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DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT

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NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 (ACT NO. 59 OF 2008)**INDUSTRY WASTE TYRE MANAGEMENT PLAN**

I, Barbara Dallas Creecy, Minister of Forestry, Fisheries and the Environment, hereby, in terms of sections 29(1) and 32(1)(a) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), publish the Industry Waste Tyre Management Plan, as set out in the Schedule hereto.



BARBARA DALLAS CREECY
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)**



**forestry, fisheries
& the environment**

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Preface

On 29 November 2019, the Minister of Forestry, Fisheries and the Environment (*“the Minister”*), 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 Industry Waste Tyre Management Plans 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 herewith. This IndWTMP, read with the applicable legislation referred to herein below, provides the requirements for the implementation of effective and efficient waste tyre management in South Africa. This IndWTMP outlines the guidelines and requirements, which must be adhered to and complied with by the relevant role players as defined in paragraph 5 below. 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, read with the provisions of NEM: WA and the Waste Tyre Regulations, 2017, in conjunction with the approved implementation plans and budgets submitted by multiple Implementers, 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 Waste Tyre Regulations), the National Norms and Standards for the Storage of Waste, 2013 and the National Pricing Strategy for Waste Management, 2016, provide the main legislative framework for the IndWTMP. On approval 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 to the Department of Forestry, Fisheries and the Environment (the Department), 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 in an efficient and effective manner while supporting enterprise development and job creation in a circular economy;
3. Expand the waste tyre processing capacity of South Africa; 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 that exceeds current processing capacity;
2. Over-full Depots which leads to backlogs at Tyre dealers;
3. Over-full Depots which pose a high fire risk; and
4. Institutional limitations which are not supportive of investment in waste tyre processing infrastructure.

In addition, the IndWTMP 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 paragraph 2.1 below.
b) Measures to prevent pollution or ecological degradation.	Refer to paragraph 3.4 below.
c) Targets for waste minimisation through waste reduction, reuse, recycling and recovery.	Refer to paragraph 3.3.2 (Table 6) below.
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 paragraph 4.8.5 below.
e) Measures or actions to be taken to manage waste.	Refer to paragraph 3.5 below.
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 paragraph 4.8.5 below.
h) Mechanisms for informing the public of the impact of the waste generating products or packaging on the environment.	Refer to paragraph 3.4 (b) below.
i) The extent of any financial contribution to be made to support consumer-based waste reduction programmes.	Refer to paragraph 4.7.1 (Table 8) below.
j) The period that is required for implementation of the IndWTMP.	Refer to paragraph 6 below.
k) Methods for monitoring and reporting.	Refer to paragraph 4.8 below.
l) Any other matter that may be necessary to give effect to the objects of NEM: WA.	The approval notice of the IndWTMP will specify the intervals at which the IndWTMP must be reviewed in terms of section 34 of NEM: WA.

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

- a) Incentivising a significant increase in 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 SMMEs in the waste tyre processing industry especially those SMMEs owned by historically disadvantaged persons.

The following committees will be established to support the good governance of the implementation of the IndWTMP:

- a) An Industry Advisory Committee (IAC) to provide technical advice to the Implementers on an ongoing basis; and
- b) An Incentive Evaluation Committee (IEC) to ensure impartial evaluation and awarding of incentives and such other functions as contemplated in paragraph 5.5 below.

Legacy stockpiles of waste tyres (that were in existence before 30 November 2012) are managed in accordance with waste tyre stockpile abatement plans as defined in regulation 1 of the Waste Tyre Regulations and 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 NEM: WA, or in the Waste Tyre Regulations, bears that meaning, unless the context otherwise indicates.

Accumulated waste tyre backlogs	means the backlog of waste tyres that may have accumulated at certain Collection points, Depots, and Micro-depots, but excludes Legacy Stockpiles as defined in regulation 1 of the Waste Tyre Regulations.
Collection points	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Depot	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Depot Operator	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Incentive Evaluation Committee	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Industry Advisory Committee	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Industry Waste Tyre Management Plan	means this Waste Tyre Management Plan approved by the Minister in terms of section 29 of NEM: WA, and "IndWTMP" has a corresponding meaning.
Implementer	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Micro-collector	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Micro-depot	has the meaning assigned to it in regulation 1 of the Waste Tyre Regulations.
Micro-depot Operator	has the meaning assigned to it in regulation 1 of the Waste Tyre Regulations.
Micro-Project Manager	has the meaning assigned to it in regulation 1 of the Waste Tyre Regulations.
Mutilate	means mutilation of a tyre in terms of regulations 6(2) of the Waste Tyre Regulations, and "mutilation" and "mutilated" have a corresponding meaning.
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.
Processor	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Register	means the submission of the required information by a person or entity to the WMB in order for the particulars of that person or entity to be recorded in the database of the WMB for the purpose of the administration of the Waste Tyre Regulations; and the submission of the required information by a person or entity to the Implementer in order for the particulars of that person or entity to be recorded in the database of the Implementer for the purpose of the

	administration of an approved IndWTMP; and "registered" will have a corresponding meaning.
Transporter	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Tyre levy	means the environmental levy on tyres paid into the National Revenue Fund by Tyre producers 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 regulation 1 of the Waste Tyre Regulations.
Waste tyre	has the meaning as assigned to it in regulation 1 of the Waste Tyre Regulations.
Waste Tyre Regulations	means the Regulations published in Government Notice No. 1064 in Government Gazette 41157 of 29 September 2017 as amended from time to time.

Acronyms

BBC	Black Business Council
BUSA	Business Unity South Africa
CO	Carbon monoxide
CSIR	Council for Scientific and Industrial Research
CWM	Chemicals and Waste Management Branch
DSBD	Department of Small Business Development
DTIC	Department of Trade, Industry, and Competition
IAC	Industry Advisory Committee
IEC	Incentive Evaluation Committee
IndWTMP	Industry Waste Tyre Management Plan
OTR	Off the Road tyre, referring to the tyre of Giant truck vehicles used in mine areas
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM: WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NO _x	Oxides of nitrogen
PAHs	Polynuclear aromatic hydrocarbons
RMI	Retail Motor Industry
SALGA	South African Local Government Association
SARS	South African Revenue Service
SATMC	South African Tyre Manufacturers Conference
SAWIS	South African Waste Information System
SMME	Small, Medium, and Micro Enterprises
SO _x	Sulphur oxides
TDF	Tyre Derived Fuel
TEPA	Tyre, Equipment, Parts Association
TIASA	Tyre Importer Association of South Africa

VOCs	Volatile organic compounds
WMB	Waste Management Bureau

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1 Introduction

The National Development Plan 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 releases pollutants including particulates, carbon monoxide (CO), sulphur oxides (SO_x), 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 be addressed by the IndWTMP include:

- a) Annually, more waste tyres are being generated than are being managed and processed in South Africa;
- b) Depots are over-full;
- c) Transporters are unable to offload at over-full Depots resulting in collection backlogs which force Tyre Dealers to store waste tyres, in contravention of regulation 10 of the Waste Tyre Regulations;
- d) Potential investors in the waste tyre industry require surety of supply to invest in processing infrastructure; and
- e) The current waste tyre processing industry is under-developed.

2 General overview on the state of waste tyre management in South Africa

A general overview, informed by limited data, is provided herein of the state of waste tyre management in South Africa, in the context of which this IndWTMP was developed. The aim of this overview is to identify the current challenges in waste tyre management, to briefly refer to the applicable legislative framework for waste tyre management, to explain the current waste tyre management model, to identify the current role players in the waste tyre industry, and to draw attention to technology options for waste tyre processing. Because of the limited available data, the information used in this general overview does not purport to be accurate, but it remains useful to inform the context within which this IndWTMP was developed. The limited data available can mostly be attributed to the confidential and commercial value of such data.

2.1 How many waste tyres in South Africa?

The significant variance across role players 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 role players 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 which stipulates that 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 Tyres (LTR)) contribute an estimated 89% (average 10.2 kg/tyre) and commercial vehicle (truck) tyres (average 66.9 kg/tyre) 11% to the total number of new 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 waste 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 paragraph 3.3.2 below.

2.2 Accumulated waste tyre backlogs

20 out of the 29 registered Depots in February 2023, were 90% or more full (see **Table 1**). The backlog of waste tyres since 30 November 2012 in South Africa are estimated to be as high as 900 000 tonnes, of which only 402 257 tonnes are accounted for at Depots. The waste tyre units (listed as loose tyres, bales, and pap scrap) per Depot by type as estimated (there was no physical counting) in February 2023, is provided in **Table 2**.

Table 1: Storage occupation per Depot, February 2023

Provinces	Depots	Depot size in m ²	Storage occupation %
Gauteng	Kle 1 Ivory	30 000	70%
	Klerksoord	18 565	90%
	Midrand	9 500	85%
	Tembisa	4 000	100%
	Randfontein	26 320	100%
	Westonaria	26 961	100%
	Krugersdorp	7 454	100%
	Springs	28 000	100%
TOTAL GP		150 800	
Northern Cape	Upington	4 170	95%
TOTAL NC		4 170	
North-West	Lichtenburg	30 000	100%
	Haartebees	5 211	100%
	Rustenburg	8 500	50%
TOTAL NW		43 711	
KZN	Cato Ridge	15 000	90%
	Hammersdale	4 678	10%
	Ladysmith	4 500	80%
	Richards Bay	1 000	75%
TOTAL KZN		25 178	
Western Cape	Atlantis	22 920	90%
	Mossel Bay	30 000	67%
TOTAL WC		52 920	
Limpopo	Polokwane	30 000 actual	94%
	Thohoyandou	50 000	98%
TOTAL LP		80 000	
Mpumalanga	Ferrobank	7 467	100%
	Nelspruit	11 265	100%
	Belfast	50 000	100%
TOTAL LP		68 732	
Free State	Bloemfontein	42 000	93%
	Kroonstad	50 000	60%
TOTAL FS		92 000	
Eastern Cape	East London	4 612	96%
	PE Markman	7 495	50%
	Ngcobo	42 827	99%
	Uitenhage	18 800	100%
TOTAL EC		73 734	

TOTAL KZN	50 981	11 421	5 653	10 367	0	1 534	2 050	3 105	0	2 362	87 473	158	66	0	0	0	224	11
Western Cape	31 734	36 562	321	13 743	0	999	10	2 069	1	36	85 475	0	29	7	0	0	36	5
Mossel Bay	22 221	29 497	4855	5 925	0	1 259	3 222	997	0	215	68 191	0	0	0	0	0	0	1
TOTAL WC	53 955	66 059	5 176	19 668	0	2 258	3 232	3 066	1	251	153 666	0	29	7	0	0	36	6
Limpopo	3 001	6620	2 137	14 646	0	8420	1387	9614	1143	7968	54 936	580	2365	0	0	738	3683	3
Thohoyandou	35 659	21674	32 057	38 850	0	17902	721	16230	78	8895	172 066	4698	2851	0	0	0	7549	4
TOTAL LP	38 660	28 294	34 194	58 496	0	26 322	2 108	25 844	1 221	16 863	227 002	5 278	5 216	0	0	738	11 232	7
Ferrobank	5 802	5 612	11 966	9 226	749	8 404	27	786	0	615	43 187	213	361	0	0	0	574	0
Mpumalanga	35 259	30 690	16 542	72 646	0	20 619	5 674	3 918	170	6 893	192 411	27	225	0	0	0	252	0
Belfast	66 249	70 183	52 058	163 428	0	31 946	720	9 535	1 228	6 082	401 429	1 136	1 644	0	120	2	2 902	4
TOTAL MP	107 310	106 485	80 566	245 300	749	60 969	6 421	14 239	1 398	13 590	637 027	1 376	2 230	0	120	2	3 728	4
Bloemfontein	77 892	79 724	170	120 093	0	33 628	2 496	15 661	81	27	500 331	2 208	0	0	0	0	2 208	2
Kroonstad	56 895	23 507	10 327	35 900	0	4 026	507	4 577	0	1 812	137 551	140	344	0	0	0	484	1
TOTAL FS	134 787	103 231	181	155 993	0	37 654	3 003	20 238	81	1 839	637 882	2 348	344	0	0	0	2 692	3
Eastern Cape	1 998	61	8 296	10 655	0	1 681	1 569	3 772	83	111	28 226	128	45	0	0	0	173	0
PE Markman	2 512	23 545	1 423	120	0	15	15 324	456	50	356	43 801	15	0	0	0	0	15	4
Ngcobo	109 052	80 476	18 863	61 709	0	5 468	3 101	3 525	0	705	282 899	1 864	2 656	0	0	0	4 520	1
Uitenhage	92 650	225 870	10 570	15 943	0	1 872	4 936	5 709	0	338	357 888	6	16	0	0	0	22	0
TOTAL EC	206 212	329 952	39 152	88 427	0	9 036	24 930	13 462	133	1 510	712 814	2 013	2 717	0	0	0	4 730	5
Countrywide grand total units per category	1 377	2 600	425	1 121 323	749	196 751	107 979	156 978	12 953	52 940	6 053 110	23 650	12 832	7	120	740	37 345	26
Kg	865	489	083	72 885	48	21 642	27 528	13 343 130	647 650	800	188 864 901	000	0	7 000	120	740 000	213 786 903	0
Tonnes	11 711	35 106	5 739	72 886	49	21 643	27 529	13 343	648	27 529	188 870	23 650	0	7	120	740	213 317	0

