



# **Industry Waste Management Plan for Tyres: Section 29 of NEMWA**

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1<sup>st</sup> Consultation March 2020**

# Purpose

- “Straw-dog” for consultation
- Present current thoughts
- Proposed structure of the plan
- Point of departure for the development of an IndWMP for Tyres in SA



# Background

- The information contained in the Draft Plan was sourced from
  - Waste Management Bureau
  - Waste RDI Roadmap
  - State of Waste Report
  - S28 plans submitted in 2018
  - Industry Reports
- To date no discussions were held with industry
- This is the 1<sup>st</sup> stakeholder consultation on the Sec 29 IndWMP



# Proposed outline of the plan

1. Introduction
  2. Vision and Mission for the Sector
  3. Objectives and priorities for the waste tyre sector
  4. Infrastructure
  5. Human resource requirements
  6. Research Development and Innovation
  7. Action Plan
  8. Bibliography
- Appendix 1 – Opportunities and Trends
- Appendix 2 – Action Plan for addressing waste tyres (to be added)



# Glossary of Terms

- All terms defined were taken from the Waste Tyre Regulations, 2017
- Tyre categories based on European Tyre and Rim Technical organization manuals are provided as follows:
  - Passenger car tyres
  - Commercial vehicle tyres
  - Agricultural tyres
  - Motorcycle tyres
  - Industrial tyres and lift truck tyres
  - Aircraft tyres
  - Any other pneumatic tyres

Are there any other terms that needs to be defined?



# How many waste tyres are there in SA?

## New Tyres entering the market

- 16 million new tyres sold per year (174 640 tonnes)
  - 11 million local manufactured
  - 5 million imported
- 95% of tyres are passenger tyres (average 9.1kg/tyre)
- 5% are truck tyres (average 45.4kg/tyre)
- 3% growth rate/year on new tyres

## Waste tyres to be managed in SA

- 170 266 tonnes/year generated (2019)
- 77% collected in 2019
- 24% of collected was recycled in 2019
- OTR tyres are estimated at 20 000 tonnes/year

**Are these numbers accurate?**

**Is the OTRs included in the 170 266 tonnes?**



# Legal Framework

- Waste Act, 2008
  - Norms and Standards for Disposal to Landfill, 2013 (R636)
    - Ban whole tyres to landfill as of 23 Aug 2013
    - Ban quartered tyres to landfill as of 23 Aug 2018
  - Waste Tyre Regulations, 2017
    - No person may -
      - a) manage waste tyres in a manner which does not comply to these regulations;
      - b) recover or dispose of a waste tyre in a manner that is likely to cause pollution of the environment or harm to health and well-being;
      - c) dispose of a waste tyre at a waste disposal facility;
      - d) recover any financial contribution in terms of a waste tyre management plan from a subscriber to the 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.



# Composition of the Sector

- Manufacturers and importers of tyres
- Generators of waste tyres:
  - Fitment centres
  - Mines
  - Agriculture
  - Industry
- Waste Tyre Depot managers
- Waste tyre collectors
- Waste tyre transporters
- Waste tyre processors including, but not limited to
  - Pyrolysis
  - Shredding
  - Crumbing
  - Tyre Derived fuel
  - Cement Kilns
- Research institutions including
  - Universities
  - Science Councils
  - Chemical industry



# Provincial breakdown of the network

Province	Collection Points	Transporters (Primary & Secondary)	Micro-Collectors	Micro-depots	Operating Depots (Pre-Processing & Holding)	Depots under Development	Processors (Contracted & Registered)	Processors (Still setting up)
Eastern Cape	187	3	5	1	3	2	1	1
Free State	93	2			2	1		
Gauteng	696	17	132	14	8	2	5	2
Kwazulu natal	319	15			4	0	3	
Limpopo	154	7			1	2		
Mpumalanga	231	4			3	1		
North West	112	5	4	1	1	3		
Northern Cape	49	1			1	0		
Western Cape	512	13	6	5	2	0	2	
<b>Total</b>	<b>2 353</b>	<b>67</b>	<b>147</b>	<b>21</b>	<b>25</b>	<b>11</b>	<b>11</b>	<b>3</b>



