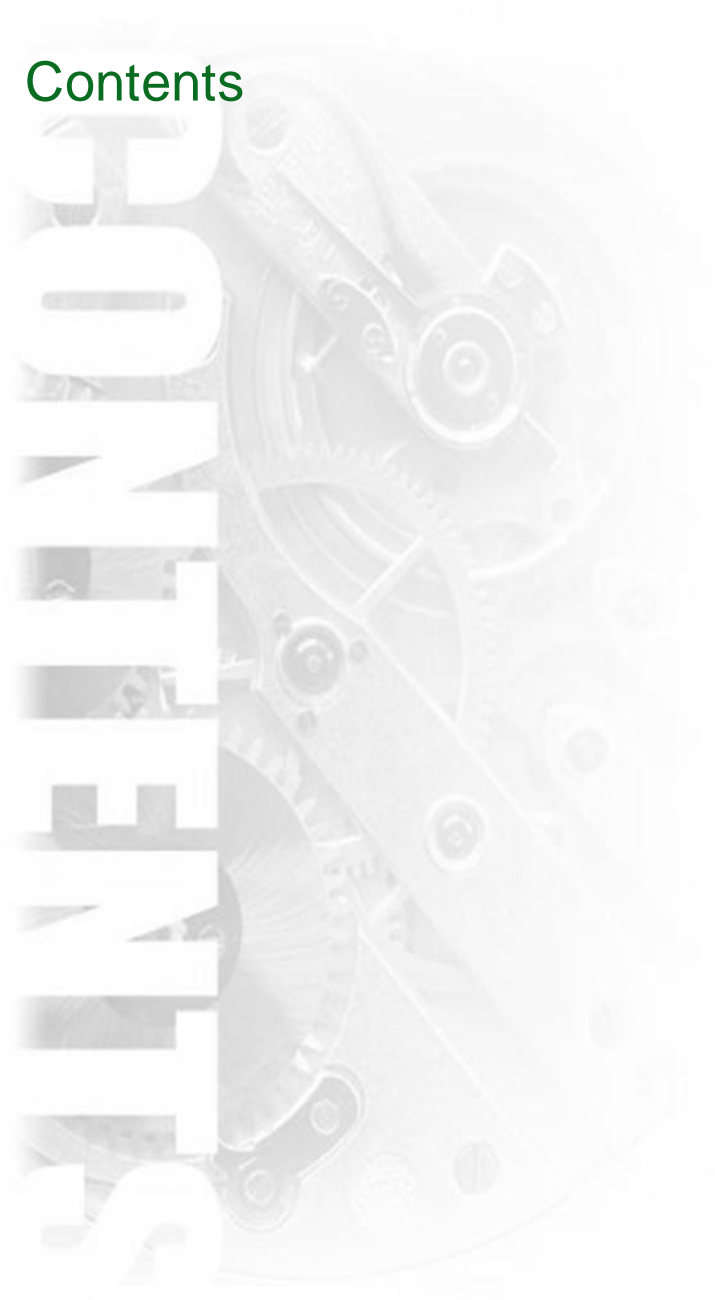




MEDIUM TERM ACHIEVEMENTS, REVISION OF TARGETS AND TIMELINES FOR NATIONAL WASTE MANAGEMENT STRATEGY (OPERATION PHAKISA CHEMICALS AND WASTE ECONOMY)

FEBRUARY 2023

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20 Initiatives

Initiative deep dive based on 25 February 2022 briefing

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The Operation Phakisa Chemicals and Waste Economy aims to reduce negative impact on the environment, while growing the GDP contribution and creating jobs

Phakisa Aspiration



Reduce the **negative environmental and health impact** of waste and risks posed by chemicals

Increase **commercialisation of the circular economy** and create value from resources currently discarded as waste



Foster inclusive growth through positioning of South Africa as a globally competitive producer of sustainable products