Important note:

The above figures are estimates, there was no physical counting. Heavy commercial (truck tyres) stock stored at Depots include new and old radials and nylons of different sizes which may also be scrapped, but as at 2023, Processors only took old 315 radial tyres full rolling not scrapped.

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 limited Processors established in North-West and Kwa-Zulu Natal, and one Processor each in the Western Cape, Eastern Cape, and Northern Cape.

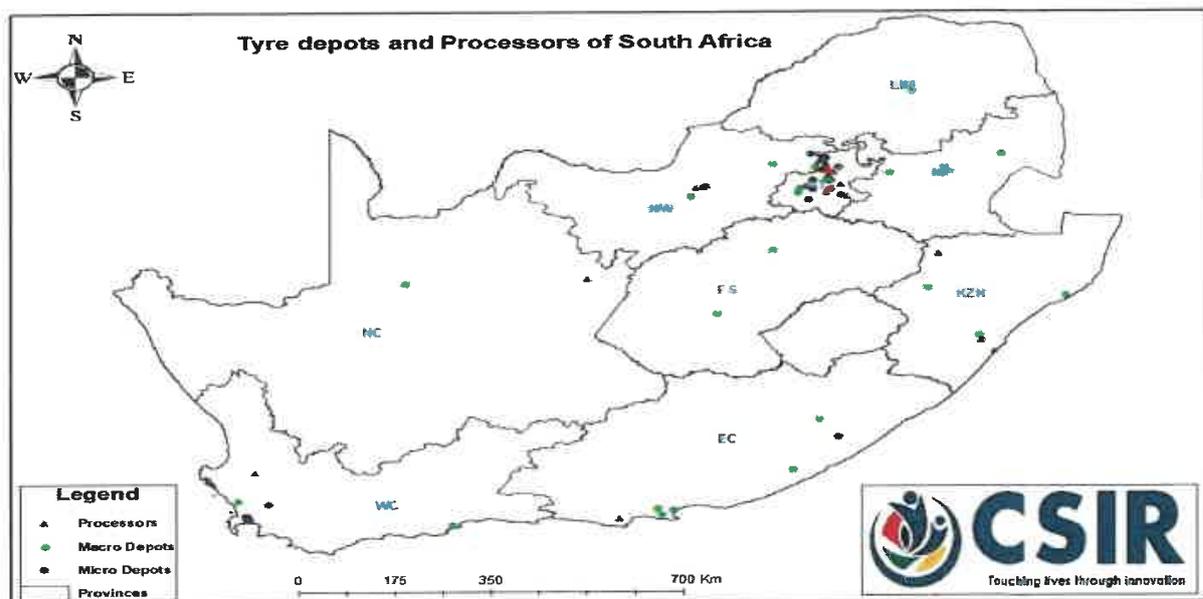


Figure 1: Waste tyre management infrastructure network in South Africa, 2020

The geographic distribution of the waste tyres is illustrated in Figure 2. The prohibitions as set out in regulation 4 of the Waste Tyre Regulations on the disposal of waste tyres at a waste disposal facility, add to the potential negative environmental impacts of waste tyres in areas without sufficient coverage of the illustrated waste tyre management infrastructure network.

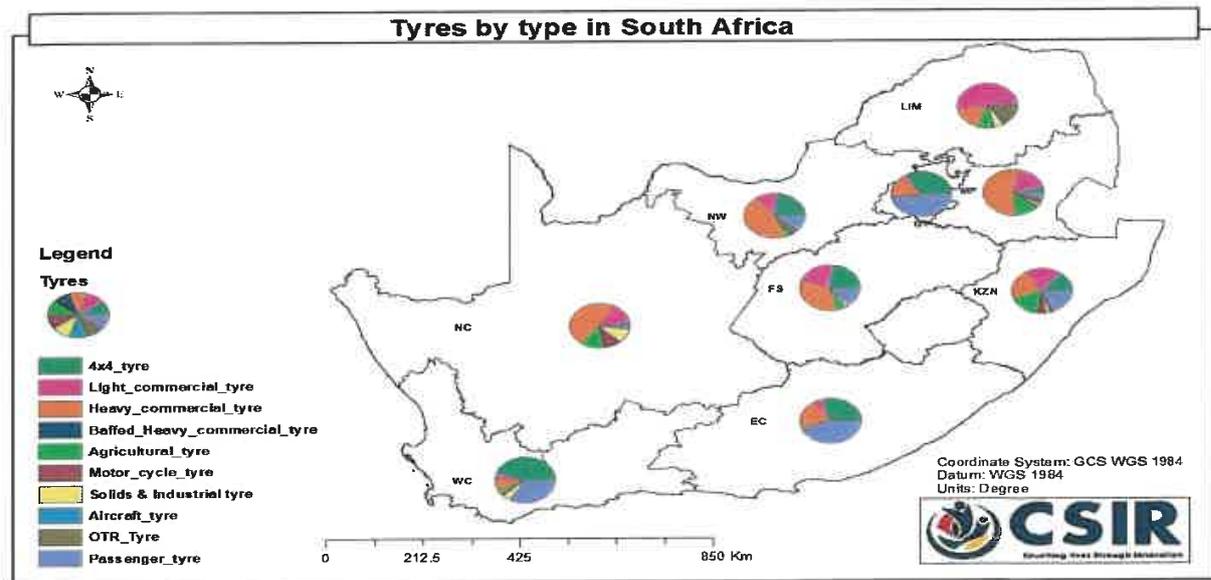


Figure 2: Geographic distribution of waste tyres by type

2.4 Legal framework for managing waste tyres

Waste tyres are regulated under NEMA, NEM: WA, and the Waste Tyre Regulations. Failure to comply with the provisions of the Waste Tyre Regulations and to manage waste tyres as prescribed in the IndWTMP, constitutes 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.

Regulation 4 of the Waste Tyre Regulations, provides that:

“(1) No person may -

- a) manage waste tyres in a manner which does not comply with 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 plan, 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; or
- f) collect or remove from a collection point any waste tyres, unless that person is either a transporter registered with the Bureau or a person otherwise authorised by the Bureau and/or an Implementer, as the case may be, to do so.

(2) A transporter may not sell waste tyres to third parties, and may only collect mutilated tyres, unless otherwise directed by the Bureau.”

Regulation 4A of the Waste Tyre Regulations, provides that:

"Duty to mutilate. - A person in control of a collection point and a micro-depot operator must mutilate all waste tyres with a load index of 121 or less in his or her possession or control, or must cause such waste tyres to be mutilated, which includes, but is not limited to -

- (a) the cutting of the bead of a waste tyre in two places;*
- (b) punching a hole with a minimum diameter of 50mm in the sidewall thereof; or*
- (c) making a cut of at least 100mm in the sidewall thereof."*

Section 2(4)(p) 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, and it 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."

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.

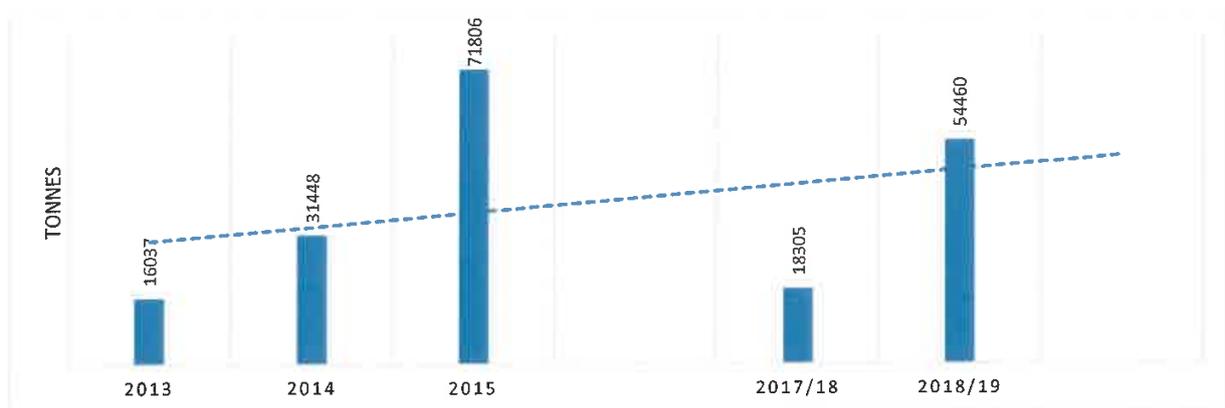


Figure 3: Trend in waste tyre processing since 2013 in South Africa

The tonnages of waste tyres processed during 2018/2019 through each technology option 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 reflected in Figure 3 above, the results demonstrated remain below the annual estimated inflow of waste tyres.

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
Depot	163	192	355	50	345	395
Processors	69	156	225	33	176	209
Total	334	743	1077	148	963	1111

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	18	0
Depots	24	0
Total	188	19

2.5.3 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 the Tyre Producers to SARS. The levy is in support of recycling and is based on a logistics-cost recovery model and has remained unchanged since its inception in 2012. SARS has been collecting the levy directly since 1 February 2017. The relevant tyre levy is not ring-fenced for waste tyre management and the WMB applies for a budgetary allocation from National Treasury to pay for the implementation of the IndWTMP.

2.5.4 Financing of Micro-collectors, 2020

The remuneration model for Micro-collectors is R6.00 per waste tyre, with a monthly limit of 1 000 waste tyres per micro-collector, and an annual quota of 12 000 waste tyres.

2.5.5 Financing of Micro-depot Operators, 2020

Micro-depot Operators are paid R6 000 per month, adjusted annually with inflation, plus the following additional incentives:

- a) R50 per Micro-depot, adjusted annually with inflation, if at least five Micro-collectors each deliver ten waste tyres with a minimum of two thousand waste tyres being delivered to the Micro-depot during the month;
- b) A quantity of incentive is paid per month as follows:
 - i. R1000, adjusted annually with inflation, for 3 000 to 4 000 waste tyres delivered to the Micro-depot.
 - ii. R1500, adjusted annually with inflation, for 4 001 to 5 000 waste tyres delivered to the Micro-depot.
 - iii. R2000, adjusted annually with inflation, if more than 5 000 waste tyres are delivered to the Micro-depot.

2.5.6 Financing of 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 the relevant depot operations. The approved budget of each Depot Operator is included in the contract 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 Depot Operators have fallen short on

their monthly expense obligations, with many not being tax compliant due to not paying their respective taxes.

