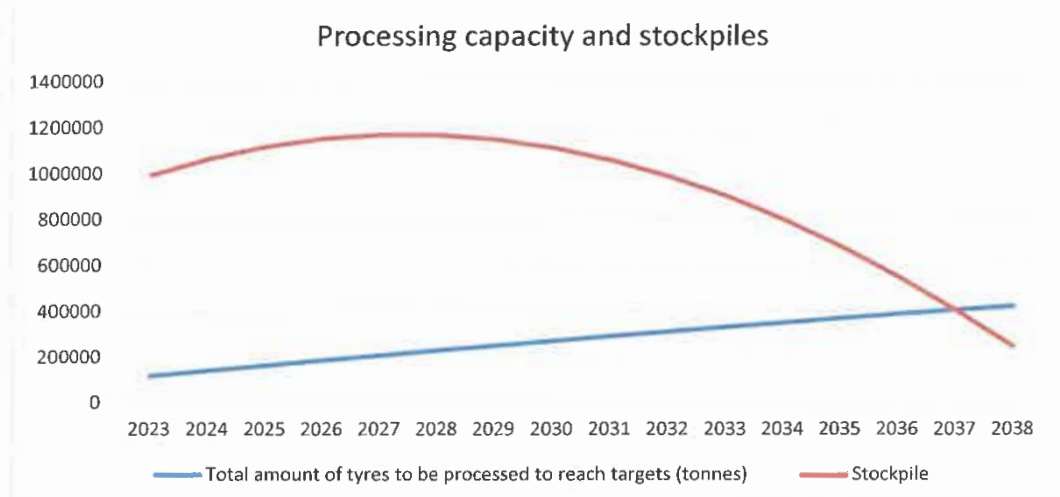


Figure 4: Increase in processing capacity and decrease in stockpiles at Depots over time

Performance indicators for waste tyre processing must be specified in terms of:

- i) Value generated per tonne of waste tyres processed;
- ii) Percentage reduction in stockpiles;
- iii) Percentage of annual inflow of waste tyres processed;
- iv) Value of the waste tyre processing industry as percentage of GDP; and
- v) Number of permanent employment positions created per thousand tonnes of waste tyres processed.

Total employment opportunities measured as full-time permanent job equivalents to be achieved in the sector by 2025 is 1 500 jobs and 2000 jobs by 2035.

Conditional upon the written authorisation of the Minister, the export of waste tyres, as provided for in the Waste Tyre Regulations of 2017, may be considered to free-up storage space at waste tyre storage sites while local processing capacity is developed. Such measure may be required until the waste tyre processing industry can absorb the annual national supply of waste tyres. However, the inclusion of a “stockpile-reducing-target” will result in processing capacity roughly equal to annual inflows by 2029/30. Estimated total processing capacity will then be greater than annual inflows between 2030 and 2038 until the stockpile reduction target has been reached. However, after 2038 surplus processing capacity will exist which must be utilised by augmenting supply through the importation of mutilated and quartered waste tyres. It is therefore important to recognise that the growth and viability of the South African waste tyre industry will be severely limited if the growth of the industry is capped by national supply of waste tyres.

3.4.3 Objective 3: Develop systems to monitor progress and performance

Apart from standard financial auditing, the following indicators must be monitored by the Implementers on a monthly basis and reported to the WMB and IAC (refer to item 4.2) at least quarterly:

- a) Tonnage of waste tyres leaving stockpiles at Depots;

- b) Tonnage of waste tyres processed by waste tyre processing companies;
- c) Number of new enterprises active in waste tyre processing (SMEs registered with the DTIC);
- d) Environmental performance in terms of pollution prevention measures; and
- e) Employment.

Failing to meet the reporting requirements in terms of this item constitutes an offence and may attract a penalty and remedial intervention in terms of NEM: WA by the WMB. Furthermore, any deficiencies or inaccuracies identified with the reporting and monitoring must be addressed by the implicated Implementers within 7 business days upon receipt of feedback from the WMB and the IAC.

3.5 Measures to prevent pollution and ecological degradation

The extent and quantity of pollution associated with waste tyres depends on the use efficiency and the fate of end-of-life waste tyres.

The Implementers must budget for and implement the following measures to prevent environmental pollution and ecological degradation associated with waste tyre management:

- a) Improved waste tyre collections to capture and retain all waste tyres in the formal waste tyre management system;
- b) Public awareness campaigns on the impact of tyres on the environment through:
 - i. Webinars;
 - ii. information sessions; and
 - iii. advertisements on official and social media.
- c) Industry awareness campaigns on negative environmental impacts associated with waste tyre management and training on appropriate pollution abatement strategies and technology options;
- d) Evaluation of the environmental performance of tyre processing and pollution abatement technologies;
- e) Incentives referred to in item 3.4.2 to support the upgrading of pollution abatement equipment of waste tyre processors; and
- f) Monitoring and reporting of non-compliances by the different role players with the IndWTMP, which is a criminal offence in terms of section 67(1)(d) of NEM: WA to the WMB.

3.6 Measures to manage waste tyres effectively

The IndWTMP implement the following measures to ensure proper management of waste tyres:

- a) Classification and mutilation of waste tyres by tyre dealers as described in regulation 6(2) of the Waste Tyre Regulations, 2017;
- b) Record keeping and reporting of the transport of Waste Tyres between depots and processors; and
- c) Implementation of a coordination system for waste tyre logistics with technical advice provided by the IAC and with oversight from the WMB.

The duties of the different role players for the implementation of these measures are outlined in item 5.

3.7 Priority areas for interventions

Five priority areas for interventions were identified as follows:

3.7.1 *Reducing the environmental impact of waste tyres management*

Interventions to reduce the environmental impact associated with waste tyre management must focus on creating effective collection mechanisms and increasing the waste tyre network coverage across South Africa by:

- a) Strengthening micro-collector networks in areas where there is insufficient coverage;
- b) Registering all areas where large quantities of waste tyres are generated on a regular basis (e.g., mining sites, industrial sites, transport company depots, and tyre dealers) as collection points;
- c) Establish an efficient collection system for waste tyres through effective logistics management;
- d) Incentivise investment in pollution abatement technologies and equipment; and
- e) Funding research, development, and innovation towards improved waste tyre collection, recycling, re-use and recovery.

3.7.2 *Incentives for establishing a waste tyre processing industry*

The purpose of incentives for the waste tyre industry is to support prospective industry participants in overcoming market entry barriers and in so doing support the development of the industry. Industry participants must apply for incentives. The application process must be clearly outlined and supported by the IAC and applications evaluated by an incentive evaluation committee as established by the WMB. Financial incentives must be funded by the Implementers from the budgetary allocation received from the WMB (section 34D(c) of NEM: WA).

Incentive schemes developed for the waste tyre industry may include:

- a) Various subsidies regarding, pre-processing, transport, and processing;
- b) Focused incentives in terms of the Broad Based Black Economic Empowerment Act 53 of 2003 to support increased participation of new emerging and previously marginalised citizens and regions;
- c) Strategic partnership programmes to increase market access;
- d) Waste Tyre Processing support scheme subsidy; and
- e) Support programme for innovation in the waste tyre sector (research).