Key objectives



- Grow the secondary resources economy by **increasing local utilization and beneficiation of waste resources by 50%-75%** through creation of an enabling regulatory environment
- Generation of **opportunities from chemical and waste resources** for the creation of jobs/ opportunities in new / existing markets specifically **through enabling SMMEs**
- Invest in R&D innovation (including IP) and infrastructure to **enhance the utilization of local waste** resources for new products, substances and services that will create jobs, and enhance the production of environmentally friendly chemicals
- **Reduce waste to landfill** by 75% of industrial waste and 50% of municipal waste through education and awareness, compliant society, application of cleaner production

Three strategic pillars of the National Waste Management Strategy, 2020

1 Waste Minimisation 2 Effective and Sustainable Waste Services

Maximise the **utilisation and beneficiation of bulk industrial waste**, including:



- Ash, Slag and Gypsum

Organic waste (sewage sludge and meat production waste) **Reduce volume of packaging and food waste** ending up in landfill sites, by:

- Improving product design
- Increasing quality in production practices
- Promoting waste prevention

Maximise **diversion of waste from landfill sites** through reuse, recycling and recovery, covering:



- Organic waste
- Construction and demolition (C&D)
- E-waste
- Packaging waste (paper, plastic and glass)

3 Compliance, Enforcement and Awareness

▪ Mitigating and **preventing environmental damage** (pollution, littering and illegal dumping) caused by waste due to non-compliance



▪ **Increasing compliance** to local, provincial, national and international legislation

▪ **Improving awareness** and visibility of environmental benefits

17 initiatives aligned with the three strategic pillars of NWMS, 2020 and 3 chemicals management related initiatives

Waste Minimisation



Effective and Sustainable Waste Services



Compliance, Enforcement and Awareness



Chemicals



- 1 Increase ash uptake for alternate building materials¹
- 2 Accelerate innovation and commercialize existing R&D¹
 - Use ash as soil ameliorant
 - Use ash to treat acid mine drainage and backfill mines
- 3 Export ash and ash products¹
- 4 Zero sewage sludge to land(fill)
 - Anaerobic Digester Biogas to Energy
 - FBR Thermal Treatment
- 5 Towards Zero meat production waste to land(fill) by 2023
- 13 Compilation/update of packaging design guidelines
- 15 Establish refuse-derived fuel plants across SA
- 6 Introduction of an E-waste levy to increase collection rate
- 7 Unlocking government ICT legacy volumes
- 8 Achieving a minimum of 50% of households separating at source by 2023
- 9 Introduction of materials recovery facilities and pelletisation plants to increase plastic recycling rates
- 10 Produce building aggregates and construction inputs from rubble and glass
- 14 Formalising the packaging industry producer responsibility plans
- 11 Developing capacity through a specialised programme which upskills agri-stakeholders to minimize food loss
- 12 Consumer awareness campaign to use and consume ugly food²
- 20 Roll out national awareness campaigns
- 16 Establish a refrigerant reclamation and reusable cylinder industry
- 17 Ban import of harmful chemicals (e.g. leaded paint/paint pigments)
- 18 Collect and dispose stockpiles of harmful substances (asbestos, mercury)



Cross-cutting initiatives

- 19 Coordinate SMME development opportunities across initiatives

¹ The large volumes of ash produced enables both beneficiation and export

² Fruit with high calorific value, but that are physically imperfect



Waste Minimisation through increased re-use, recycling, recovery and alternative waste treatment



Recycling, Recovery and AWT

1. Ash for bricks, 2. Soil Amelioration & Acid Mine Drainage and mine backfilling , 3. Ash Export, 4. Sewage sludge and 5. Meat waste