A further complication is that most of the limited available pre-processing equipment are currently owned by the WMB or a third party. The equipment is rotated between Depots which disrupts and delays the supply of pre-processed waste tyres in the form of, for example, bales or crumbs.

All land lease agreements for Depots are currently between the WMB and the respective landowners.

2.5.7 Financing of Transporters, 2020

The current waste tyre management model distinguishes between primary and secondary Transporters. Primary Transporters receive payment based on the quantity of waste tyres transported multiplied by a rate per waste tyre, whilst secondary Transporters are compensated based on waste tyre tonnages and the travel distance between Depots and Processors multiplied by a rate per tonnage per kilometre.

2.5.8 Financing of Processors, 2020

Waste tyres are delivered to Processors fully subsidised and at no cost to the Processor. In addition, Processors are paid a processing fee as determined by the WMB for every tonne of waste tyres processed.

2.6 Overview of waste tyre processing and off-take markets

Advancements in the technology behind various recovery methods increasingly enables more effective conversion of waste tyres to a broader range of energy and material applications. Waste tyres are a valuable resource. With the statutory prohibition of disposal of waste tyres to waste disposal facilities, South Africa has an opportunity to utilise this resource by establishing a waste tyre processing industry in the country. Reliable information on the current status of the Processing industry, upcoming initiatives and projects regarding waste tyre processing in South Africa, is not available. This is mainly due to the confidential nature and commercial value of any market information (including business plans). 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.

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

- a) Energy recovery (TDF);
- b) Pyrolysis;
- c) Material recycling (crumbing); and
- d) Waste Tyre reuse.

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

For purposes of providing some basic background information on the available technologies for the processing of waste tyres, each of these waste tyre processing technologies are briefly set out in paragraphs

2.6.1 to 2.6.4 below. The feasibility of each technology in the South African context has been assessed by means of a detailed pre-feasibility study conducted by the WMB prior to the development of incentives as contemplated in this IndWTMP.

2.6.1 Energy recovery (TDF)

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 end-users 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

2.6.2 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 waste 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 waste 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.

2.6.3 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.

2.6.4 Waste Tyre Reuse

Reuse involves the complete or partial use of waste 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, waste 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. Tyre reuse remains a comparatively small component of waste tyre management.

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 through the promotion, facilitation and implementation of the reuse, recycling and recovery of waste tyres.

3.3 Strategic Objectives

The objectives of the IndWTMP are to:

1. Establish a viable waste tyre processing industry in South Africa through the promotion, facilitation and implementation of the reuse, recycling and recovery of waste tyres, to reduce the negative environmental impacts of waste tyres in an efficient and effective manner while supporting enterprise development and job creation in a circular economy.
2. Expand the waste tyre processing capacity of South Africa.
3. Develop monitoring systems to ensure transparency and to measure progress.

Measurable targets for performance indicators on Waste tyre processing (refer to **Table 6**) must be implemented to measure progress against the objectives of the IndWTMP. Performance indicators on SMME development, job creation, incentives, and skills development/training will be implemented.

3.3.1 Objective 1: Establishment of a viable waste tyre processing industry

The establishment of a viable waste tyre processing industry focusing on the fundamentals of industry development, must include:

- a) The identification and creation of a demand for the commodity or product through user awareness campaigns and advertising;
- b) Securing the supply of the commodity or product by increasing the surety of supply of waste tyres to Processors;
- c) The provision of a stable institutional and regulatory environment to promote private investment within the waste tyre sector. The WMB must establish the IEC with representation by the DTIC to evaluate the expressions of interest received from Processors; and
- d) The development and provision of incentives to overcome market entry barriers. This will be done via objective 2 of the IndWTMP3.3.2.

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 reuse, recycling and processing rates, continuous auditing of environmental performance, and legal compliance at all facilities.

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

There is an urgent need to increase 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. Additional funding may be provided by the WMB, for some functions of role players in the waste tyre value chain including, but not limited to:

- a) Subsidised establishment of pre-processing capacity for Waste tyres at Depots;
- b) Subsidised pre-processing equipment for waste tyres;
- c) Subsidised investment in waste tyre abatement technologies and equipment;
- d) A processing rate and incentives (including but not limited to capital investment, transport and processing subsidies) will be determined in the individual contracts between the WMB and Processors;
- e) Surety of supply contracts with Processors to enable investment in the Waste tyre sector;

- f) Capacity building, mentoring, and training programmes aimed at new business development for the reuse, recycling and processing of waste tyres, targeting SMMEs; and
- g) Investment in research, development, and innovation for the reuse, recycling and processing of waste tyres.

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

- a) Processing/recycling of 25% by 2024, 30% by 2025, and 80% by 2035 of the annual inflow of waste tyres, and
- b) 20% reduction in the Accumulated waste tyre backlogs at Depots in 2023, 40% reduction in 2028 and 90% reduction in 2038.

Table 6: Projected national targets for increased processing and reduction of Accumulated waste tyre backlogs 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 accumulate	3.3.2.1.1 Indicative tonnes of waste tyres that will accumulate if the Accumulated waste tyre backlogs are not reduced	Indicative Tonnes of the Accumulated waste tyre backlogs to be processed to reach targets ^c	Indicative total tonnes of waste tyres to be processed to reach targets	3.3.2.1.2 Remaining tonnes of waste tyres accumulated if everything goes according to plan
2023	229613 ^a	20%	45923	183691	1083691	77450	123372	1006241
2024	233057	25%	58264	174793	1258484	89942	148206	1091093
2025	236553	30%	70966	165587	1424071	101776	172742	1154904
2026	240102	35%	84036	156066	1580137	112930	196965	1198040
2027	243703	40%	97481	146222	1726359	123380	220861	1220882
2028	247359	45%	111311	136047	1862406	133103	244414	1223827
2029	251069	50%	125535	125535	1987941	142075	267609	1207286
2030	254835	55%	140159	114676	2102617	150270	290430	1171692
2031	258658	60%	155195	103463	2206080	157665	312859	1117490
2032	262538	65%	170649	91888	2297968	164232	334881	1045146
2033	266476	70%	186533	79943	2377911	169945	356478	955144
2034	270473	75%	202855	67618	2445529	174778	377632	847984
2035	274530	80%	219624	54906	2500435	178702	398326	724188
2036	278648	85%	236851	41797	2542232	181689	418540	584296
2037	282827	90%	254545	28283	2570515	183710	438255	428869
2038	287070	95%	272716	14353	2584868	184736	457453	258486

Notes:

^a As per paragraph 2.1 above

^b Assuming a conservative growth rate of 1.5% per year.

^c The target is based on 900 000 tonnes of Accumulated waste tyre backlogs (refer to paragraph 2.2 above) and presents the basis for calculating the overall target for the reduction thereof.

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

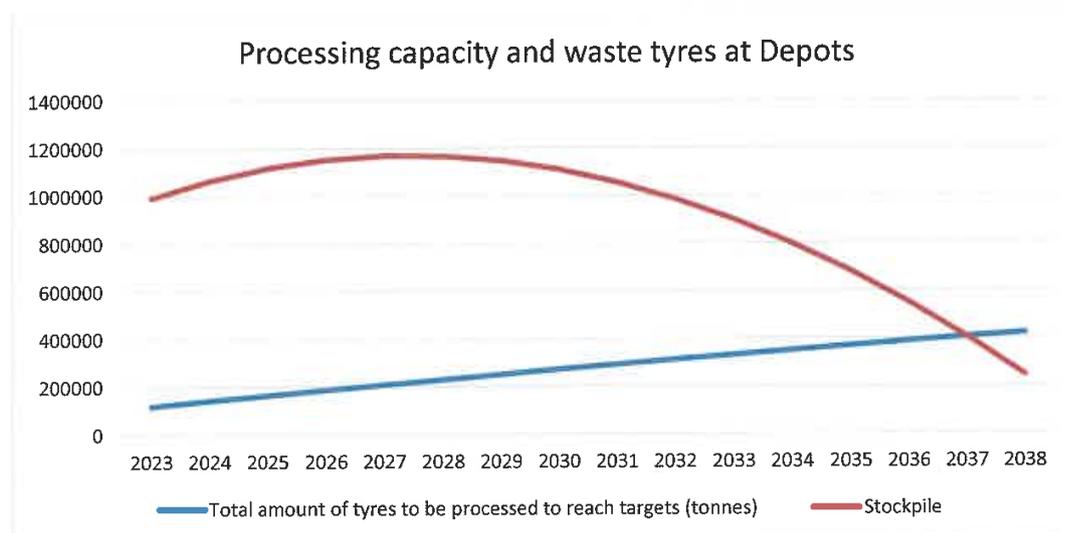


Figure 4: Increase in processing capacity and decrease in waste tyres stored at Depots over time

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

- a) Value generated per tonne of waste tyres processed;
- b) Percentage reduction in the Accumulated waste tyre backlogs at Depots;
- c) Percentage of annual inflow of waste tyres processed;
- d) Value of the waste tyre processing industry as a percentage of the Gross Domestic Product; and
- e) Number of permanent employment positions created per thousand tonnes of waste tyres processed.

The targets for the total full time permanent jobs in the waste tyre sector to be created by the Implementers jointly, is 1500 jobs by 2025 and an additional 2000 jobs by 2035.

3.3.3 Objective 3: Develop systems to monitor progress and performance

Apart from standard financial auditing, the following indicators must be monitored by each Implementer and reported to the WMB on a monthly basis:

- a) Tonnage of waste tyres leaving the Depots;
- b) Tonnage of waste tyres processed by Processors;
- c) Environmental performance in terms of pollution prevention measures; and
- d) Employment targets with regard to the total full time permanent jobs created in the waste tyre sector.

3.4 Measures to prevent pollution and ecological degradation

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

- a) The improvement of the recovery of waste tyres to capture and retain all waste tyres in the formal waste tyre management system;
- b) Public awareness campaigns on the impact of waste tyres on the environment through:
 - i. Webinars;
 - ii. Information sessions; and
 - iii. Advertisements on official and social media.
- c) Awareness campaigns on negative environmental impacts associated with waste tyre management;
- d) Evaluation of the environmental performance of waste tyre processing and waste tyre abatement technologies;
- e) The subsidies and additional funding referred to in paragraph 3.3.2 above, to support the upgrading of waste tyre abatement equipment of Processors; and
- f) Monitoring of non-compliance with the provisions of the IndWTMP by the different role players.

3.5 Measures to manage waste tyres effectively

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

- a) Classification and mutilation of waste tyres in terms of the Waste Tyre Regulations;
- b) Record keeping and reporting of the transport of waste tyres through the entire value chain; and
- c) Implementation of a coordination system for waste tyre logistics.

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

3.6 Priority areas for interventions

Five priority areas for interventions were identified as follows:

3.6.1 Reducing the environmental impact of waste tyre management

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

- a) Strengthening micro-collection 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) Establishing an efficient collection system for waste tyres through effective logistics management;
- d) Incentivising investment in pollution abatement technologies and equipment for waste tyre management; and
- e) Funding research, development, and innovation towards improved waste tyre collection, recycling, reuse and recovery.

3.6.2 Incentives for establishing a Waste tyre processing industry

The WMB will develop incentives for the Waste tyre industry to support prospective industry participants in overcoming market entry barriers whilst supporting the development of the Waste tyre industry.

Incentive schemes for the Waste tyre industry may include:

- a) Various subsidies regarding pre-processing, and processing of Waste tyres;
- b) Focused incentives in terms of the Broad Based Black Economic Empowerment Act, 2003 (Act No. 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 research on innovation in the Waste tyre sector.

Other incentive schemes targeting manufacturing may be offered by the DTIC for the Waste tyre processing industry. These incentive schemes are managed, controlled and disbursed by the DTIC and not by the WMB.