Other incentive schemes targeting manufacturing are offered by the DTIC are also available to the waste tyre processing industry. It should be noted the financial viability of businesses must not depend solely on incentives, as incentives are of a temporary nature.

3.7.3 *Improved data and information*

Appropriate mechanisms and indicators must be established by all role players in the industry throughout the value chain to monitor implementation and support the reporting of accurate data from the tyre industry on waste tyres recovered, recycled, treated, or disposed into the waste tyre Information Management System (IMS).

3.7.4 *Waste tyre storage site locations*

Many of the negative impacts associated with waste tyres are associated with stockpiling. The vision of the IndWTMP is a South Africa free of negative environmental impacts of waste tyres. Stockpiling of waste tyres

must therefore be prevented as far as reasonably possible. However, limited stockpiling is an operational requirement to facilitate workflow of any industry. Last-mentioned is also true for the waste tyre processing industry.

There is thus a requirement to secure waste storage sites with pre-processing. The Implementers must conduct an audit of existing waste storage sites to inform their decision on which storage sites must be retained and where new waste tyre storage sites must be sourced. Issues that must be considered when waste tyre storage sites are identified include:

- a) Current contracts of storage sites must be honoured and allowed to run their full contract period;
- b) The current general waste infrastructure network with a view to utilise services of integrated waste facilities;
- c) Pre-processing efficiency and consolidation of land access with the waste storage site;
- d) Distance between waste tyre generators, depots/storage sites, and waste tyre processors;
- e) The need for rural economic development and job creation;
- f) Appropriate zoning of land for these activities;
- g) Associated road infrastructure for access to the sites; and
- h) Licencing requirements in terms of the NEM: WA and other relevant legislation.

The Implementers must secure waste tyre storage sites by following an open and fair procurement process.

The Implementers must oversee the identification and management of suitable waste tyre storage sites. The location needs to be established or confirmed (it could be the same location as current waste tyre storage sites) on an individual basis. Each waste tyre storage site must be secured by means of a contract or lease agreement with the WMB, in order to provide stability and assurance of waste tyre removal from dealers and consequently supply of waste tyres to waste tyre processors.

3.7.5 Capacity building

Capacity building include physical infrastructure and human capacity development.

Each Implementer, within one year of appointment, must develop a human capacity building programme with targets covering aspects of training, mentoring, and practical experience at all stages of the waste tyre value chain to facilitate career development and business growth.

4 Waste tyre management model adopted by this IndWTMP

4.1 Introduction

One of the most effective ways of realising value from waste is to transform it into a commodity for which a demand already exists or to create such demand, i.e., to create a circular economy. According to the waste hierarchy (Figure 5), waste tyres must be recovered, recycled, and repurposed, and reintroduced back into the economy as different products. This section presents an overarching approach serving this objective, within the current legal framework provided by NEM: WA, through the Waste Tyre Regulations, 2017, as follows:

- a) The implementation of the IndWTMP will be funded through a budgetary allocation to the Department and disbursed by the Implementers via the WMB as stipulated in section 34D (c) of NEMA;
- b) Legacy stockpiles (pre-30 November 2012) must be managed according to approved waste tyre stockpile abatement plans;
- c) Industry will inform the implementation of the IndWTMP through participation in the IAC;
- d) Waste tyres (not pre-processed) will initially be free of charge to waste tyre processing companies;
- e) The Implementers of the IndWTMP must be appointed on contract following a tender based approach by the WMB; the procedures must be governed by the Preferential Procurement Policy Framework Act, 2000 (Act No 5 of 2000) and the Public Finance Management Act, 1999 (Act No. 1 of 1999), and
- f) Implementation contracts must be renewable fixed term contracts with annual performance criteria clearly outlined.



Figure 5: The Waste Management Hierarchy

The tyre management model is illustrated in Figure 6.

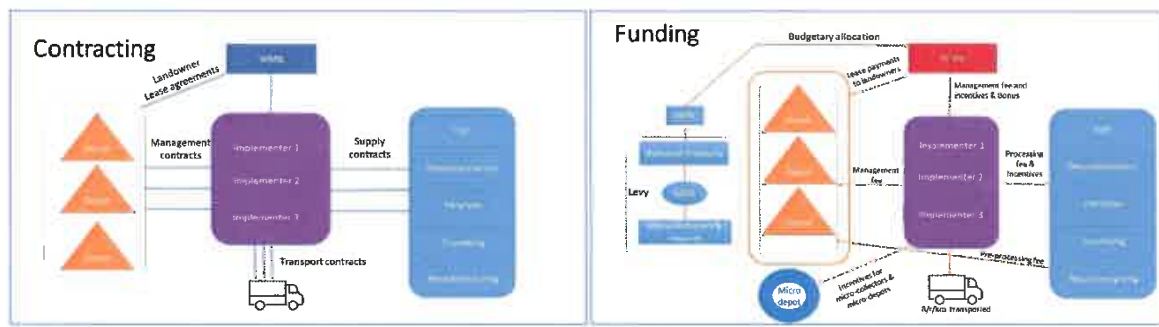


Figure 6: Schematic illustration of the tyre management model with contracts and flow of funding indicated

4.2 The need for an Industry Advisory Committee

An Industry Advisory Committee (IAC) must be established by the WMB soon after the approval of IndWTMP to support the implementation of the IndWTMP. The role of the IAC is to advise the Implementers to ensure the effective management of waste tyres in line with the objectives of the IndWTMP and the achievement of the targets.

Members of the IAC must include one representative from at least each of the following organisations:

- a) Tyre Importers Association of South Africa (TIASA)
- b) Retail Motor Industry (RMI)
- c) Tyre, Equipment, Parts Association (TEPA)
- d) South African Tyre Manufacturers Conference (SATMC)
- e) Black Business Council (BBC)
- f) Business Unity South Africa (BUSA)
- g) Department of Small Business Development (DSBD)
- h) National Treasury
- i) SALGA (South African Local Government Association)
- j) RASA (Recycling Association of South Africa)
- k) Waste tyre processing companies in the form of an association
- l) Micro-collectors in the form of an association
- m) Waste RDI Roadmap Implementation Unit (WRIU) from DSI

4.3 The need for multiple Implementers

The need for a dedicated implementer role for managing the implementation of the IndWTMP became apparent when considering the complexity of the waste tyre value chain, the need for effective coordination of the logistics of waste tyres, and for inclusivity as far as contracting is concerned.

Multiple implementers are introduced to avoid monopolistic associated risks and to introduce competitive elements to the IndWTMP. Those Implementers exceeding their contracted targets become eligible for a bonus from the WMB which is funded through a budgetary allocation. The bonus scheme will take the form of a rolling incentive pool with one third of the bonus accessible in the performance year and the remaining

two thirds being carried forward to the next year. Under-performance may attract a negative bonus which will be subtracted from the bonus pool.