Achievements

- SACAA taking lead as industry experts.
- 48 sites excluded through Sec 74, and **94 SMMEs** were supported (Eskom= 18 off takers; Sasol= 64 off takers; Sappi = 12 off takers)
- University of Pretoria together with AgriMinTech conducted research in Emalaheni for the Pilot project.
- Feasibility study on viability by Transnet in progress- Ash Export
- Database developed for feedstock across the country - meat waste
- Norms and standards for composting approved and composting activities are registering with Provincial Environment Authorities as part of implementation. Norms and standards for organic waste treatment published for implementation on 1 April 2022
- Strategic Integrated Project No 37: National Waste Flagship Programme was published in the gazette on 6 Dec 2022. Projects would leverage off the regulatory and permitting fast tracking mechanisms in the Infrastructure Development Act for more rapid delivery. Public projects would apply for SIP specific Budget Facility for Infrastructure Funding with NT.

Revision of targets and timelines by 2023/24

- 80 SMMEs supported and 2 097 jobs
- Prioritisation of amendments of Waste Exclusions Regulations
- Improved coordination, SACAA to continue leading together with DFFE and the identified organised informal coordination structures.

WASTE EXCLUSIONS 2022/23

- Applications were received from 43 applicants.
- The applications covered generators of 22 waste streams.
- The applications covered 32 proposed beneficial uses.
- A total of 112 applications for proposed intended beneficial uses were approved.
- 9 proposed beneficial uses were refused for some of the following:
 - potential degradation of the biomass causing ingress of water into the waste body which will ultimately impact the groundwater
 - Aluminium and used oil cannot be beneficiated outright, but requires processing and also require a Waste Management Licence.
 - Composting require registration

Waste Minimisation

11. & 12. Minimisation of Food Loss and 13. Packaging Design Guidelines 14. Packaging EPR 15. Establish RDF plants

Achievements

- Packaging Guideline developed and will be published in February 2023 for implementation.
- Food Waste Guideline developed and launched targeted interventions to minimise food loss – in partnership with CGSA and other industry players (retail and brand owners). Draft Strategy to reduce waste prior to retail has been developed together with an implementation plan. The Strategy is currently being prepared for public participation gazetting.
- EPR regulations in place and EPR for packaging under implementation. 5 Packaging EPR (Polyco, PETCO, Fibre circle, MetPac and The Glass Recycling Company) schemes have provided interim performance reports that are under consideration and analysed by the Department.
- Feasibility study completed & develop business case for establishment of 5 RDF Plants to address Adsorbent Hygiene Products and other residual waste streams

Revision of targets and 2023/24 timeline

- 11 067 (Paper and Packaging EPR) jobs supported
- Implementation of the Section 18 EPR, and secure funding