3.6.3 Improved data and information

Each Implementer will receive data from the relevant role players identified in paragraph 5 below, on waste tyres recovered, recycled, or treated. A uniform and appropriate mechanism and indicators must be established by the Implementers, in co-operation with the WMB, to monitor implementation of the IndWTMP and to support the reporting of accurate data into the waste tyre Integrated Management System.

3.6.4 The establishment of Micro-Depots and Depots

The vision of the IndWTMP is a South Africa that is free of negative environmental impacts of Waste tyres. Over stacking and long-term storing of Waste tyres at Depots and Micro-Depots should be avoided. The stacking, storing and sorting of Waste tyres must comply with the legislative requirements thereof, and must be accurately accounted for. The pre-processing of Waste tyres at the Depots, where feasible, including the cutting, baling and shredding of waste tyres, should be expedited and prioritised to avoid over stacking and long-term storing of Waste tyres.

The expansion and development of the micro-collection industry also requires the establishment of additional Micro-Depots, especially in areas where there is insufficient Waste tyre network coverage. Each Implementer must conduct an audit of existing Micro-Depots in its allocated region to inform the decision of the relevant implementer on which Micro-Depots must be retained and to identify where new Micro-Depots are required to be established.

To fast-track the efficient management of Waste tyres, the establishment of Depots with pre-processing equipment is essential. Each Implementer, in consultation with the WMB, must conduct an audit of existing Depots in its allocated region to inform the decision of the relevant Implementer on which Depots must be retained and to identify where new Depots must be established.

Issues that must be considered when waste tyre Micro-Depots and Depots are identified include:

- a) The sources of waste tyre generation;
- b) Existing locations of Micro-Depots and Depots;

- c) Existing lease agreements, existing Depot Operator contracts, and/or existing Micro-Depot Operator contracts (if any) concluded between the WMB or its Micro-Project Manager and such service providers;
- d) The current general waste infrastructure network with a view to utilise services of integrated waste facilities;
- e) Pre-processing efficiency of the Depots;
- f) Distance between Collection points, Micro-Depots and Depots, and Processors;
- g) Appropriate zoning of land for the storage and pre-processing of waste tyres;
- h) Associated road infrastructure for access to the Micro-Depots and Depots; and
- i) Licencing requirements in terms of the NEM: WA and other relevant legislation.

The sites for the required Micro-Depots and Depots, sourced from the private sector, must be secured by the WMB through an open and fair procurement process. The location and suitability of the identified Micro-Depots and Depots needs to be established or confirmed (it could be the same location as current Depots or Micro-Depots), on an individual basis. The WMB will enter into a lease agreement in respect of each site for the approved Micro-Depots and Depots, in order to provide stability and assurance of the transport of waste tyre removal from Collection points and consequently to the supply of waste tyres to Processors. Each Implementer must oversee the management of the Depots within its allocated region, and each Micro-Project Manager must oversee the management of the Micro Depots within its allocated region.

3.6.5 Capacity building

Capacity building includes 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 paragraph 4 presents an overarching approach serving this objective, within the current legal framework provided by NEM: WA, through the Waste Tyre Regulations as follows:

- a) The implementation of the IndWTMP will be funded through a budgetary allocation to the Department and disbursed by the WMB to each Implementer as stipulated in section 34D (c) of NEM: WA;
- b) Legacy stockpiles (pre-30 November 2012) are excluded from the IndWTMP;
- c) Industry will be involved in the implementation of the IndWTMP and provide technical advice through an IAC;

- d) Waste tyres (in the required format as agreed with the WMB in the relevant contract between the WMB and the relevant Processor) will be provided free of charge to Processors;
- e) Each Implementer will be appointed by the WMB on contract following a public tender process in terms of 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) The contracts between each Implementer and their respective service providers will be fixed term contracts with annual performance criteria clearly outlined.

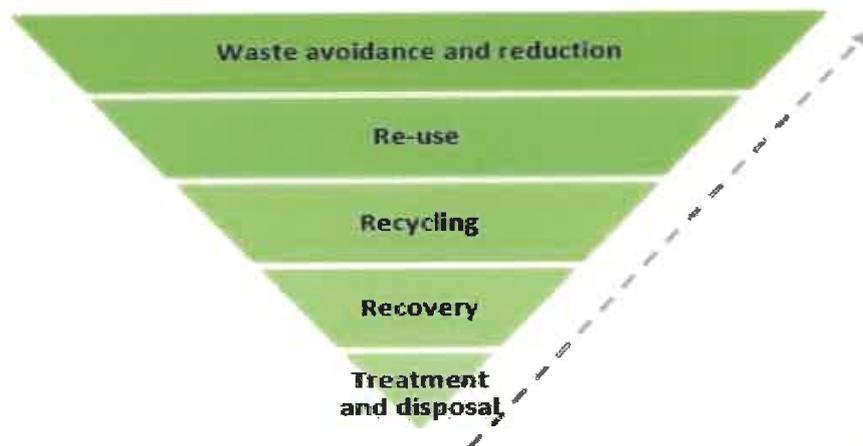
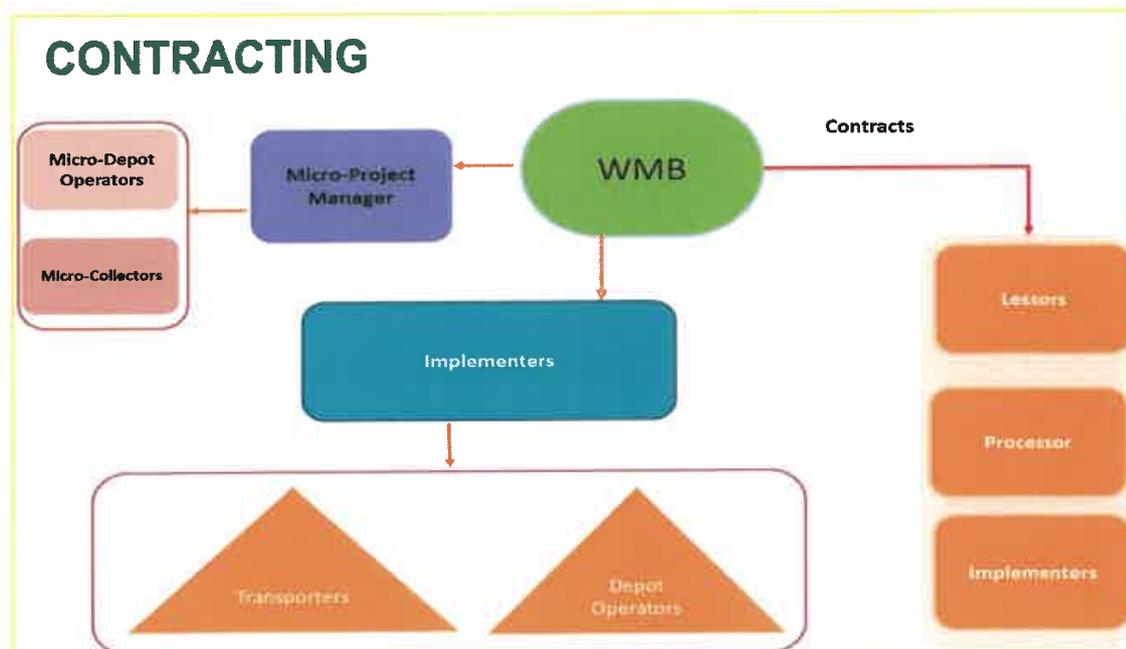


Figure 5: The Waste Management Hierarchy

The waste tyre management model is illustrated in Figure 6.



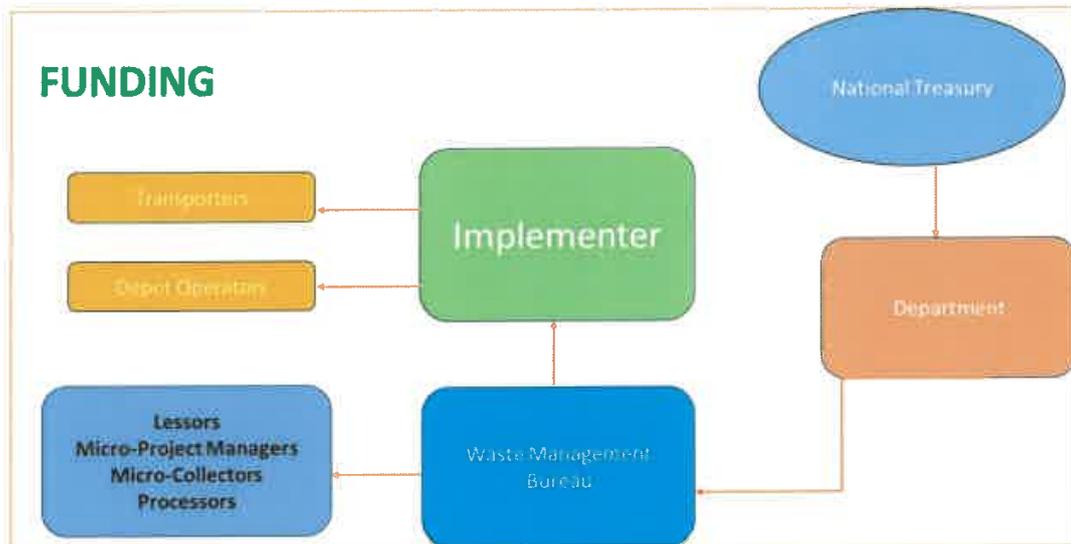


Figure 6: Schematic illustration of the waste tyre management model with contracts and flow of funding indicated.

4.2 The need for an Industry Advisory Committee

An IAC must be established by the Minister within 60 days after the approval of the IndWTMP to support the implementation of the IndWTMP. The role of the IAC is to advise each Implementer to ensure the effective management of waste tyres in line with the objectives of the IndWTMP and the achievement of the targets.

4.3 The need for multiple Implementers

The need for a dedicated Implementer's 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 to the successful implementation of the IndWTMP. Each Implementer will be appointed by the WMB for a specific geographical region (**Figure 7**) for a specific time period. The budgetary allocation for each Implementer will be stipulated in their respective contracts concluded with the WMB.

Each Implementer may contract with as many Depot Operators within their jurisdiction as may be necessary to facilitate the security of supply to Processors, in line with the Processors' contract with the WMB.