Processors have the option to enter into contracts with more than one implementer to ensure surety of supply and implementers may contract with as many depots as they want to secure supply to processors.

Implementers must be paid an implementation fee as stipulated in the contract with the WMB.

Each implementer will be contracted by the WMB for a specific geographical region (Figure 7) with regional specific targets (Table 7), but more than one implementer per region must be allowed.

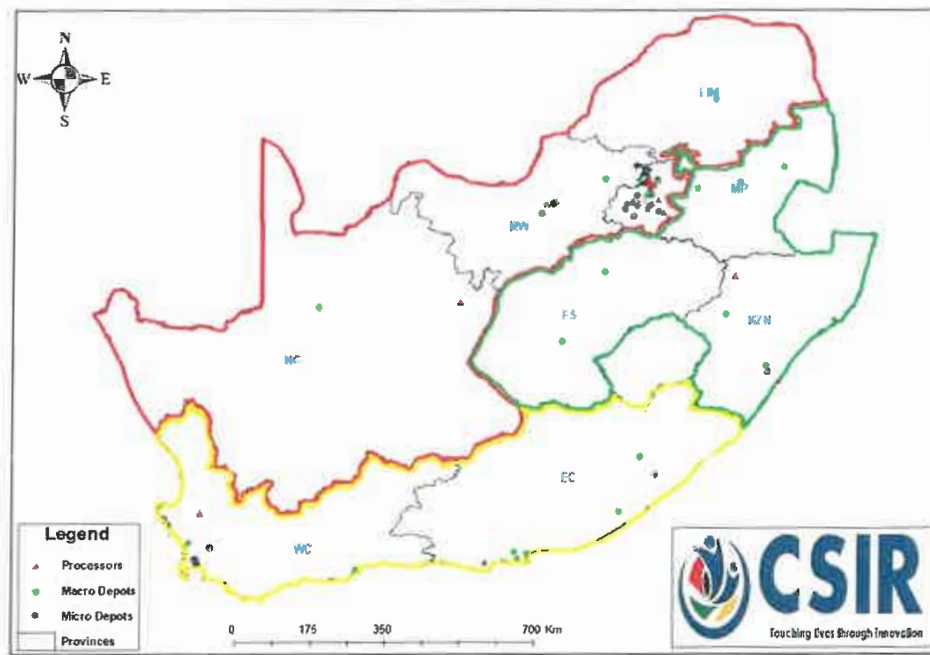


Figure 7: Outline of Implementer regions by colour. (Region 1 yellow, Region 2 green, Region 3 red)

Table 7: Geographical region demarcation

Geographical area per region	% of total national target to be achieved
Region 1: Western Cape and Eastern Cape	13.62
Region 2: Free State, Kwa-Zulu Natal, Mpumalanga	36.68
Region 3: North West, Northern Cape, Gauteng, Limpopo	49.70

Appointment of the Implementers must be mindful of the complexity of waste tyre management in South Africa and must aim to simplify logistics while limiting duplication of functions and costs. As a minimum, the Implementer must present evidence for the following competencies:

- A clear understanding of waste tyre management and the waste tyre management process flows and logistics;
- A proven and verifiable track record of the coordination and management of complex processes similar to that required for waste tyre management;

- c) Insight in waste tyre processing technologies and associated requirements specifically associated with feedstock;
- d) Human resources on the ground to ensure service coverage across all geographical areas of the region; and
- e) The establishment of regional or provincial offices as may be required.

4.4 Approach for dealing with the annual waste tyre-stream

The overarching aim is to balance the inflow of waste tyres with the processing of waste tyres. The net effect would be that Waste Tyres are being processed at the same rate as new waste tyres being generated.

Key elements in managing the annual waste tyre stream include:

1. Tyre producers charge an Environmental levy on tyres being sold to their clients (tyre dealers/transport companies/mines). In the case of tyre-dealers, the invoice issued to clients must state that an environmental levy is charged.
2. The Environmental levy is paid to SARS. The Implementers access these funds based on annual costed business plan submitted to the WMB. The approved funds will be dependent on the budget allocated by National Treasury.
3. Waste tyres must be identified and classified by Tyre Dealers who must continue to mutilate scrapped tyres as per the Waste Tyre Regulations, 2017.
4. Tyre transporters collect waste tyres from dealers and micro-depots and transport the waste tyres to waste tyre storage sites or processors as the case may be.
5. Tyre Transporters are paid by the implementers as determined by the transport contract.
6. Some tyre dealers, mines, transport companies and farms who buy directly from manufacturers/importers or who import directly), must register as collection points with the WMB.
7. Only mutilated tyres may be transported by waste tyre transporters.
8. Monthly limitations or cap on the volume of waste tyres collected and transported may only be applied in line with the projected processing targets so as not to unduly limit the income potential of micro-collectors. The current limitation of 1000 tyres per month per micro-collector falls away.
9. The WMB must devise a waste tyre payment structure to replace the current flat-rate transport rate per tonne. Payment of transporters must consider both tonnage and distance travelled.
10. On-site pre-processing specifically aimed at decreasing transport costs is compulsory for all waste tyre storage sites.
11. The Department must in collaboration with the Implementers and WMB design suitable incentives for such pre-processing.

4.5 Approach for dealing with waste tyre stockpiles at Depots

The following approach for dealing with waste tyre stockpiles at Depots aims to significantly decrease negative environmental impacts associated with stockpiled waste tyres by 2040 (refer to Table 6).

Key elements of the approach include the following:

1. The WMB must undertake an audit of stockpiles of waste tyres at Depots to confirm current locations, owners and volumes of stockpiled waste tyres before the IndWTMP is implemented. This

will generate baseline data for performance measurement and will ensure that there is proper hand-over between the WMB and the Implementers.

2. Incentives may be used throughout the waste tyre processing value chain.
3. On-site pre-processing aimed at decreasing transport costs is compulsory for all waste tyre storage sites.
4. The Implementers may employ incentives to support the development of waste tyre processing value chains.
5. Processors are allowed to temporarily store pre-processed waste tyres on their premises in accordance with their workflow requirements.

4.6 Governance of the Industry Waste Tyre Management Plan

The governance structure set the rules and directs the implementation of the IndWTMP and comprise of a combination of Government and industry sector role-players:

- 1) The Department is the custodian of this IndWTMP and will actively ensure the execution of, and legislative compliance with the IndWTMP.
- 2) The Department will institute enforcement actions as and when required.
- 3) The Department and the WMB, through strategic engagements with other government departments and agencies must develop incentives for key role players in the waste tyre value chain. Incentives are of temporary nature and must aim to remove market entry barriers and promote active participation in the waste tyre management industry.
- 4) The WMB must monitor performance and progress against predetermined targets set out in Table 6.
- 5) The WMB will oversee the implementation of the IndWTMP, through:
 - a) Appointment of the Implementers;
 - b) Development of incentives and management of incentive schemes;
 - c) Disbursement of incentives and funds for the implementation of the waste hierarchy throughout the waste tyre value chain; and
 - d) Monitoring the implementation of this IndWTMP.
- 6) The Implementers must provide non-financial performance reports on the implementation of this IndWTMP.
- 7) Implementation progress meetings must be held quarterly between the Implementers, the IAC and the WMB.
- 8) The Implementers must submit annual financial statements audited by an independent auditor, as well as annual performance audits, which will be published and made available to the IAC, the WMB, the Department, National Treasury, and the Auditor General.
- 9) The IndWTMP must be reviewed by the WMB at least every five years.