Target Waste Streams Jan to June 2022

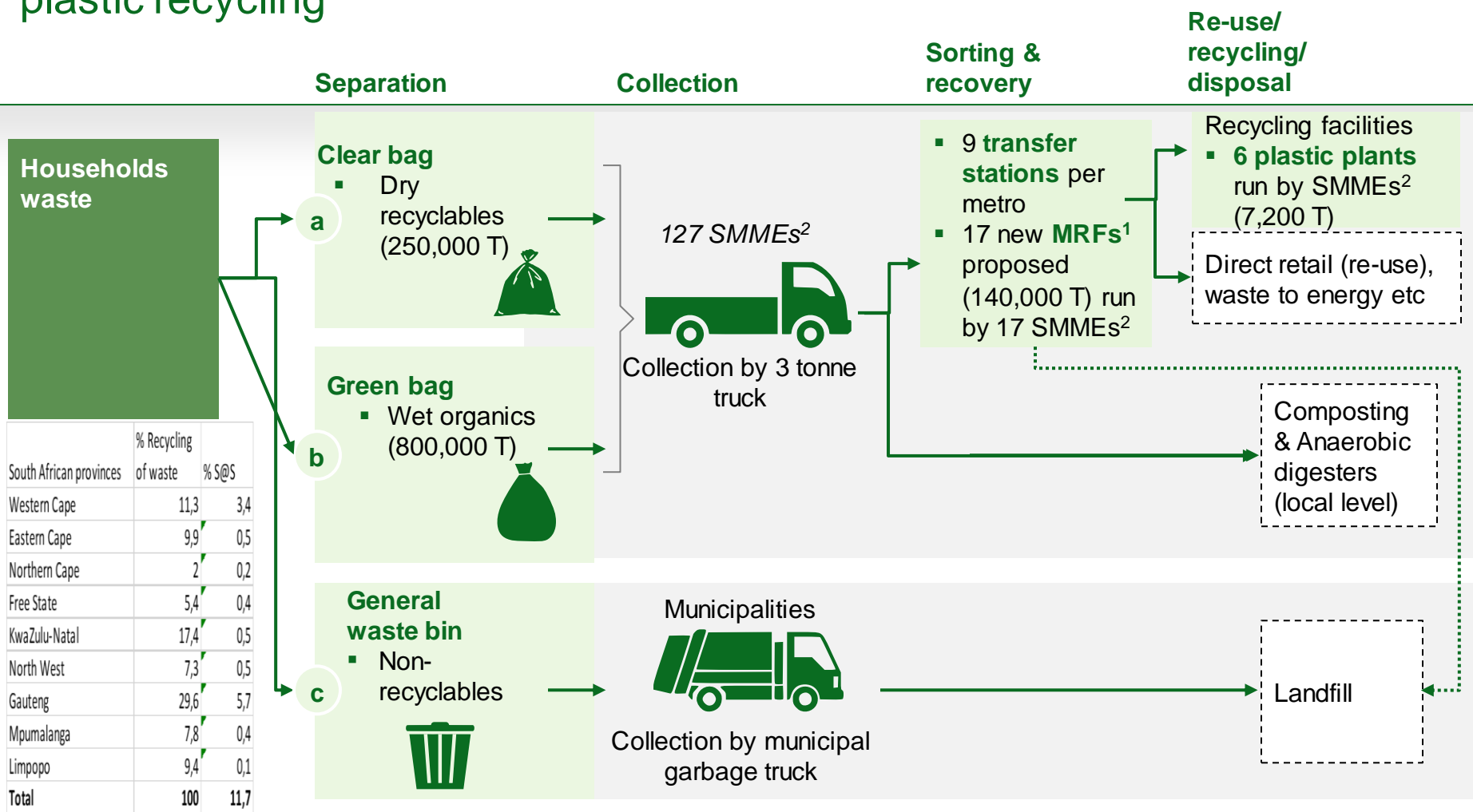
	% DIVERTED
Paper and Packaging*	51,4%
Electrical and Electronic Equipment**	22,1%
Lighting"***	82,8%
Ash****	4,6%

Effective and Sustainable Waste Services



Initiative 2 and 3: Separation at source and increased plastic recycling

Out of work stream scope



Enablers: Education & awareness campaigns

Incentives: Tariff re-structuring- reduced tariffs if households comply with separation system

¹ Material recovery facilities
² SMME development has a preliminary target of 30% women and 70% youth



Effective and Sustainable Waste Services

6. E-waste levy, 7. Government e-waste stockpiles , 8. Separation at source

Achievements

- Section 28 Notice was replaced with Sec 18, and published EPR Regulations and three Section 18 Notices
- Original Equipment Manufacturers & producers of "EEE" have registered with DFFE (**123 producers and 5 PROs**) and (**46 producers and 3 PROs for lighting**)
- 2 black Industrialists supported through Samsung/ the DTIC/ DFFE etc., for the collection and dismantling of e-waste.
- Review, endorsement and monitoring of implementation of Provincial IWMPs - In progress.
- 11% of Households already separating waste at source by metro municipalities
- **On-going WEEE pilot project at DFFE with 232KGs collected at DFFE** and awareness raising is ongoing. **Other Departments** initiatives incl. Gauteng (EGOV) under implementation. Developed WEEE Government Stockpiles Framework and Step by step guideline for various government departments.(December 2021). SANDF engagement and data gathering in WC / Limpopo at 2 sites completed / NC to follow