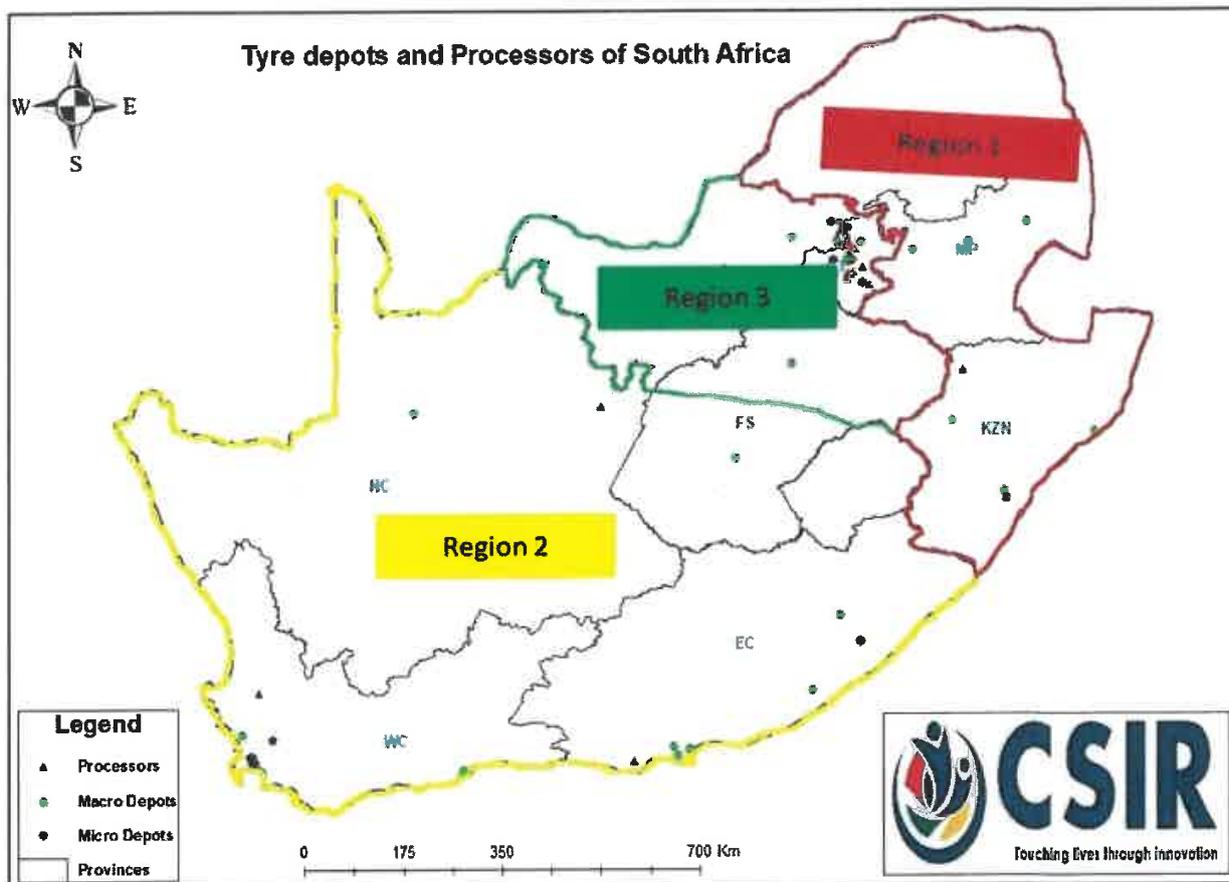


Figure 7: Outline of Implementer regions by colour (Region 1 red, Region 2 yellow, Region 3 green)

The regional target allocation is determined by the geographical split in waste tyres by weight per region as at February 2023 (Table 7). The weight of waste tyres per region was calculated using the data in Table 2 by multiplying the number of units per province with the weight in kilograms and dividing the answer by 1000 to convert the weight to tonnages. The waste tyres per region was calculated by adding the total tonnes of loose and baled waste tyres per province in each region. This number was then divided by the total tonnage of loose and baled waste tyres in Depots in South Africa (226 220 tonnes) to determine the percentage split in the allocation of the National Targets as outlined in Table 6, per region.

Table 7: Geographic distribution of waste tyres in Depots (weight (Tonnes) per region) in South Africa as at February 2023

	TOTAL	Passenger	4x4	Light Commercial	Heavy Commercial	Buffed Heavy Commercial	Agricultural	Motor Cycles	Solids and Industrial	Aircraft	OTR	Total	Passenger Bales	4x4 bales	Motor Cycles Bales	Truck Bales	Light Commercial Bales	Total	
Region 1	EC	20194	1753	4454	5748	0	994	50	1144	7	785	15464	2013	2717	0	0	0	4730	
	NC	855	11	6	111	0	40	6	490	0	161	825	8	22	0	0	0	30	
	WC	3381	459	892	1278	0	248	6	261	0	131	3345	0	29	7	0	0	36	
	FS-Southern	13554,2	630,3	766,7	1344,2	0	2278,1	3,3	946	2,2	525,8	6	1291,4	189,2	0	0	0	0	1480,6
	Total	37984,2	2853,3	6118,7	1943,2	0	3560,1	65,3	2841	9,2	1602,8	6	3312,4	2957,2	7	0	0	0	6276,6
% of Target		16,8%																	
Region 2	ZN	3227	433	154	76	674	0	169	4	264	0	1228	3003	158	66	0	0	0	224
	MP	38225	912	1438	1088	15945	49	6707	13	1210	70	7067	34497	1376	2230	0	120	2	3728
	LP	29808	329	382	462	3477	0	2895	4	2197	61	8769	18576	5278	5216	0	0	738	11232
	Total	71260	1674	1974	1626	20096	49	9771	21	3671	131	17064	56076	6812	7512	0	120	740	15184
	% of Target		31,5%																
Region 3	GP	86525	4431	25013	696	29404	0	5575	96	5328	461	3724	74726	11799	0	0	0	0	11799
	NW	19362	2240	1374	375	6110	0	873	31	730	45	4708	16484	670	2208	0	0	0	2878
	FS: Northern	11089,8	515,7	627,3	1099,8	4563	0	1863,9	2,7	774	1,8	430,2	9878,4	1056,6	154,8	0	0	0	1211,4
	Total	116976,8	7185,7	27014	2170,8	40077	0	8311,9	129,7	6832	507,8	8862,2	10108	13525,6	2362,8	0	0	0	15888,4
	% of Target		51,7%																
TOTAL RSA	226221	11713	35107	5740	72887	49	21643	216	13344	648	27529	18887	23650	12832	7	120	740	37349	

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 nett 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 the following:

1. Tyre Producers charge an environmental levy on tyres being sold to their clients (inclusive of 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 collected by SARS. The implementation of the IndWTMP will be funded through a budgetary allocation from National Treasury to the Department and disbursed by the WMB as stipulated in section 34D (c) of NEM: WA –
 - 2.1 to each of the WMB's service providers, inclusive of Lessors, Micro-Project Managers, Micro-collectors, Micro-depot Operators and Processors; and
 - 2.2 to each Implementer, in accordance with its approved implementation plan.
3. The approved funds to be disbursed by the WMB as set out above, will be dependent on the budget allocated by National Treasury to the Department for that purpose.
4. Waste tyres are identified, classified and mutilated in terms of the Waste Tyre Regulations.
5. Transporters collect waste tyres from Collection Points, Micro-Depots and Depots, and transport the waste tyres to other Depots or to Processors, as the case may be, or as otherwise instructed by the relevant Implementer.
6. Tyre dealers, mines, transport companies and farms who buy directly from Tyre Producers, must register as Collection Points with the WMB.
7. Only mutilated Waste tyres collected from Collection Points or Micro-depots, or Waste tyres that have been pre-processed, may be transported by Transporters.

4.5 Approach for dealing with the Accumulated waste tyre backlogs at Depots

The following approach for dealing with the Accumulated waste tyre backlogs at Depots aims to significantly decrease negative environmental impacts associated with the Accumulated waste tyre backlogs by 2040 (refer to **Table 6**). The WMB must undertake an audit of the Accumulated waste tyre backlogs to confirm the current locations, quantity and volumes thereof. This will generate baseline data for performance measurement and will ensure that there is proper hand-over between the WMB and each Implementer.

4.6 Governance of the Industry Waste Tyre Management Plan

Legislative structures and processes are designed to ensure accountability, transparency, rule of law, stability, equity and inclusiveness, empowerment, and broad-based participation. The governance structure for the implementation of the IndWTMP comprises of a combination of government and industry sector role players:

- 1) The Department will oversee and monitor the implementation 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, will develop incentives for role players in the waste tyre value chain. Incentives are aimed at the removal of market entry barriers to promote active participation in the waste tyre management industry.
- 4) The WMB must monitor the performance and progress of each Implementer, and of Waste tyre management in general, against the applicable predetermined targets set out in **Table 6**.
- 5) The WMB must oversee the implementation of the IndWTMP, through:
 - a) The appointment of the Implementers;
 - b) The development of incentives and the management of incentive schemes;
 - c) Disbursement of incentives and allocated funds from National Treasury through the WMB throughout the waste tyre value chain; and
 - d) Monitoring the implementation of this IndWTMP.
- 6) Each Implementer must report in accordance with paragraph 4.8.3 on the implementation of this IndWTMP.
- 7) Each Implementer must attend the meetings of the IAC as a member of the IAC.
- 8) The IndWTMP must be reviewed by the WMB at least every five years, or at such intervals as the Minister may deem necessary, and the WMB will advise the Minister on the withdrawal, amendment, or supplementation thereof.

4.7 Financial Arrangements

4.7.1 Tyre levy

The Tyre Levy is paid into the National Revenue Fund by Tyre Producers. The implementation of the IndWTMP will be funded through a budgetary allocation from National Treasury to the Department, to be disbursed by the WMB in accordance with paragraph 4.4.2 and 4.4.3 above.

The proposed budgetary allocation indicated as a percentage of the total is provided in **Table 8**.

Table 8: Proposed percentage of budgetary 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

The implementation plan and budget to be submitted by each Implementer to the WMB to apply for a budgetary allocation from the Department, must comply with all of the requirements set by National Treasury for an approved allocation in terms of the annual budget process.

4.7.2 *Micro-collectors*

Micro-collectors will be paid a fixed rate per Waste tyre, adjusted annually with inflation, with a monthly limit of 1 000 waste tyres per Micro-collector, and an annual quota of 12 000 Waste tyres.

Micro-collectors will be paid by the WMB in accordance with their respective contracts with the relevant Micro-Project Manager, and as verified by the approved monthly payment schedule to be submitted by the Micro-Project Manager to the WMB.

4.7.3 *Micro-depot Operators*

Micro-depot Operators will be paid a fixed rate per month, adjusted annually with inflation, plus the following additional incentives:

- a) R50 per Micro-depot, adjusted annually with inflation, if at least five Micro-collectors each deliver ten waste tyres with a minimum of two thousand waste tyres being delivered to the Micro-depot during the month;
- b) A quantity of incentive is paid per month as follows:
 - i. R1000, adjusted annually with inflation, for 3 000 to 4 000 waste tyres delivered to the Micro-depot.
 - ii. R1500, adjusted annually with inflation, for 4 001 to 5 000 waste tyres delivered to the Micro-depot.
 - iii. R2000, adjusted annually with inflation, if more than 5 000 waste tyres are delivered to the Micro-depot.

Micro-depot Operators will be paid by the WMB in accordance with their respective contracts with the relevant Micro-Project Manager, and as verified by the approved monthly payment schedule to be submitted by the Micro-Project Manager to the WMB.

4.7.4 *Micro-Project Managers*

Micro-Project Managers will be paid by the WMB in accordance with their respective contracts with the WMB, as verified by the approved monthly tax invoice and the approved monthly payment schedule to be submitted by such Micro-Project Manager to the WMB, together with the relevant supporting documents as may be required by the WMB.

4.7.5 *Depot Operators*

The structured approach to Depot management applied by the WMB is derived from the need to maintain fiscal discipline with a budgetary regime under National Treasury. The WMB and each Implementer therefore must maintain control over expenses.

Pre-processing of Waste tyres at Depots will be determined by each of the four mainstream Waste tyre processing technologies (energy recovery, pyrolysis, material recycling and product recycling) and facilitate increased transport efficiencies.

The exact form of pre-processing done at any particular Depot will be determined by the type of mainstream technology group that the relevant Processor and the WMB have agreed upon in the contract between the

WMB and the Processor. The requirements for pre-processing at Depots could differ across the four mainstream Processing technology groups.

Depot Operators will be paid by the Implementer in accordance with the rate and for the services rendered, as agreed to in each of their contracts with the relevant Implementer.

4.7.6 Transporters

Transporters will be paid based on a rate per kilometre per tonne of waste tyres delivered, as determined by the WMB. A Transporter's claim for payment must be supported by delivery notes issued by the relevant Depot Operator or Processor where such waste tyres were delivered.

Payment to a Transporter will be effected by the relevant Implementer, in accordance with the contract between the relevant Implementer and the Transporter, as verified by approved delivery notes issued by the relevant Depot Operator or Processor.

4.7.7 Processors

Processors will be paid by the WMB according to the tonnes of waste tyres processed. Processing rates and incentives will be determined in the contract between the WMB and the relevant Processor.