4.7 Financial Arrangements

4.7.1 Tyre levy

The Tyre Levy is the only income stream from the Tyre Industry and the Department has to apply to National Treasury for a budgetary allocation from that income stream, for the implementation of the IndWTMP, but the Tyre Levy is not ring-fenced for this purpose. The budgetary allocation from National Treasury to the Department therefore limits the budgetary allocation to be made to the Implementers through the WMB.

The business plan and budget submitted by the Implementers to the WMB to apply for its budgetary allocation from the Department, must provide for all financial mechanisms.

4.7.2 Micro-collectors of waste tyres and micro depots

Micro collectors and micro-depots must be reimbursed on a weight-based rate (R/kg) per load of waste tyres delivered to depots. The depot will issue a weigh bridge slip for each load delivered at their premises. Implementers must devise a payment system which facilitate payment to micro-depots and micro-collectors within a week of delivery of waste tyres to depots.

4.7.3 Pre-processing at depots

The structured approach to depot management applied by the WMB derived from the need to maintain fiscal discipline with a budgetary regime under National Treasury. The WMB therefore must maintain control over expenses. However, a depot is the point where waste tyres changes from being a waste stream to being an input stream for processors. As such depots that pre-process waste tyres must be allowed to operate a profit-seeking basis.

Requirements for operating depots on a profit-seeking basis are:

- a) Depots must do some form of value adding to the waste tyres to create a competitive base for profit seeking; and
- b) depots must have management autonomy and be operated as independent businesses.

Value adding at depots must take the form of limited pre-processing of waste tyres as determined by each of the four mainstream waste tyre processing technologies (energy recovery, pyrolysis, material recycling and product recycling) and facilitate increased transport efficiencies.

Pre-processing may include sorting, baling, cutting, shredding or debanding but excludes mutilation. The exact form of pre-processing done at any particular depot must be determined by the type of client (mainstream technology group) the depot is supplying. The requirements for accepting waste tyres could differ across the four mainstream waste tyre processing technology groups. Such differences allow for commodity differentiation (and consequent price differentiation) for each mainstream technology. The Implementers must consult with representatives of each mainstream technology and determine the commodity requirements for uptake in each technology option. The WMB must formulate the requirements into a pre-processed waste tyre commodity specification for each mainstream processing technology. The commodity specification must inform the costing of the pre-processed commodity which then creates the basis for commodity pricing. It should be noted that the price for the waste tyre itself will remain nil, but the pre-processing (i.e., value added services) will require cost recovery, including a fair markup. Reasonability, affordability based on the budgetary allocation from Treasury, and good judgement by the WMB must be

applied when developing the commodity specification and costing to create enough scope for depots to realise fair profits. This information must be used to define a standardized pre-processed waste tyre commodity for each mainstream processing technology in terms of format (quarter cut, shredded, baled etc), size and weight, and associated processing fee that the depot will receive from the Implementers. The depot must claim the value of pre-processed waste tyre commodity supplied to processors on a weight basis from the processor. Depots must be allowed to apply entrepreneurial innovation to do pre-processing at a lower cost than the commodity rate set by the WMB.

4.7.4 Transporters of pre-processed waste tyres to processors

Transporters must be paid based on predetermined rates per kilometer per tonne of waste tyres delivered. Transporters claim directly from the depot, dealer, processor or Implementer based on the contract. Claims must be supported by the delivery notes issued by the processor.

4.7.5 Processors

Processors will be paid according to the tonnes of waste tyres processed, which should be verified by delivery notes issued to transporters. Processing rates must be as per contract stipulations with the Implementers. Contracts will specify the relevant incentives which may take the form of capital investment, transport, and processing subsidies.

4.7.6 Implementers

The Implementers must submit their budget together with an updated business plan, to the WMB for the approval thereof. Submission must be in line with the Department's budgetary cycle. The minimum requirements and format of the business plan and budget must be prescribed by the Department in consultation with the Auditor General and National Treasury and communicated at a compulsory briefing session.

Furthermore:

- a) The business plan and budget including quarterly estimate on expenditure must be submitted to the WMB on an annual basis for approval;
- b) National Treasury has indicated that the budget allocated annually is dependent on the quality of the business plan submitted. It is therefore imperative that a good quality business plan must be prepared;
- c) The business plan and budget must be supported by the IAC; and
- d) Payments to the Implementer must be done by invoice to the WMB supported by progress reports on a quarterly basis.

The proposed budget allocation indicated as percentage of total is provided in Table 8.

Table 8: Proposed percentage budget allocation

Minimum suggested allocation (except for administration)	% budget split
Pre-processing	5
Processing	30
Collection and transport	30
Depots	20
Training/capacity building/awareness raising mentoring	2
Research and Development	3
Administration (maximum allocation)	10
Total	100

4.8 Monitoring and reporting

The Implementers must submit monitoring reports on the management of waste tyres to the WMB who may at any time, require information into the monitoring and reporting data used or generated whether that data was generated by the Implementer or by any of the role-players in the management of waste tyres or received from any other role player or service provider. Poor performance or non-compliance by the implementers will be enforced through the contract between the WMB and the implementer or the enforcement mechanism in terms of NEM: WA.

4.8.1 Reporting requirements in terms of the Waste Information Regulations, 2012

Section 60(1)(a) of the NEM: WA prescribes the establishment of the South African Waste Information System (SAWIS) for the recording, collection, management and analysis of data and information, which must include data on the quantity and type or classification of waste generated, stored, transported, treated, transformed, reduced, re-used, recycled, recovered and disposed of. The following persons must register and report to the WMB Information Management Systems:

- a) tyre producers,
- b) tyre dealer,
- c) person in control collection point where waste tyres maybe collected,
- d) waste tyre stockpile owner,
- e) waste tyre processor,
- f) owner/operator of a waste tyre pre-processing facility,
- g) depot owner/operator,
- h) micro collector of waste tyres,
- i) waste tyre transporter, and
- j) owner or operator of waste tyre storage site.

4.8.2 Reporting requirements in terms of the Waste Tyre Regulations, 2017

Persons registered in terms of regulation 5 of the Waste Tyre Regulations of 2017 must report information as required in terms of their registration.

All tyre producers must on a quarterly basis, while their declarations are submitted to the SARS, submit to the WMB the very same declaration in respect of the quantity and type of tyres produced or imported.