Revision of targets and timelines for 2024/25

- 18 SMMEs and 13 249 (WEEE EPR) jobs supported and/or created
- Increased compliance monitoring
- Enforce compliance with EPR targets

Effective and Sustainable Waste Services

9. Material Recovery Facilities and Plastic pelletisation and 10. Construction and Demolition Waste recycling

Achievements

- 33 MRFs have been supported through the RESP programme.
- Ongoing programme in support of Buy Back Centres and Transfer stations across the country (i.e. including revitalisation of non-operational Buy Back Centres)
- **Project finalised with final reports developed on review of by-laws for 8 Metros and template for all municipalities to emulate and also Research and market assessment to determine waste streams with high circularity potential has been developed.**
- **Local Government Support as part of the District Delivery Model:**
 - Deployment of human resource to Mangaung Metro
 - Yellow-fleet support and clean-ups

Revision of targets and 2023/24 timeline

- Increased support of MRFs and transfer stations incl. development through EPR support

Waste Management fleet delivered in 2021/22 (R44 586 713,46)

PROVINCE	District	MUNICIPALITY	ITEMS DESCRIPTION
MP	Ehlanzeni	Mbombela	1x Compactor Truck
MP		Bushbuckridge	1x Skip Loader Truck 1x Compactor Truck
LP	Mopani	Ba-Phalaborwa	1x Skip Loader Truck 1x Compactor Truck 1x TLB
LP	Vhembe	Collins Chabane	1x Compactor Truck 1x Skip Loader Truck
WC	West Coast	Matzikama	1x Skip Loader Truck
WC		Cedeberg	1x Skip Loader Truck
FS	Lejweleputswa	Masilonyana	1x Compactor Truck
FS		Matjhabeng	1x Compactor Truck
FS	Fezile Dabi	Metsimaholo	1x TLB
GP	West Rand	Merafong	1x Skip loader Truck
GP		Rand West City LM	1x FEL
EC	Sarah Baartman	Makana	1x Skip loader Truck
KZN	Ugu	Ray Nkonyeni	1x TLB
KZN	uMkhanyakude	Umhlabuyalingana	1x TLB
KZN	Amajuba	Dannhauser	1x FEL
NC	Pixley Ka Seme	Emthanjeni	1x TLB
NC	Z F Mgcawu	Dawid Kruiper LM	1x FEL
NC		Kai !Garib LM	1x FEL
NW	Bojanala	Moses Nkotane	1x FEL
NW	Ngaka Modiri	Ramotshere	1x FEL



Waste Management fleet delivered in 2022/23 (R15 311 290,86)