4.7.8 Implementers

Implementers must annually and in line with the Department's budgetary cycle, submit their respective implementation plans and budgets with a quarterly estimate on expenditure, to the WMB for the approval thereof. The minimum requirements and format of the implementation plan and budget must be prescribed by the Department in consultation with the Auditor-General and National Treasury.

- a) The approved budget as indication in the implementation plan will be allocated to each Implementer on an annual basis.
- b) Payment to each Implementer will be made by the WMB upon the approval and verification of the monthly submitted invoices and progress reports within the allocated annual budget.

4.8 Monitoring and reporting

Each Implementer must submit progress 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 relevant Implementer or by any of the role players in the management of waste tyres, or received from any other role player or service provider.

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, reused, recycled, recovered and disposed of. The following registered role players must report to the WMB Information Management System in the format to be prescribed by the WMB:

- a) Tyre producers;

- b) Tyre dealers;
- c) Persons in control of a Collection point;
- d) Implementers;
- e) Micro-Project Managers;
- f) Depot Operators;
- g) Processors; and
- h) Transporters.

4.8.2 Reporting requirements in terms of the Waste Tyre Regulations

Persons registered in terms of regulation 5 of the Waste Tyre Regulations, excluding Micro Collectors and Micro-depot Operators, must report monthly in the format and at such further intervals as may be required by the WMB.

4.8.3 Reporting progress on implementation of the IndWTMP

- 1) All role players with reporting duties to the WMB and to the relevant Implementer as contemplated in paragraph 5 below, except the Implementers, must by the 7th of each month submit a monthly progress report for the full calendar month preceding the submission date, to the WMB and to the relevant Implementer, in the format as prescribed by the WMB, containing as a minimum the following information: -
 - a) The number of mutilated Waste tyres received and/or collected and/or transported, as the case may be; and
 - b) The total number of Waste tyres, whether mutilated or not, that was received and/or collected and/or transported, as the case may be.
- 2) Implementers must submit by the 7th of each month to the WMB and the IAC, a monthly progress report for the full calendar month preceding the submission date, in respect of the allocated region of the relevant Implementer, in the format as prescribed by the WMB, containing as a minimum the following information: -
 - a) The aggregated number and tonnes of Waste tyres that have entered the market during that month;
 - b) The aggregated number and tonnes of Waste tyres collected by Transporters from Collection points, Micro-depots and Depots during that month;
 - c) The aggregated number and tonnes of Waste tyres processed, also expressed as a percentage of the total;
 - d) The aggregated number of tonnes of Waste tyres used to generate energy;
 - e) New jobs created in the transport sector due to the implementation of the IndWTMP, with an indication of gender and race;
 - f) New jobs created in the processing sector due to the implementation of the IndWTMP;
 - g) Number of new businesses established in the year, including BBBEE status; and
 - h) The Performance indicators listed in sub-paragraph 4 below.
- 3) Implementers must submit an annual audited progress report to the WMB, the Department, National Treasury, and the Auditor-General, containing at least the following:
 - a) A summary of the monthly information and data submitted in terms of sub-paragraph 2 above for the year preceding such audited progress report;

- b) Compliance with all applicable legislation, including specifically NEM: WA, the Waste Tyre Regulations and the provisions of this IndWTMP; and
 - c) Audited financial statements, audited by an independent auditor.
- 4) The performance of each Implementer will be evaluated as a minimum against the following performance indicators:
- a) Frequency of collections, depending on the location of the Collection points in either urban, suburban and outlying areas;
 - b) Adherence to Waste tyre mutilation requirements in terms of the Waste Tyre Regulations;
 - c) Adherence to mandatory collection of mutilated Waste tyres by Transporters;
 - d) The ability of the Depots to fulfil orders from Processors;
 - e) Environmental performance in terms of pollution prevention measures; and
 - f) Employment targets with regard to the total full time permanent jobs created in the waste tyre sector.

4.8.4 Evaluation

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

- a) An evaluation of the practicality and efficiency of the administrative processes, logistics, and operations associated with the implementation of the IndWTMP;
- b) Progress made as measured against the performance targets;
- c) Challenges encountered where targets were not met, and proposed measures to overcome the challenges; and
- d) Recommendations for the review, amendment or improvement of the IndWTMP.

These recommendations may inform the review, amendment or supplementation of the IndWTMP as contemplated in paragraph 4.6 (8) above.

4.8.5 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 mentions 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 to be supported through funding from the WMB must be aligned with the Waste RDI roadmap priorities for Waste tyres. Applications for the funding of such research and development projects must be submitted to the IEC and the Department on an annual basis. Each such project approved by the Department must be guided by the IEC.

4.8.6 Enterprise development and job creation

Enterprise development opportunities across the waste tyre value chain, especially the development of new processing capacity, will be supported through incentives as outlined in paragraph 3.3.1 and 3.3.2 above.

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.

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

The process flow clarifies the flow of Waste tyres between the different role players within the Waste tyre value chain (see Figure 8).

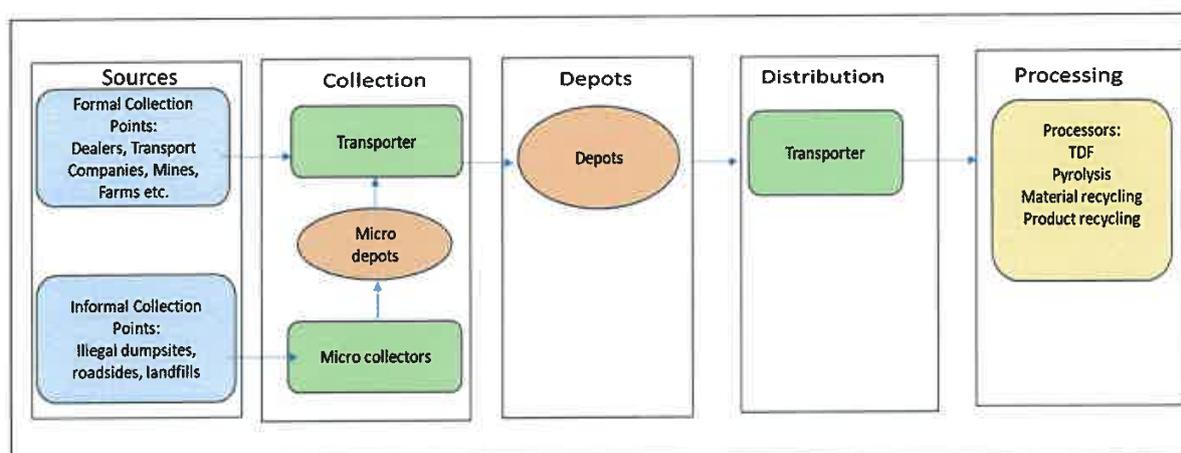


Figure 8: Waste Tyre management process flow

5.1 The Implementers

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

- a) Within 3 months from the date of the appointment of the relevant Implementer, develop and submit to the WMB for approval, a projected 5-year implementation plan containing a 5-year projected budget, and a detailed implementation plan containing a costed budget for the remainder of the Department's budgetary cycle of that particular year;
- b) Within four months of the date of the appointment of the relevant Implementer, set up the systems that may be required for the implementation of the IndWTMP within its allocated region and in accordance with the approved implementation plan and budget;
- c) In accordance with the Department's budgetary cycle, submit annually for approval an implementation plan containing a costed budget;
- d) The implementation plan and budget to be submitted by each Implementer must be supported with the relevant paper trail of invoices and supporting documents, and must set out as a minimum -

- (i) the total projected cost to implement the IndWTMP within the allocated region for the following annual budgetary cycle;
 - (ii) all disbursements to be made in respect of the implementation of the IndWTMP within the allocated region for the following annual budgetary cycle;
 - (iii) all contractual obligations of a financial nature to be complied within the allocated region for the implementation of the IndWTMP;
 - (iv) any projected subsidies and/or incentives to be paid by the WMB to the Depot Operators and Transporters in the relevant Implementer's allocated region in the following annual budgetary cycle;
 - (iv) any subsidies and/or incentives that the WMB have paid to the Depot Operators and Transporters in the relevant Implementer's allocated region in the past annual budgetary cycle; and
 - (v) All payments made by the relevant Implementer in the previous annual budgetary cycle.
- e) The overarching operational management of Waste tyres in their respective allocated region of South Africa;
 - f) Take over Waste tyre management responsibilities for their relevant region from the WMB and ensure that there is a smooth transition from the existing Waste Tyre management model implemented by the WMB to the implementation of this IndWTMP;
 - g) Ensure that Depot Operators, and Transporters are appointed to assist with the implementation of the IndWTMP;
 - h) Maintain an electronic and transparent monitoring system, indicating progress against performance targets, to ensure accurate reporting in accordance with paragraphs 3.3.3 and 4.8 above, to enable the WMB to validate lawful claims in the Waste tyre value chain;
 - i) Support and facilitate the creation of markets for pre-processed Waste tyres and Waste tyre commodities and products through technical expertise;
 - j) Submit all reports as contemplated in paragraph 4.8.3 above;
 - k) Report to the WMB on any significant incident and/or any non-compliance with the provisions of this IndWTMP by the different role players;
 - l) Engage with the waste tyre sector at least on a quarterly basis through scheduled meetings with the IAC;
 - m) Meet on a quarterly basis with the relevant Provincial Waste Management Forum on the implementation of the IndWTMP;
 - n) Investigate and make annual recommendations to the WMB and the Department on the appropriate design, development and implementation of incentives, policies, regulations, norms and standards, good practice to reduce Waste Tyre generation and to enhance the implementation of the IndWTMP;
 - o) Support the incorporation, establishment and development of SMME's in waste tyre value chains through contracts with Depot Operators and Transporters;
 - p) Design and implement capacity building, training, and mentoring programmes to support sustainable business development and growth in the waste tyre industry;
 - q) Effect payment of approved invoices and of other contractual obligations to service providers for services rendered;
 - r) The Implementer and its employees may not conduct, participate or have any interest in, any business associated with the IndWTMP.

- s) Each Implementer must be responsible for the environmentally sustainable management of waste tyres in its allocated region through the promotion, facilitation and implementation of the reuse, recycling and recovery of waste tyres.
- t) Each Implementer must follow open and transparent processes in the implementation of the IndWTMP;
- u) No Implementer may appoint a management company or any other company to manage the duties, obligations and responsibilities of that Implementer on its behalf; and
- v) Attend the meetings of the IAC.

5.2 The Department

The Department, through the WMB, will monitor and oversee the implementation of the IndWTMP in accordance with sections 34D and 34E of the NEM: WA, and will:

- a) Provide minimum requirements and templates to each appointed Implementer for the implementation plan and budget to be submitted for the approval thereof;
- b) Apply to National Treasury for a budgetary allocation for the implementation of the IndWTMP in accordance with the duties and obligations of the WMB;
- c) Disburse the approved budgetary allocation to the WMB;
- d) Engage in strategic discussions with the relevant role players as identified in paragraph 5 above, to facilitate market development for processed Waste tyres; and
- e) Collaborate with the WMB to monitor the performance and progress of each Implementer with the implementation of the IndWTMP against the performance indicators set out in the IndWTMP, and of Waste tyre management in general against the applicable predetermined targets set out in **Table 6**.