4.8.3 Reporting progress on implementation of the IndWTMP

All role players with reporting duties indicated in item 5, except the implementer, must report to the WMB and the Implementer on a monthly basis. The monthly reports must:

- a) Be in the format as prescribed by the WMB;
- b) Cover the data for the full calendar month preceding the submission date; and
- c) Be submitted by the 7th of each month.

Performance indicators must as a minimum include:

- a) Frequency of collections – this may be dependent on the location of the collection points and take into consideration urban, suburban and outlying areas;
- b) Adherence to waste tyre mutilation guidelines by tyre dealers;
- c) Adherence to mandatory collection of mutilated Waste Tyres by waste tyre transporter; and
- d) Order fill rate – from waste tyre storage sites to waste tyre processors.

4.8.4 Reporting by the Implementer

Suitable progress and performance indicators that will be monitored and reported on relate to finances, state of the environment reporting, and waste tyre management reporting.

The Implementer must:

- a) Report progress with implementation of the IndWTMP to the WMB in the format as determined by the WMB;
- b) Submit progress reports monthly for the first year of implementing IndWTMP and quarterly for the remainder of the period of implementation; and
- c) Submit all progress reports by the 15th of the month following the reporting period.

Reporting must as a minimum include:

- a) National aggregated number and tonnes of tyres put into the market in a year.
- b) National aggregated number and tonnes of waste tyres collected monthly.
- c) National aggregated number and tonnes of Waste Tyres used for recycling (also expressed as a percentage of the total).
- d) National aggregated number of tonnes of Waste Tyres used for energy.
- e) New jobs created in the transport sector due to the implementation of the IndWTMP (indicate gender and race).
- f) New jobs created in the processing sector due to the implementation of the IndWTMP.
- g) Number of businesses established in the year including BBEEE status.
- h) Expenditure on research and development.

Audits must be done on at least the following:

- a) Compliance with waste legislation and waste tyre regulations.
- b) Financial reports.

4.8.5 Evaluation

The IndWTMP must be evaluated by the WMB on an annual basis in terms of the following:

- a) Informed by the IAC, an evaluation of the practicality and efficiency of administrative processes, logistics, and operations associated with the implementation of the IndWTMP;
- b) Progress being made against the targets, including achievements and challenges and measures to overcome the challenges; and
- c) Recommendations for improvements of the IndWTMP.

The recommendations and improvements must inform the updated plan submitted to the Minister for approval.

4.8.6 Research Development and Innovation

The Waste Research, Development and Innovation (RDI) Roadmap (2015-2025) has identified waste tyres as a priority waste stream requiring intervention. The Waste RDI Roadmap specifically mention that choice in technology solution(s) targeted must be guided by what makes local economic sense, based on, amongst others, the quantities and types of waste tyres generated, the local cost of technology solutions, the value of waste tyre streams to local markets, available skills, the local policy environment, and the local climate for business and investment.

Research and development initiatives supported through funding by the IndWTMP must be aligned with the Waste RDI roadmap priorities for waste tyres and the findings of these projects must be communicated to the IAC, the Department and the WMB on an annual basis. Each project must be guided by a Project Steering Committee convened by the Implementer. Members of the IAC, among others, must be invited to serve on every Project Steering Committees to ensure relevance to the Tyre industry in the South African context.

4.8.7 Enterprise development and job creation

Both enterprise development and job creation are mentioned in objective 1 as it relates to waste tyre processing. Enterprise development opportunities across the waste tyre value chain, especially in developing new processing capacity, will be supported through incentives as outlined in item 3.4.1 and 3.4.2. Coupled with enterprise development is job creation. Although labour intensive practices may exist, the IndWTMP aims to free South Africa of the negative environmental impacts of waste tyres by establishing a waste tyre processing industry. Job creation must result from this initiative and may not be considered as a goal in itself. A balanced approach is however required between job creation and throughput efficiency in waste tyre processing. The WMB must therefore establish a minimum requirement for job opportunities created per tonne of waste tyres processed. This requirement must inform qualifying criteria for incentives to be developed.

5 Duties, roles, and responsibilities of each actor in the implementation of IndWTMP

The management process flow clarifies the roles of the different actors along the waste tyre value chain (see Figure 8). It should be noted that although pre-processing of waste tyres is mandatory for waste tyre storage sites, further pre-processing may also be done at waste tyre processors. Furthermore, development in processing technology have introduced mobile pre-processing units, which operate on-site at stockpiles.

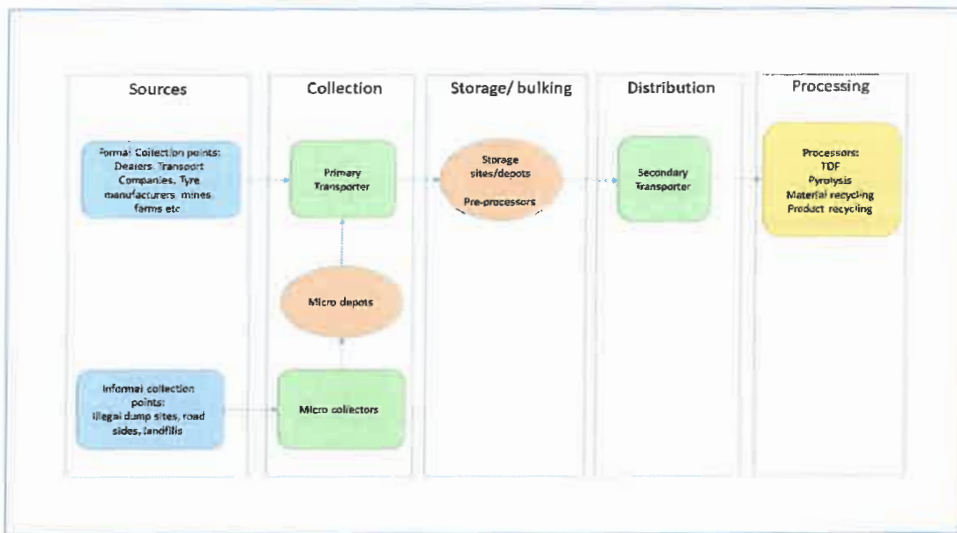


Figure 8: Waste Tyre management process flow

5.1 The Implementer

As the administrator of the implementation of the IndWTMP, the Implementer must fulfil the duties and responsibilities as such, inclusive of the following duties and obligations:

- a) The implementer must develop 5 year implementation plan, business plan within the first 3 months of implementation and costed budget for the remainder of the government financial year and submit that to the WMB for approval and/or interrogation and input. Within four months of appointment the implementer must set up systems for implementation or assess the adequacy of the systems.
- b) Implementers in consultation with the WMB will develop a depot operator model.
- c) Assume overarching operational management of waste tyres in South Africa.
- d) The Implementer may not appoint a management company or any other company to manage the duties, obligations and responsibilities of the Implementer on its behalf.
- e) Take over the waste tyre management from the WMB and ensure that there is a smooth transition from the waste tyre management model implemented by the WMB and the implementation of this IndWTMP.
- f) Implement the IndWTMP and adhere to the targets for waste tyre processing and reduction in stockpiles at Depots as set out in item 3.4.2.
- g) Maintain an electronic and transparent monitoring system to ensure accurate reporting in accordance to items 3.4.3 and 4.8, and to support legitimate claims for waste tyres collected and/or processed in terms of progress against targets.