# Employment and SMMEs

## JOBS CREATION AND MAINTAINED

Category	2018/19			2019/20		
	Created	Maintained	Total	Created	Maintained	Total
Transporters	102	395	497	65	442	507
Depots	163	192	355	50	345	355
Processors	69	156	225	33	176	225
	<b>334</b>	<b>743</b>	<b>1077</b>	<b>148</b>	<b>963</b>	<b>1087</b>

## SMALL, MICRO AND MEDIUM ENTERPRISES

	2018/19	2019/20			
Processors	12	3			
Transporters	80	0			
Secondary Industries	54	16			
Micro Depots/Cooperatives	18	0			
Depots	24	0			
Total	188	19			



# Proposed Vision



**Waste tyres are recognised as valuable resources contributing to the circular economy in South Africa**

The Waste RDI Roadmap (DST, 2014, a) set a target:  
*“100% end-of-life tyres collected and recycled, and 50% decrease in stockpiles is achieved by 2024”*

**The vision needs to be refined with industry input. We need general consensus on the Vision.**



# Proposed Mission

To grow the contribution of the waste tyre sector in the circular economy through:

- Reduced environmental impacts associated with waste tyre management towards sustainable development;
- Realising the resource value of waste tyres in a circular economy;
- Development of sustainable SMMEs and creating decent jobs towards social upliftment; and
- Equitable benefit sharing across the value chain.

**The Mission needs to be refined with industry input. We need general consensus on the Mission.**



# Proposed Strategic Objectives

The objectives of this Tyre Industry Management Plan are to:

- Establish sustainable off-take markets for recycled tyre products to create demand for processed waste tyres;
- Develop waste tyre processing capacity and infrastructure to support local waste tyre arisings (i.e. generation of waste tyres) in an environmentally sustainable way, with the potential to grow processing capacity to support the Southern African region in the future;
- Establish smart logistics and transport systems to optimise the collections and distribution of waste tyres from point of generation to processor;
- Create sustainable jobs and SMME opportunities in line with national government imperatives; and
- Foster transparent, equitable, and fair distribution of cost and benefits across the waste tyre value chain.

**The Strategic Objectives needs to be refined with industry input. We need general consensus on them.**



# Performance Indicators



## ***Objective 1: Creating off-take markets***

- Available data indicate that markets exist from the products from:
  - Pyrolysis;
  - Shredding;
  - Crumbing; and
  - Tyre Derived fuel

Targets for market development should therefore consider the following interventions:

- Creating local demand for high value end-products;
- Creating local demand for end-products of tyres not currently recycled; and
- Government intervention through policy changes to stimulate demand for tyres as alternative fuel source where appropriate.



# Performance Indicators



## ***Objective 2: Increase processing capacity to match market demand***

Available information suggest that on average about 40% of the total collected tyres are processed per year. In addition, many of the processing plants pilot scale plants.

Targets for increasing processing capacity should therefore consider:

- Upscaling of pilot plants to industrial scale as and where appropriate;
- Creating additional processing capacity in close proximity to areas with high volumes of waste tyre generation i.e. mining, and industrial areas to reduce transport distances to processing facilities;
- Increasing processing capacity to supply established markets; and
- Maximizing value extraction/addition to support business sustainability.



# Performance Indicators

## *Objective 3: Optimised collection and distribution systems*

The current logistics system for waste tyres collections and distribution is cumbersome and require improvement. An effective logistics system is therefore required to ensure timely waste tyre collections from generators and effective sorting, pre-processing and distribution to processors.

Therefore, targets should, amongst others, relate to:

- Number of collection points (% reduction in backlog over time);
- Tonnage of waste tyres collected;
- Tonnage of waste tyres processed (% of collected and in relation to available processing capacity); and
- Distribution efficiency (movement of tyres from depots to processors)



# Performance Indicators

## ***Objective 4: Sustainable job creation and SMME opportunities***

There are potential for job creation and SMME development throughout the waste tyre value chain, but specifically in transport, collections and processing of waste tyres. It is important to track the sustainability of these opportunities and not simply the number of jobs or SMME created.