5.3 The WMB

The WMB must:

- a) Establish the IEC;
- b) Appoint one or more Implementers for a specific geographical region, with regional specific targets as contemplated in paragraph 4.3 above;
- c) Appoint one or more Micro-Project Managers per province, with provincial specific targets as set out in the relevant contract with each Micro-Project Manager;
- d) Evaluate and consider for approval the initial 5-year implementation plan and budget, and the implementation plan and budget submitted annually by each Implementer;
- e) Review and keep record of the annual audited progress report submitted by each Implementer for the approval thereof by the WMB;
- f) After the approval of the implementation plan and budget, make payment to each Implementer upon the approval and verification of the monthly submitted invoices and progress reports within the allocated annual budget;
- g) Upon the approval and verification of the monthly submitted tax invoices, supporting documents, progress reports, and/or any other required documents, make payment to each Lessor, Micro-

- Project Manager, Micro-collector, Micro-depot Operator and Processor, in accordance with the WMB's contractual obligations to each relevant service provider within the allocated annual budget;
- h) Design and develop incentives and qualifying criteria for incentives referred to in paragraph 3.3.2 above;
 - i) Review the appropriateness, efficiency and effectiveness of incentives and any adjustment thereof according to inflation on an annual basis;
 - j) Facilitate and fund training, mentoring and capacity building to raise awareness to reduce the negative environmental impacts of waste tyres while supporting enterprise development and job creation in a circular economy, and to expand the waste tyre processing capacity of South Africa;
 - k) In order to expand and facilitate Waste tyre processing capacity, consult with the Technology Innovation Agency of South Africa regarding technology readiness of processing options, the cement and brick-making industry for the processing of Waste Tyres and promote processing pilot plants where feasible, and consult with consumers of OTRs in order to promote the pre-processing thereof;
 - l) Consult with representatives of each mainstream technology and determine the pre-processing method and requirements for uptake within each processing technology option, and in their discretion formulate the requirements in terms of format (quarter cut, shredded, baled etc.), size and weight, into a standardised pre-processed Waste tyre specification for each mainstream processing technology;
 - m) Prioritise and encourage those options that can be implemented directly following such consultation;
 - n) Develop performance indicators for Waste tyre processing;
 - o) Keep record of the number of new enterprises active in Waste tyre processing (SMMEs registered with the DTIC) and provide such information to the relevant Implementer/s; and
 - p) Nominate a representative from the WMB to serve as the secretariat of the IAC.

The WMB may issue instructions in writing for the management of Waste tyres on such terms and conditions as may be necessary, which instruction must be complied with within the time frame stated in such instruction.

5.4 Industry Advisory Committee

The IAC is established in terms of the Waste Tyre Regulations. The role of the IAC is to:

- a) Serve as a communication platform between member organisations and the Implementers;
- b) Provide advice and guidance to the Implementers on the functioning and operations of the Waste Tyre management industry;
- c) Contribute to solutions to overcome challenges experienced during the implementation of the IndWTMP;
- d) Share knowledge and information with each Implementer as and when required; and
- e) Review monthly progress reports compiled by each Implementer.

Members of the IAC may include one representative of at least each of the following, but is not limited to, 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 (BUSAs)
- g) Department of Small Business Development (DSBD)
- h) National Treasury
- i) South African Local Government Association (SALGA)
- j) Department of Science and Innovation
- k) Department of Trade, Industry and Competition
- l) Waste Tyre Management Forum
- m) Minerals Council South Africa
- n) Tyre Recycling Industry Association of South Africa (TRIASA)
- o) Cement & Concrete SA (CCSA)
- p) Recycling Association of South Africa (RASA)
- q) Waste RDI Roadmap Implementation Unit (WRIU) from the Department of Science and Innovation

5.5 Incentives Evaluation Committee

The IEC must be established by the WMB within three months of the appointment of Implementers by the WMB, to receive, evaluate and approve applications for incentives, and to evaluate the expressions of interest received from Processors. The WMB must nominate and appoint the secretariat for the IEC to perform the administrative functions thereof, including:

- a) The scheduling of meetings;
- b) The distribution of all documents associated with applications for incentives to be reviewed, to all committee members;
- c) Taking of minutes; and
- d) Obtaining sign-off of the minutes and record of decisions by all committee members in attendance.

The IEC will comprise of, but is not limited to, representatives from the following organisations:

- a) 1 official from the Chemicals and Waste Management (CWM) branch of the Department;
- b) 2 officials from the WMB;
- c) 1 official from the DTIC; and
- d) 2 representatives from the IAC excluding industry representatives.

5.6 Tyre producers

Tyre producers must:

- a) Register with the WMB;
- b) 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, contribute a Tyre Levy to the South African Revenue Service;

- c) Keep record of the required data and report as contemplated in paragraph 4.8.1, 4.8.2 and 4.8.3 above;
- d) ;
Prevent environmental degradation through efficient and practical pollution prevention measures;
and
- e) Nominate a representative from all of the registered Tyre producers to serve as a member of the IAC.

5.7 Tyre dealers

The duties of Tyre dealers are outlined in the Waste Tyre Regulations. In addition, Tyre dealers must:

- a) Register with the WMB;
- b) Notify consumers by including a note on their invoices that tyre prices are inclusive of an environmental levy;
- c) Inform consumers of the proper care and efficient use of tyres to extend their useful life in collaboration with road safety campaigns;
- d) 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;
- e) Pay the Tyre Levy to SARS where such Tyre dealers are importers of tyres;
- f) Keep record of the required data and report as contemplated in paragraph 4.8.1, 4.8.2 and 4.8.3 above;
- g) Prevent environmental degradation through efficient and practical pollution prevention measures;
and
- h) Nominate a representative from all of the registered Tyre dealers to serve as a member of the IAC.

5.8 Person in control of a Collection point

Persons in control of Collection points must:

- a) Register with the WMB;
- b) 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 contemplated in the Waste Tyre Regulations;
- c) Meet the storage requirements contemplated in regulation 10 of the Waste Tyre Regulations;
- d) Keep record of the required data and report as contemplated in paragraph 4.8.1, 4.8.2 and 4.8.3 above;
- e) Manage all Waste Tyres in his or her possession or control or cause such waste tyres to be managed in accordance with the IndWTMP;
- f) Make use of efficient and practical pollution prevention measures and mitigate all negative environmental impacts as soon as it is detected;
- g) Report negative environmental impacts to the relevant Implementer and the WMB;
- h) Prevent environmental degradation through efficient and practical pollution prevention measures;
and
- i) Comply with health and safety standards.

5.9 Depot Operators

Depot Operators must:

- a) Operate and manage the allocated Depot, inclusive of the physical area thereof and the staff component he or she may appoint;
- b) Register with the WMB;
- c) Conclude a contract with one or more Implementers;
- d) Receive mutilated or pre-processed Waste tyres from registered Transporters, and are prohibited from selling such Waste tyres;
- e) Keep record of the required data and report as contemplated in paragraph 4.8.1, 4.8.2 and 4.8.3 above;
- f) Keep record and report to the Implementer and the WMB on the pre-processing method applied to the Waste tyres under the control of the relevant Depot Operator, and submit such information together with its monthly progress report;
- g) Pre-process Waste tyres according to the requirements and specifications as contemplated in paragraph **Error! Reference source not found.**
- h) Provide the fire prevention measures as per statutory prescriptions, to be in place;
- i) Meet the storage requirements contemplated in regulation 10 of the Waste Tyre Regulations;
- j) Institute labour intensive practices where it can be done practically, feasibly and safely;
- k) Meet all statutory prescribed health and safety standards;
- l) Make use of efficient and practical pollution prevention measures and mitigate all negative environmental impacts as soon as it is detected;
- m) Report negative environmental impacts to the relevant Implementer and the WMB;
- n) Prevent environmental degradation through efficient and practical pollution prevention measures;
- o) Nominate a representative from all of the registered Depot Operators to serve as a member of the IAC; and
- p) Immediately report any fire incidents to the local Municipality.

5.10 Transporters

Transporters must:

- a) Register with the WMB;
- b) Conclude a contract with one or more Implementers;
- c) Only transport mutilated Waste Tyres collected from Collection Points or Micro-depots, or Waste Tyres that have been pre-processed, as the case may be, or as otherwise directed by the WMB, and are prohibited from selling such Waste Tyres;
- d) Keep record of the required data and report as contemplated in paragraph 4.8.1, 4.8.2 and 4.8.3 above;

- e) Keep record of the number and tonnage of Waste Tyres, based on agreed estimates or weighbridge data, collected from Collection points, Depots, Micro-depots, and delivered to Depots and Processors, and submit such information together with its monthly progress report;
- f) Ensure that all loads are signed off by both the Transporter and recorded as collected from the Micro-depot Operator or Depot Operator, and/or as received by the Depot Operator or Processor;
- g) At all times comply with all road traffic legislation, including but not limited to the use of certified road worthy vehicles and adherence to licensing requirements to ensure that all of its drivers have valid professional driving permits;
- h) Adhere to all protocols and procedures at the premises of any Collection point, Micro-depot, Depot and Processor;
- i) Prevent environmental degradation through efficient and practical pollution prevention measures;
- j) Report negative environmental impacts to the relevant Implementer and the WMB; and
- k) Nominate a representative from all of the registered Transporters to serve as a member of the IAC.

5.11 Micro-collectors

Micro-collectors must:

- a) Register with the WMB;
- b) Conclude a contract with one or more Micro-Project Managers;
- c) Collect Waste Tyres within their allocated area; and
- d) Deliver collected Waste Tyres to a Micro-depot, using own transport methods.

5.12 Micro-depot Operators

Micro-depot Operators must:

- a) Operate and manage the allocated Micro-depot in the area clearly demarcated for that purpose, inclusive of the staff component he or she may appoint;
- b) Register with the WMB;
- c) Conclude a contract with one or more Micro-Project Managers;
- d) Meet the storage requirements in an approved waste tyre storage plan as contemplated in regulation 10 of the Waste Tyre Regulations, and any other applicable legislation;
- e) Provide fire prevention measures as per statutory prescriptions;
- f) Receive Waste Tyres only from Micro-collectors, and are prohibited from selling such Waste Tyres;
- g) Keep record and report to the relevant Micro-Project Manager on a monthly basis before the 7th of each month, in the format required by the WMB, on the number of mutilated waste tyres received and/or collected and/or transported, as the case may be; and the total number of waste tyres, whether mutilated or not, that was received and/or collected and/or transported, as the case may be;
- h) Mutilate any Waste Tyres received from Micro-collectors that have not been mutilated, or cause all Waste Tyres in his or her possession or control, to be mutilated as contemplated in the Waste Tyre Regulations;

- i) Meet all statutory prescribed health and safety standards;
- j) Make use of efficient and practical pollution prevention measures and mitigate all negative environmental impacts as soon as it is detected; and
- k) Report negative environmental impacts to the relevant Micro-Project Manager.

5.13 Micro-Project Managers

Micro-Project Managers must:

- a) Register with the WMB;
- b) Recruit, appoint and manage Micro-collectors and Micro-depot Operators, and manage Micro-depots in its designated provincial area of operation in order to collect Waste tyres from informal collection points and provide all services related thereto in terms of the relevant contract with the WMB;
- c) Conclude a contract with the WMB;
- d) Ensure that the Micro-depots under the management of such Micro-Project Manager, meet the the storage requirements in approved waste tyre storage plans as contemplated in regulation 10 of the Waste Tyre Regulations, and any other applicable legislation;
- e) Keep record of the required data and report as contemplated in paragraph 4.8.1, 4.8.2 and 4.8.3 above;
- f) Ensure that the necessary fire prevention measures are in place at the Micro-depots within its area of responsibility;
- g) Ensure that all relevant statutory prescribed health and safety standards are complied with at the Micro-depots within its area of responsibility;
- h) Make use of efficient and practical pollution prevention measures and mitigate all negative environmental impacts as soon as it is detected;
- i) Report negative environmental impacts to the relevant Implementer and the WMB;
- j) Prevent environmental degradation through efficient and practical pollution prevention measures; and
- k) Nominate a representative from all of the registered Micro-Project Managers to serve as a member of the IAC.