- h) Incentivise the establishment of a waste tyre processing industry in South Africa via suitable subsidies to key stakeholders in the waste tyre processing value chain including, Micro-collectors, Micro Depots operators, Depot Operator, Transporters, and Processors from the budgetary allocation received from the WMB as per item 3.7.2.
- i) Devise a payment system for micro-collectors and micro-depots as envisaged in section 4.7.2.
- j) Support and facilitate the creation of markets for pre-processed waste tyres and waste tyre commodities and products.
- k) Support research in new viable and environmentally sustainable technologies in respect of the processing of or the utilisation of waste tyres and secure investment for the implementation thereof, if financially viable; Convene a Project Steering Committee for each research project funded by the IndWTMP.
- l) Provide surety of supply contracts to waste tyre processors in accordance with item 3.4.1.
- m) Ensure the increasing of management autonomy of Depots Operator to full independency.
- n) Keep record and report annually on the movement of waste tyres between all role players to the WMB.
- o) Report to the WMB on any significant incidences and non-compliance with the provisions of this IndWTP.
- p) Collaborate with the waste tyre sector on an ad-hoc basis but at least on a quarterly basis through scheduled meetings with the IAC (refer to items 4.2, 5.4 and Schedule 1).
- q) Secure annual budget from the Department for the implementation of the IndWTMP through disbursements, including subsidies. All payments must be supported by a paper trail of invoices and other supporting documentation; The approved funds will be dependent on a budget allocated by National Treasury.
- r) Submit a business plan and budget in line with government budget cycles as set out in item 4.7.6. The budget and business plan must be reviewed and updated on an annual basis.
- s) Report to the WMB in accordance with item 4.8.4 of the IndWTMP.
- t) Submit monthly report on functioning and operation of the plan one week prior to any sitting.
- u) Meet on a quarterly basis with the Provincial Waste Management Forums on the implementation of the IndWTMP.
- v) Consult the DTIC on the extent of their current incentive schemes applying to the development of the waste tyre processing industry.
- w) Investigate and make recommendations to the WMB and the Department on the design, development and implementation of incentives, policies, regulations, norms and standards, good practice as appropriate to reduce waste tyre generation and to enhance the implementation of the IndWTMP.
- x) Support the incorporation, establishment and development of SMME's in waste tyre value chains.
- y) Design and implement capacity building, training, and mentoring programmes to support sustainable business development and growth in the waste tyre industry.
- z) Effect payment as per contractual obligation with service providers for services rendered.
- aa) Disburse incentives to qualifying recipients from the budgetary allocation received from the WMB;
- bb) Submit independent, audited financials to the WMB and Auditor General in accordance with item 4.8.4 of the IndWTMP.
- cc) The implementer and its employees may not conduct any business associated with the IndWTMP.

5.2 The Department

The Department as the custodian of the IndWTMP must:

- a) Provide minimum requirements and templates for the business plan and budget to the appointed Implementer;
- b) Apply to National Treasury for budgetary allocation to the Implementer based on business plan(s) and budget(s) submitted by WMB;
- c) Disburse the budgetary allocations to the WMB;
- d) Review audit report and financial statements submitted by the Implementer;
- e) Engage in strategic discussions with relevant stakeholders to facilitate market development for processed waste tyres; and
- f) Collaborate with the WMB to monitor performance and progress against predetermined targets.

5.3 The WMB

The WMB must:

- a) Establish an Industry Advisory Committee (refer to item 4.2);
- b) Appoint multiple Implementers through contracts that include the imposition of penalties for failure to meet set targets (refer to item 4.3);
- c) Evaluate the business plans and annual budget submitted by Implementers;
- d) Disburse payment for services rendered by the appointed Implementers;
- e) Disburse payment to land owners based on lease agreements;
- f) Develop incentives and qualifying criteria for incentives referred to in item 3.4.2
- g) Assist with the development of award criteria (including penalty clauses) for surety of supply contracts;
- h) Establish a benchmark for job opportunities that should be realised per tonne of waste tyres processed to qualify for incentives;
- i) Keep record of audit reports received;
- j) Publish audit reports received from the Implementers on an annual basis;
- k) Review fuel prices and the associated transport tariffs on a monthly basis;
- l) Review processing fees on an annual basis ;
- m) Set a weight-based rate paid to micro-collectors for waste tyres delivered at depots and revise this rate on an annual basis;
- n) Review appropriateness and efficiency of other incentives and adjust according to inflation on an annual basis;
- o) Establish an incentives evaluation committee; and
- p) Establish an independent evaluation committee to evaluate expression of interest submitted by tyre processors.

In terms of the section 34E(1)(g) of NEM: WA, the WMB must perform any other task or function that the Minister may assign or delegate to the WMB in relation to the implementation of NEM: WA.

5.4 Industry Advisory Committee

The IAC is established to replace the Interim Industry Advisory Committee established in terms of the Waste tyre Regulations, 2017. The role of the IAC is to:

- a) serve as communication platform between members organisations and the Implementer;
- b) provide advice and guidance to the Implementer on the functioning and operations of the waste tyre and waste tyre processing industry;
- c) provide input into the business plan of the Implementer to WMB to secure budgetary allocation for the implementation of the IndWTMP;
- d) contribute to solutions to overcome challenges experienced during the implementation of the IndWTMP;
- e) share knowledge and information with the Implementer(s) as and when required;
- f) review of progress reports before submittal thereof to the WMB; and
- g) Schedule 1 applies to the functioning and operations of the IAC.

5.5 Tyre producers

- a) In terms of the Rates and Monetary Amounts and Amendment of Revenue Laws Act, 2016 (Act No. 13 of 2016) read with section 13B of NEM: WA, Tyre Producers must contribute a Tyre Levy to the South African Revenue Service.
- b) Tyre producers, through their associations (TIASA, SATMC) must on a quarterly basis report to the WMB, on the aggregated number and type of tyres entering the market.
- c) Tyre producers must on a quarterly basis submit to the SARS their declarations, and at the same time submit to the WMB the very same declaration in respect of the quantity of tyres produced or imported.
- d) Tyre producers must nominate a representative to sit on the IAC.