Targets should therefore be set to track additional new jobs and SMME entering the waste tyre value chain including:

- Number of additional jobs created per category i.e. transport, depots and processors;
- Number of jobs maintained per category;
- Number of additional SMMEs created per category i.e. processors, transporters, secondary industries, micro depots, depots; and
- Financial sustainability of SMMEs in the sector



# Performance Indicators

## *Objective 5: Equitable, and fair distribution of cost and benefits across the waste tyre value chain*

The heavy lifting in waste tyre management is in the early stages (collection and transport) of the value chain while the money is made at the processing stage of the value chain. At present the cost associated with the collection and transport is largely carried by the state (subsidized through the tyre levy) while the benefits are not shared across all stakeholders.

**Inputs are required on how this can be achieved for the benefit of the environment and sustainability of the value chain.**



# Priority areas of activity

- ***Reducing the quantities of waste tyres leaking into the environment through:***
  - Optimised logistics for effective waste tyre management;
  - Developing processing capacity to deal with the supply;
  - Developing markets to stimulate demand for processed; and
  - Improved waste tyre treatment technologies, for example and finding appropriate alternative waste treatment technologies to reduce the need for stockpiling.
- ***Financing and charges for waste tyres management***
  - Full cost accounting in different regions
  - Collection and transport costs should become part of the input-cost structure of the processors



# Priority areas of activity

- ***Improved data and information***
  - Active participation in the National Waste Information System (WIS) to ensure that all generators, treatment and processing facilities are registered, and report waste quantities
- ***Suitable land for Infrastructure***
  - Proximity to generators of waste tyres and processors;
  - Appropriate zoning of land for these activities;
  - Associate road infrastructure for access to the sites;
  - Etc.
- ***Optimising logistics around waste tyres management***
  - Benchmarking
  - Capacity building
  - Maintenance
  - Holistic planning



# Infrastructure

- Depots
  - Pre-processing depots
  - Standard depots
  - Holding depots
- Processing facilities
  - Crumbing
  - Pyrolysis
  - Tyre derived fuel
  - Etc.



# Infrastructure



## Factors to consider when developing infrastructure

- Location
- Proximity to markets
- Proximity to feedstock supplies
- Location in terms of zoning
- Routes and suitability of access roads; and
- Quantities of waste tyres to be processed/stored at the facility.



# Human resources requirements

- Jobs focusing on South Africans
- Labour intensive while decent jobs
- Skills development/upskilling
- Local training for uptake in waste tyre industry



# Research Development and Innovation



100% end-of-life tyres collected and recycled, and significant decrease in backlog (stockpiles)

- Choice of technology solution must be guided by what makes local economic sense based on
  - Quantities and types of waste tyres generated
  - Local cost of technology solution
  - Value of waste stream to local market
  - Available skills
  - Local policy environment
  - Local climate for business and development



# Action plan



Identify actions based on short, medium and long term requirements

The Action plan will include the following

- Identified interventions
- Actions to support the required interventions
- Time frames by when the actions is required
- Assignment of responsibility
- Comments for clarification.

The action plan will be developed an consulted once there is consensus on the IndWMP



# Way Forward

- Please submit your input and comments using the attached response sheet by Friday 3 April to [Soelofse@csir.co.za](mailto:Soelofse@csir.co.za).
- The project team will keep a comment and response register that will be shared with stakeholders together with the 2<sup>nd</sup> draft IndWMP for Tyres.
- We will do everything in our control to keep to the time-lines as communicated by the Minister on 21 February 2020.
- The impact of the COVID-19 is real and we don't know how it will effect stakeholders' ability to participate in virtual consultation.
- The situation will be evaluated as we move forward into the lock-down and stakeholders will be kept informed by DEFF of any changes as and when required





**Thank You and STAY HOME  
during the lockdown!**

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