5.14 Processors

Processors must:

- a) Register with the WMB;
- b) Enter into Waste tyre supply agreements with the WMB;
- c) Meet the storage requirements contemplated in regulation 10 of the Waste Tyre Regulations;
- d) Receive only mutilated or pre-processed Waste tyres from registered Transporters, and are prohibited from selling such Waste tyres;
- e) Keep record of the required data and report as contemplated in paragraph 4.8.1, 4.8.2 and 4.8.3 above;

- f) Keep record of the pre-processing method applied to the Waste tyres received, and the tonnage of Waste tyres (in whatever form) processed, and submit such information together with its monthly progress report;
- g) Meet all statutory prescribed health and safety standards;
- h) Make use of efficient and practical pollution prevention measures and mitigate all negative environmental impacts as soon as it is detected;
- i) Report negative environmental impacts to the relevant Implementer and the WMB;
- j) Conduct an environmental impact assessment on their pollution prevention measures to be implemented as part of the processing contract; and
- k) Nominate a representative from all of the registered Processors to serve as a member of the IAC.

6 Implementation timeframe and migration pathways

6.1 Timeframe

The IndWTMP will be reviewed by the WMB at least every five (5) years, or at such intervals as the Minister may deem necessary, and the WMB will advise the Minister on the withdrawal, amendment or supplementation thereof. The review of the IndWTMP must consider the objectives of the IndWTMP and the progress towards meeting the performance targets to address challenges towards meeting the longer-term objectives of the IndWTMP. The period of appointment of each Implementer by the WMB will be limited to five (5) years with the option of renewal or extension thereof, provided that National Treasury concurs to such renewal or extension of the appointment of a specific Implementer.

6.2 Migration pathway from WMB to Implementers

A transitional period, not exceeding one year from the date of appointment of the relevant Implementers, is required to allow current role players to adjust their respective business operations to a new regime. Interruptions in the existing processes, contracts and business while transitioning from Waste Tyre management by the WMB to Waste Tyre management by each Implementer, must be avoided. The WMB has entered into existing service provider contracts which should run its course. This transitional period must as far as possible not impact on the meeting of performance targets as set out in **Table 6**.

The following implementation process is to be followed:

- a) Once the Minister has approved the IndWTMP, and while no Implementer is appointed, the WMB will 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.
- b) The Minister may appoint a specific task team within the WMB to drive the implementation process.
- c) The WMB must then, within the constraints of the budgetary allocation from National Treasury, continue to administer Waste Tyre management, as it currently does.
- d) In the consideration of potential Depot Operators and Transporters, each Implementer may give preference, where appropriate, to such service providers that already have access to the necessary equipment and infrastructure in order to provide the relevant services. Should the relevant

Implementer identify the need for acquiring any equipment, the Implementer may recommend to the WMB that such equipment be obtained, and with the prior written consent of the WMB, facilitate the acquisition of such equipment to support the implementation of the IndWTMP. Ownership of such equipment will remain with the State to continuously be available for Waste tyre management in South Africa.

The transitional process from the WMB to the Implementers will include, but is not limited to the following:

- a) The WMB will disclose to each appointed Implementer all available 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 WMB must within 3 months after the Minister's approval of the IndWTMP, conduct an audit of equipment, and the current Accumulated Waste Tyre backlogs, to confirm the current locations of Depots and Micro-depots, and the volumes of Accumulated Waste Tyre backlogs, and provide that audit report to the appointed Implementers. The audit done by each Implementer on all Collection Points, Depots and Micro-depots within its allocated region may inform the decisions of the relevant Implementer on which of those Collection Points, Depots and Micro-depots within its allocated region to keep, which thereof to close, and then to work towards the closure of identified Collection Points, Depots and Micro-depots to coincide with the end of the existing service provider contracts with the WMB.
- 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 each appointed Implementer access to all available systems, databases, equipment, and other relevant information as may be required by the relevant Implementer, that was developed, procured, and used for the purpose of the management of Waste Tyres.
- d) Databases and equipment so handed-over to the Implementers 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 at the termination of the appointment of the relevant Implementer, must be returned to the WMB to ensure continuity of operations.
- e) The WMB must train and support each appointed Implementer on the running of the systems to ensure continuity in the management of Waste Tyres, collection of data, and contracts. Such training will be in the format provided by the WMB over a specified period to ensure a smooth transitional period.

6.3 Transition between Implementers

- a) Interruptions in the processes, contracts, and business of Waste Tyre management while transitioning from one Implementer to the next, must be avoided. There may at the time be existing service provider contracts between either the WMB and/or the previous Implementer/s and its service providers, and these contracts should be allowed to run their course.
- b) The systems developed, the moveable property or any equipment acquired, any material developed, and the intellectual property obtained or developed by any Implementer during the course of the

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implementation of the IndWTMP, will remain the property of the State and will form part of the State's asset register.

- c) At the termination of the WMB's contract with the relevant Implementer, all the systems used, maintained and/or developed, the moveable property or any equipment acquired, the material developed, and the intellectual property obtained or developed must be handed over either to the WMB or to the new appointed Implementer/s in good working order, but fair wear and tear accepted.
- d) The WMB must within 3 months of the termination of the contract with an Implementer, do an audit of assets and liabilities in conjunction with the outgoing Implementer, and oversee the hand-over to the new appointed Implementer/s.

7 Compliance with the IndWTMP and relationship with other legislation

- 1. Compliance with the IndWTMP does not exempt any of the role players from complying with any other applicable legislation.
- 2. 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.

ANNEXURES – TERMS OF REFERENCE OF COMMITTEES

Annexure A – Industry Advisory Committee

Industry Advisory Committee (IAC)

In addition to the nominated representatives from the different role players as contemplated in the IndWTMP, each member organisation may nominate a single representative(s) to serve as a member of the IAC. Any nominated representatives from government departments must be in a position to influence and implement policy decisions, regulations and/or administrative actions, with regards to Waste tyre management.

1. Functions of the IAC

1.1 The IAC committee members must -

- 1.1.1 Receive monthly progress reports on the functions and operations of each Implementer for review at the meeting;
- 1.1.2 Provide guidance on the management of the Implementers and the functioning and operations of the waste tyre management industry;
- 1.1.3 Propose and recommend solutions to overcome challenges experienced in waste tyre management operations;
- 1.1.4 Share knowledge and information with the Implementers as and when required;
- 1.1.5 Report on a quarterly basis to the WMB and the Minister on the monthly progress of each Implementer; and
- 1.1.6 Serve as a communication platform between member organisations and the Implementers.

2. Operations of the IAC committee

- 2.1 The WMB will have oversight of the IAC for the purposes of governance and authority.
- 2.2 The committee will be chaired by a duly elected member of the committee.
- 2.3 The committee will be convened by the nominated representative from the WMB.

2.1 Secretariat

The nominated representative from the WMB will provide the Secretariat function, which is to support the activities of the IAC, by undertaking the following tasks:

- 2.1.1 The distribution of all documents associated with the meetings and the IAC at least a week prior to the meetings;
- 2.1.2 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; and
- 2.1.3 Maintain contact with all members in-between meetings in order to promote active participation and engagement.
- 2.1.4 The secretariat is responsible for the execution of decisions or to follow up with the relevant parties in respect of the execution of such decisions.

- 2.1.5 The secretariat will also report back on any decisions and/or action plans taken or proposed by the committee, and/or the execution thereof, to the WMB and the Minister, along with a copy of the minutes and decision matrix and relevant supporting documents.
- 2.1.6 Maintain a list of nominated members of the committee and the substitutes who will attend meetings in the event the nominee is unavailable.

2.2 Meetings

- 2.2.1 The IAC will meet at least on a quarterly basis, either physically or virtually.
- 2.2.2 A special and/or urgent meeting may be conducted, when an urgent matter needs the attention of the IAC.
- 2.2.3 The frequency of the meetings may be reviewed by the committee.

2.3 Contact between meetings

- 2.3.1 The Secretariat must provide updates of activities, and relevant information as determined by the IAC to all committee members.
- 2.3.2 Official communication between meetings will be in writing distributed per email.
- 2.3.3 Members may provide information to the Secretariat for circulation. Information may include, but is not limited to policies, research, meetings, and reports.

2.4 Responsibility of Members

- 2.4.1 Members are expected to attend and contribute positively to waste tyre management operations.
- 2.4.2 Update their contact details as soon as changes are in effect.
- 2.4.3 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 Meeting dates will be provided at least one month in advance in order to provide sufficient notice and ensure availability.
- 3.2 Members of the committee must attend all meetings.
- 3.3 A nominated representative substitute/ stand-in representative may attend on behalf of the representative nominee; however, the details of such a nominated substitute must be communicated to the Secretariat prior to the date of the meeting, stating that the substitute nominated representative has been provided with the appropriate technical and decision-making authority.

Annexure B – Incentive Evaluation Committee

1. Functions of the committee

1.1 The WMB must -

- 1.1.1 Establish an IEC within three months of the appointment of any Implementer/s to evaluate and approve applications for incentives, and to evaluate the expressions of interest received from Processors.
- 1.1.2 Nominate and appoint the secretariat for the IEC to perform the administrative functions thereof, including:
- (i) The scheduling of meetings;
 - (ii) The distribution of all documents associated with applications for incentives to be reviewed, to all committee members;
 - (iii) Taking of minutes; and
 - (iv) Obtaining sign-off of the minutes and record of decisions by all committee members in attendance.

1.2 Composition of IEC

The IEC will comprise of, but is not limited to, representatives from the following organisations:

- (i) 1 official from the Chemicals and Waste Management (CWM) branch of the Department;
- (ii) 2 officials from the WMB;
- (iii) 1 official from the DTIC; and
- (iv) 2 representatives of the IAC.

2. Operations of the committee

- 2.1. The WMB are the custodians of the IEC for the purposes of governance and authority.
- 2.2. The IEC will be chaired by a duly elected member of the committee.
- 2.3. The IEC will be convened by the WMB.

3. Secretariat

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

- 3.1 The distribution of all documents associated with the meetings of the IEC at least a week prior to the meetings; and
- 3.2 Minute taking and decision matrix compilation, as well as the distribution of all documents associated with the meetings of the IEC, no later than 5 working days post the meetings; and
- 3.3 Maintain contact with all members' in-between meetings in order to promote active participation and engagement.
- 3.4 The execution of decisions or to follow up with the relevant parties in respect of the execution of such decisions.
- 3.5 The secretariat will also report back on any decisions and/or action plans taken or proposed by the committee, and/or the execution thereof, to the WMB and the Minister, along with a copy of the minutes and decision matrix and relevant supporting documents.
- 3.6 Maintain a list of appointed members of the committee and the nominated substitute representatives who will attend meetings in the event the appointee is unavailable.

2.3 Meetings

- 2.3.1 The IEC will meet on a quarterly basis, either physically or virtually.
- 2.3.2 A special and/or urgent meeting may be conducted, when an urgent matter needs the attention of the IEC.
- 2.3.3 The frequency of the meetings can be reviewed by the committee.
- 2.3.4 Committee members will be nominated by their respective institutions to attend the meetings as necessary.

2.4 Contact between meetings

- 2.4.1 The Secretariat will provide updates of activities, and relevant information as determined by the IEC to all members.
- 2.4.2 Official communication between meetings will be in writing and distributed by email.
- 2.4.3 Other relevant communication mechanisms can be used for unofficial matters; and
- 2.4.4 Members may provide information to the Secretariat for circulation. Information may include, but is not limited to policies, research, meetings, and reports.

2.5 Responsibility of Members

- 2.5.1 Members are expected to attend and contribute positively to Waste tyre management operations as managed by the nominated representative Implementer and the WMB.
- 2.5.2 Update their contact details as soon as changes are in effect.
- 2.5.3 Each member is responsible for reporting the activities and decisions of the IEC to their respective organisations through their own organisation's internal mechanisms.

3 Attendance

- 3.1 Meeting dates will be provided at least one month in advance in order to provide sufficient notice and ensure availability.
- 3.2 Members must attend all meetings.
- 3.3 A nominated representative substitute/ stand-in representative may attend on behalf of the representative nominee; however, the details of such a nominated substitute must be communicated to the Secretariat prior to the date of the meeting, stating that the substitute nominated representative has been provided with the appropriate technical and decision-making authority.