5.6 Tyre dealers

The duties of tyre dealers are outlined in regulation 6 of the Waste Tyre Regulations, 2017. Tyre dealers must:

- a) Notify consumers by including a note on their invoices that tyre prices are inclusive of an environmental levy;
- b) Inform consumers of the proper care and efficient use of tyres to extend their useful life in collaboration with road safety campaigns;
- c) Ensure that consumers receive accurate information on the proper care for new tyres at the point of sale and the proper disposal of waste tyres;
- d) Classify any used tyre in his or her possession or control and mutilate waste tyres or cause waste tyres to be mutilated as prescribed in the regulations;
- e) Keep record of the number and types of mutilated waste tyres;
- f) Report the number and types of mutilated waste tyres to the WMB and the Implementer;
- g) Manage all waste tyres in his or her possession or control or cause such waste tyres to be managed in accordance with the IndWTMP; and
- h) Tyre dealers, who are also importers of tyres, are also compelled to pay the levy as referred to in item 5.5.

5.7 Person nominated in control of a collection point where waste tyres may be collected

Persons in control of collection points must:

- a) Classify any used tyre in his or her possession or control and mutilate or cause all waste tyres in his or her possession or control, to be mutilated as prescribed in the NEM: WA: Waste Tyre Regulations of 2017;
- b) Keep record of the number and types of mutilated waste tyres;
- c) Report the number and types of mutilated tyres to the WMB and to the Implementer;
- d) Manage all waste tyres in his or her possession or control or cause such waste tyres to be managed in accordance with the IndWTMP;
- e) Ensure environmental protection through efficient and practical pollution prevention measures and mitigating all negative environmental impacts as soon as it is detected; and
- f) Comply with health and safety standards and compliance.

5.8 Depot Operator with pre-processing

Owners or operators of depots where waste tyres are pre-processed must:

- a) Register with the WMB;
- b) Enter into an agreement with one or more Implementers;
- c) Pre-process waste tyres according to the WMB specifications as envisaged in section 4.7.3;
- d) Provide for current fire prevention measures to be in place;
- e) Meet the storage requirements contemplated in regulation 10 if waste tyres are stored on-site;
- f) Institute labour intensive practices where it can be done practically, feasibly and safely;
- g) Meet all safety standards in terms of labour law;
- h) Ensure environmental protection through efficient and practical pollution prevention measures; and
- i) Report negative environmental impacts to the relevant authorities.

5.9 Waste tyre transporters

Waste tyre transporters must:

- a) Register with the WMB;
- b) May only transport mutilated waste tyres or pre-processed waste tyres;
- c) Ensure that all transfers are recorded in respect of weight and type of waste tyres transported;
- d) Ensure that all loads are signed off by both the Transporter and recorded as received by the said Depot Operator pre-processor, and waste tyre processor;
- e) Operate road worthy vehicles;
- f) Abide by all traffic rules and regulations; and
- g) Ensure that drivers are duly licensed.

5.10 Micro-collectors of waste tyres

Micro-collectors must:

- a) Register with the WMB;
- b) Collect waste tyres within their area of responsibility using own transport methods;
- c) Deliver collected waste tyres to collection points positioned within the community in areas clearly demarcated for the purpose of storage; or
- d) Deliver their waste tyres directly to depots; and
- e) Follow the stacking and storage instructions of the Implementer as per the norms and standards for storage of waste, 2013 if applicable.

5.11 Operators of a depot

Owners and operators of depots and waste tyre storage sites must:

- a) Register with the WMB;
- b) Meet the storage requirements contemplated in regulation 10 of the Waste Tyre Regulations of 2017, the National Norms and Standards for the Storage of Waste, 2013 and any other applicable legislation;
- c) Provide for fire prevention measures to be in place;
- d) Report on the number, weight and type of waste tyres entering and leaving the site on a monthly basis to the WMB and the Implementer;
- e) Ensure environmental protection through efficient and practical pollution prevention measures; and
- f) Report negative environmental impacts to the relevant authorities.

5.12 Waste tyre processors

Waste Tyre processors must:

- a) Register with the WMB;
- b) Enter into waste tyre supply agreements with the Implementer or agree to the cession of existing contracts from the WMB to the Implementer;
- c) Provide for current fire prevention measures to be in place;
- d) Meet the storage requirements contemplated in regulation 10 of the NEM: WA: Waste Tyre Regulations of 2017, if waste tyres are stored on-site;
- e) Meet all safety standards in terms of Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);
- f) Ensure environmental protection through efficient and practical pollution prevention measures,
- g) Report negative environmental impacts to the relevant authorities;
- h) Report on the number or tonnage, and type of waste tyres entering their site to the WMB and to the Implementer;
- i) Report the tonnage of waste tyres processed on a monthly basis to the Implementer; and
- j) Execute an environmental impact assessment on their pollution prevention measures to be implemented as part of the processing contracting.

5.13 Tyre users and consumers

All users and consumers of tyres as per item 2.6, must:

- a) manage all waste tyres in his or her possession or control in accordance with the IndWTMP; and
- b) prevent such waste tyres from being dumped or disposed of in a manner that has the potential to cause environmental pollution or ecological damage.

6 Implementation timeframe and migration pathways

6.1 Timeframe

The IndWTMP must be reviewed every 5 years, or sooner should the Minister deem it necessary. The review of the IndWTMP must consider the objectives and progress towards meeting the targets and address challenges towards meeting the longer-term vision of the IndWTMP. The appointment of the Implementer be limited to 5 years in the contract with the WMB, with the option of renewal or extension thereof, provided that National Treasury agrees to such renewal or extension.

6.2 Migration pathway from WMB to Implementer

A transitional period, not exceeding one year from the date of appointment of the Implementer, is required to allow current stakeholders to adjust their business operations to a new regime. Interruptions in the current processes, contracts and business while moving from the current status quo to a new reality must be avoided. The new Implementer, must take note that there are current contracts concluded with the WMB and that the current contracts should be adhered to. Further to that the new Implementer must negotiate with the current contracting party to have the contract ceded. This transitional period must not impact on the meeting of targets as set out in **Table 6**.

The following implementation process must be followed:

1. Once the Minister has approved the IndWTMP, and while no Implementer is appointed, the WMB must continue, as it currently does, to prepare and submit an interim budget and business plan in line with the government budgetary cycle to apply for a budgetary allocation from National Treasury to ensure continuity in the Waste Tyre management process.
2. The Minister must appoint a specific task team within the WMB to drive the implementation process.
3. The WMB must then, within the constraints of the budgetary allocation from National Treasury, continue to administer waste tyre management, as it currently does.
4. The Implementer, once so appointed, must prioritise and incentivise those options that can be implemented quickly in consultation with:
 - a. the Technology Innovation Agency of South Africa regarding technology readiness of processing options;
 - b. the cement and brick-making industry for the processing of waste tyres;
 - c. mines to increase pre-processing of OTRs; and
 - d. WMB for implementing the incentives developed by the WMB to upscale pilot plants where feasible.