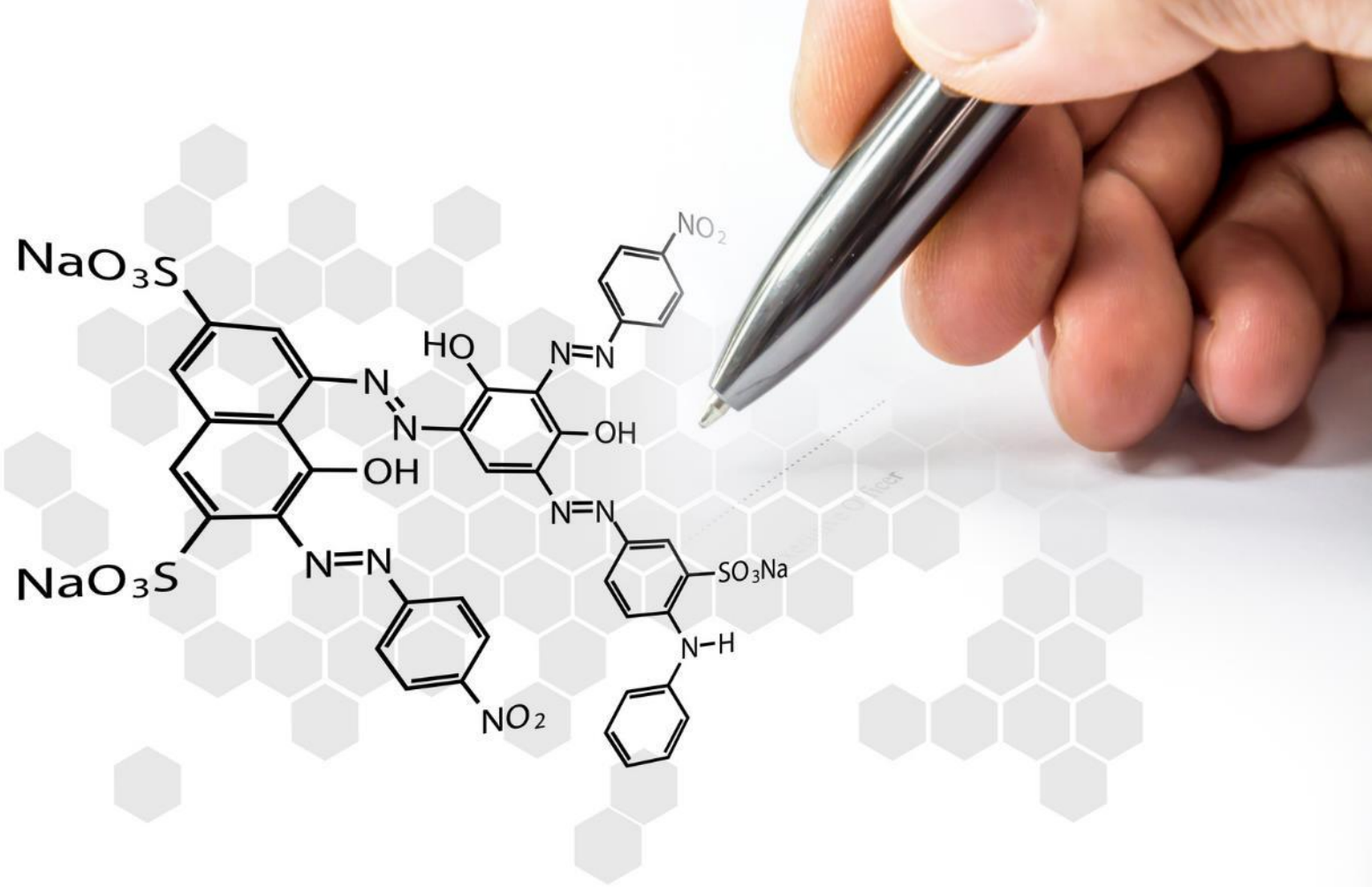
PROVINCE	DISTRICT	MUNICIPALITY	ITEMS DESCRIPTION
WC	Overberg	Overstrand	CW330 UD Compactor
WC	Central Karoo	Beaufort West	CW330 UD Compactor
EC	Joe Gqabi	Elundini	CW330 UD Compactor
EC	Amathole	Great Kei	CW330 UD Compactor
EC	OR Tambo	Nyandeni	CW330 UD Compactor
EC		King Sabata Dalindyebo	CW330 UD Compactor