5. The implementer must develop 5 year implementation plan, business plan within the first 3 months of implementation and costed budget for the remainder of the gov. financial year and submit that to the WMB for approval/ and or interrogation and input. Within four months of his appointment, he must set up systems for implementation or access the adequacy of the systems Obed to advise).
6. The Implementer must develop training, awareness, and capacity building programmes to support SMME development and engagement in the Waste Tyre processing sector.
7. The Implementer must review the current fee and payment structure associated with Waste Tyre collections and transport.
8. The Implementer may, with written consent by the WMB, procure equipment to support the implementation of the IndWTMP. Ownership of such equipment will revert to the WMB to remain available for waste tyre management in South Africa.
9. The Implementer together with the Department and the WMB must initiate research to evaluate the technology readiness, financial and economic viability assessments for various waste tyre processing options in South Africa.

The migration process must include, but not be limited to the following:

- a) The WMB must disclose all data and relevant information relating to the management of waste tyres for the full period that the WMB was responsible for the management of waste tyres.
- b) The Implementer must conduct an audit of equipment, and the current stockpiles of waste tyres, to confirm current locations, owners, and the volumes of stockpiled waste tyres before the IndWTMP is implemented. This must ensure that there is proper hand-over and no disputes that can surface at a later stage. The audit done by the Implementer on all waste tyre storage sites must inform the decisions on which sites to keep and which sites to close and then work towards closure of identified sites coinciding with the end of those contracts. The time left on these contracts should help them plan properly and migrate without causing operational gaps.
- c) The WMB must, subject to the provisions of the Protection of Personal Information Act, 2013 (Act No. 4 of 2013), hand-over or allow access to all systems, databases, equipment, and other relevant information as may be required, and that was developed, procured, and used for the purposes of the management of waste tyres to the Implementer.
- d) Databases and equipment handed-over to the Implementer must be maintained, upgraded, and/or updated, as the case may be, to remain operational, current, and efficient for the management of waste tyres and must be returned to the WMB to safe-guard continuity of operations when the Implementer's contract come to an end.
- e) The WMB must train and support the Implementer on the running of the systems to ensure continuity in the management of Waste Tyres, collection of data, and contracts. This could take the form of on-the-job training over a specified period to ensure a smooth transitional period as agreed at the time of appointment of the Implementer.

6.3 Transition between Implementers

Interruptions in the processes, contracts, and business while moving from one Implementer to the next must be avoided. The new implementer must take note that there are active contracts between the WMB and/or the previous Implementer and its service providers, and these contracts must be adhered to. Further to that the new implementer must negotiate with the contracting party to have the contract ceded.

The systems developed, the moveable property procured, material developed, intellectual property obtained by the Implementer, and the equipment procured as part of the implementation of the IndWTMP, must form part of the asset register and must form part of the property of the state. In the event that the contract with the Implementer is terminated, all the systems used, maintained and/or developed, the moveable property procured, material developed, intellectual property obtained, and the equipment procured must be transferred to the new Implementer in good working order, but fair wear and tear accepted. The WMB must do an audit of assets and liabilities in conjunction with the implementer and handover to the next Implementer within 3 months of the termination of the contract with the Implementer. A transitional pathway and methodology must be outlined in the contractual agreement.

7 Compliance with the IndWTMP and relationship with other legislation

- i. Compliance with the IndWTMP does not exempt any of the role players from complying with any other applicable legislation.
- ii. Failure to comply with the IndWTMP is an offence in terms of section 67(1)(d) of NEM: WA and a person who commits such an offence is liable to the penalties set out in section 68(2) of NEM: WA.

Schedule 1**(Item 4.2)****Industry Advisory Committee (IAC)**

Each member organisation must appoint a single representative(s) to the committee. The appointed representatives from government departments must be in a position that is able to influence and implement policy decisions, regulations and/or administrative actions etc., with regards to waste tyre management.

1. Functions of the committee**1.1 The committee members must;**

- 1.1.1 Receive monthly reporting on functions and operations of the implementer from the implementer for review at the meeting (1 week prior to any sitting);
- 1.1.2 Provide guidance as to the management of the Implementer on the functioning and operations of the tyre and waste tyre management industry;
- 1.1.3 Provide management oversight input and interrogation of the business plan of the Implementer in order to secure budgetary allocation for the implementation of the waste tyre management operations;
- 1.1.4 Contribute to solutions to overcome challenges experienced in the waste tyre management operations;
- 1.1.5 Share knowledge and information with the Implementer as and when required; and
- 1.1.6 Report to the WMB and the Minister on the monthly progress of the Implementer.

2. Operations of the committee**2.1 Custodian of the committee**

- 2.1.1 The WMB are the custodians of the committee for the purposes of governance and authority.

2.2 Chairperson

- 2.2.1 The committee will be chaired by a duly elected members of the committee.

2.3 Convener

- 2.3.1 The Committee will be convened by the Implementer.

2.4 Secretariat

The Implementer will provide the Secretariat function, which is to support the activities of the IAC, by undertaking the following tasks:

- 2.4.1 Ensure that the IAC fulfils its mandate as outlined in the Terms of References.
- 2.4.2 The distribution of all documents associated with the meetings and the IAC at least a week prior to the meetings.

- 2.4.3 Minute taking and decision matrix compilation, as well as the distribution of all documents associated with the meetings and the IAC no later than 5 working days post the meetings.
- 2.4.4 Maintain contact with all members in-between meetings in order to promote active participation and engagement.
- 2.4.5 The secretariat is responsible for the execution, follow up with relevant parties.
- 2.4.6 The secretariat will also report back the committee decisions and action plans to the WMB and the Minister, along with a copy of the minutes and decision matrix and relevant supporting documents.
- 2.4.7 Maintain a list of appointed members of the committee and the substitutes who will attend meetings in the event the appointee is unavailable.

2.5 Meetings

- 2.5.1 The IAC will meet on a quarterly basis, which will be a physical or virtual meeting.
- 2.5.2 A special and/or urgent meeting may be conducted, when an urgent matter needs the attention of the IAC.
- 2.5.3 The frequency of the meetings can be reviewed by the Committee.
- 2.5.4 Committee members will be appointed by their respective institutions to attend the meetings as necessary.

2.6 Contact between meetings

- 2.6.1 The Secretariat must provide updates of activities, and relevant information as determined by the IAC to all members.
- 2.6.2 Official communication between meetings will be via email and attached documents.
- 2.6.3 Other relevant communication mechanisms can be used for unofficial matters.
- 2.6.4 Members may provide information to the Secretariat for circulation. Information may include, but not be limited to policies, research, meetings, and reports.

2.7 Responsibility of Members

- 2.7.1 Members are expected to attend and contribute positively to waste tyre management operations as managed by the Implementer.
- 2.7.2 Update their contact details as soon as changes are in effect.
- 2.7.3 Each member is responsible for reporting the activities and decisions of the IAC to their respective organisations through their own organisation's internal mechanisms.

3. Attendance

- 3.1 Meetings dates will be provided at least one month in advance in order to provide sufficient notice and ensure availability. Members must attend all meetings. An appointed substitute/ stand-in representative may attend on behalf of the appointed person, however this must be communicated to the Secretariat before the date of the meeting, stating:
 - i) that the substitute representative has been provided with the appropriate technical and decision-making capacity.