Waste Management fleet that is being delivered in 2022/23

PROVINCE	DISTRICT	LM	FLEET TYPE
MP	Gert Sibande	Lekwa LM	Tipper Truck
	Nkangala	Emalaheni LM	FEL
WC	Overberg DM	Theewaterskloof LM,	Waste Compactor Truck
	West Coast DM	Saldanha Bay LM,	FEL
		Bergrivier	Waste Compactor Truck
		Swartland	Waste Compactor Truck
NW	Dr Ruth Segomotsi Mompati	Lekwa Teemane LM,	TLB
		Greater Taung	Skip Loader Truck
		Kagisano Molapo	Skip Loader Truck
		Mamusa	Waste Compactor Truck
		Naledi	Waste Compactor Truck
NW	Ngaka Modiri Molema	Mahikeng LM, Mmabatho	Waste Compactor Truck
EC	Chris Hani	Enoch Mgijima, Komani	Waste Compactor Truck
	Sarah Baartman	Dr Naude Beyers, Graaff-Reinet	Waste Compactor Truck
	OR Tambo	Port St Johns	Waste Compactor Truck
		Mhlontlo	Waste Compactor Truck
		Ingquza Hill	Waste Compactor Truck
KZN	Amathole	Raymond Mhlaba, Fort Beaufort	Waste Compactor Truck
	Umzinyathi	Nquthu, Nquthu	FEL
	Umkhanyakude	Jozini, Bottom Town, Jozini	Excavator
	Uthukela	Inkosi Langalibalele,	Skip Loader Truck
	Harry Gwala	Umzimkhulu,	Waste Compactor Truck
	Ilembe	Maphumulo,	Waste Compactor Truck
NC	Namakwa	Namakhoi,	Waste Compactor Truck
	Francis Baard	Sol Plaatje,	Waste Compactor Truck
FS	Lejweleputswa	Matjhabeng,	Tipper Truck
		Matjhabeng,	TLB
	Mangaung	Mangaung,	Skip Loader Truck
LP	Capricorn	Lepelle Nkumpi,	TLB
	Sekhukhune	Elias Motswaledi,	TLB
	Water Berg	Modimolle LM,	TLB
		Mookgopong LM	TLB
	Capricorn	Molemole LM, Mogwadi,	Skip Loader Truck
		Blouberg LM,	Skip Loader Truck
	Sekhukhune	Makhuduthamaga LM,	Skip Loader Truck

Chemicals Management



Chemicals Management

16. Establish a refrigerant reclamation and reusable cylinder industry 17. Ban import of harmful substances (e.g. Lead paints) 18. Collect and dispose stockpile of harmful substances

Achievements

- Publication of Regulations restricting the Lead levels in Paints
- 8 testing equipment procured for assisting in the enforcement of lead paint regulations
- Clean up (on-going) of Mercury containing stockpiles in KZN
- 402 RAC Informal Service Technicians trained in Safe Handling of Refrigerants course
- Ongoing: A feasibility study on the banning of refrigerant disposacans (disposable cylinders) is being undertaken

Revision of targets and 2023/24 timeline

- 2 000 informal technicians (refrigerant gas recycling) supported
- Training of port officials on Lead paint regulations and use of testing equipment.

Compliance, Enforcement and Awareness

19. Coordinate SMME opportunities 20. Coordinate national awareness

Achievements

- Recycling Enterprise Support Programme (RESP) has allocated grant funding to 32 previously disadvantaged SMMEs to establish and/or implement waste recycling and beneficiation activities in 2022/23.
- Partnership agreement between DFFE and the Kruger National Park to support SMMEs involved in waste recycling in and around the national park.
- Industrial Symbiosis Initiative implemented in 9 provinces. Companies engaged in the waste trade received free waste reduction/efficiency assessments to evaluate their business potential to generate costs savings through trading in waste and diverting waste away from landfills.
- The Department is exploring further SMME support that would leverage DFIs funding and ensure sustainability of waste enterprises.

Revision of targets 2023/24 timeline

- Implementation of industrial symbiosis initiatives in identified provinces (Region A, Region B and Region C) in coordinating efforts and establishment of regional markets and trading hubs.

Compliance, Enforcement and Awareness

Achievements

Type of facility inspected for compliance in 2022/23	Number & Province	Waste streams
Waste disposal	1 MP 2 NW 1 GP 2 KZN 1 LP	Hazardous, Slag, Plastics, Paper, organic, Metals
Waste recycling	3 WC 2 GP 1 KZN	Sewage sludge,, HCRW Tyres, EEE, oil
Waste Recovery	2 GP 1 KZN	
Waste Treatment	2 GP 1 LP	
Waste Storage	8 GP 4 EC 6 KZN 4 WC 2 NW	

Revision of targets 2023/24 timeline

- Increase compliance monitoring linked to waste management activities

Enforcement Actions – NEMWA – 2021/22

EMI Institution	No. of Admin enforcement	Criminal dockets handed over to NPA	Cases involving non-compliance with WML
GDARD	52	9	11
Limpopo	8	0	8
KZN EDTEA	50	1	25
EC DEDEA	3	11	0
NW DEDECT	5	0	1
MDARDLEA	13	7	
DFFE	77	14	28

Compliance, Enforcement and Awareness

Achievements

- Through Working for Programmes (Working on Waste, GGD), the DFFE conducts education and awareness-raising activities targeted at schools and broader communities with various stakeholders to promote the environmentally sound management of waste with communities and the protection of the environment, including rivers, from pollution.
- More than 41 schools have participated in the education and awareness campaigns. Clean-up activities are ongoing in various parts of the country.

Revision of targets 2023/24 timeline

- Increase Municipal Cleaning Programme support activities to cover all Districts

SMME SUPPORT: RECYCLING ENTERPRISE SUPPORT PROGRAMME

RESP 2022 Call for Proposals

- In order to support new and emerging enterprises, the DFFE established the RESP programme that target emerging and start-up recycling enterprises.
- The RESP is aligned to the objectives of Operation Phakisa especially the cross-cutting initiative 19 of coordination of SMME development across various initiatives.
- The targeted waste streams are across the three (3) work streams. Waste streams that are being diverted include plastics, fly ash, construction and demolition, biomass, slag, electrical and electronic, organic, tyre and Municipal Solid Waste.
- 32 Enterprises are being supported from the RESP 2022 Call in 2022/23 and 2023/24.
- 1 037 direct jobs are being created and/or sustained with this RESP support.

CONCLUSION

- 2023/24 support for yellow fleet is prioritising improvement of landfill compliance.
- Support of the collective approach to minimising the negative environmental impacts associated with waste generation by avoiding (product re-design), reusing and recycling and Promotion of Green industries for uptake of recyclate. At a global level, the plastics treaty development has been initiated and emphasis is on life-cycle approach and circular approaches.
- Additional SMME support is under exploration with DSBD and DPWI (waste infrastructure) that would leverage DFIs engagement on EPR schemes.

25 ABBREVIATIONS

SA: South Africa

ZAR: South African Rand

NDP: National Development Plan

DFFE: Department of Forestry, Fisheries and the Environment

DPME: Department of Planning, Monitoring and Evaluation

DBSA: Development Bank of Southern Africa

DSBD: Department of Small Business Development

DTIC: Department of Trade, Industry and Competition

CWE: Chemicals and Waste Economy

DU: Delivery Unit

MRF: Material Recovery Facility

RESP: Recycling Support Programme

OEMs: Original Equipment Manufacturers

EEE: Electrical and Electronic Equipment

IWMP: Industry Waste Management Plan

TOR: Terms of Reference

HH: Household

C&D: Construction and Demolition

ICT: Information and Communication Technology

SACAA: South African Coal Ash Association

AD: Anaerobic Digester

FBR: Fluidised Bed Reactor

EPR: Extended Producer Responsibility

CGSA: Consumer Goods Council of South Africa

RDF: Refused Derived Fuel

SEIAS: Social and Economic Impact Assessment

RAC: Refrigerant and Air-conditioning

NMMS: National Mercury Management Strategy

SMME: Small and Medium Enterprise

M&E: Monitoring and Evaluation

DFI: Development Finance Institutions

MoU: Memorandum of Understanding

SEDA: Small Enterprise Development Agency

SEFA: Small Enterprise Finance Agency

GDP: Gross Domestic Product

SIDS: Small Island Developing States

THANK YOU!

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OPERATION PHAKISA
CHEMICALS AND WASTE ECONOMY