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Leveraging the National Waste Management Strategy (NWMS) for a Just Transition: MSME's and e-Waste

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Aysha Lotter and Susanne Karcher.

Empa
Materials Science and Technology

WORLD RESOURCES FORUM

Who are we and Why are we here?

- **Susanne Karcher:** MSc Chemical Engineering, Environmental Consultant.
  - National SRI Coordinator
  - SRI Project Lead at the National level
- **Aysha Lotter:** Environmental and Mineral Law Consultant
  - Policy and Norms and Standards Drafting
  - Doctoral Research on product stewardship and the circular economy focusing on electrical and electronic equipment.

Key Points

Leveraging opportunities: National Waste Management Strategy, Extended Producer Responsibility, and associated documents

MSME's in e-waste:
Barriers, opportunities and drivers

.Upcoming e-Waste Policy and Norms and Standards

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The Problem and Promise WEEE face

- Significant environmental and social impacts **if** not managed

- WEEE in a Just (Energy) Transition: Has the **potential** to create an inclusive digital economy cognisant of, and responsive to, global unsustainable production and consumption practices

82.3% OF ALL OUR GLOBAL E-WASTE GOES UNDOCUMENTED

Environmental contamination

- Dumping acid used to remove gold into rivers
- Leaching of substances from landfills or stored electronics
- Particulate matter, dioxins, furans from dismantling electronics
- Contaminants entering the water system and food system through livestock, fish, and crops

Children

- Ingesting contaminated dust on surfaces
- Playing with dismantled electronics
- Children and adolescents working in collection, dismantling, and recycling

Occupational exposure

- Inhaling fumes from burning wires and cooking circuit boards

Community exposure

- Exposure through food, water, air
- Home based workshops

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PRODUCT TO WASTE - WASTE TO PRODUCT
A full lifecycle of potential

Why invest?

ISO9000 as minimum certification

High standards
Most SA electronics companies comply with ISO9000 or ISO9001 standards and production line staff is trained to the IPC610 workmanship standard, ensuring high quality and cost-competitive solutions.

Up to **300%** growth in Africa's smart meter markets

A world leader in smart meter technology
Having pioneered the technology, South African companies are world leaders in smart and pre-paid meter technology. The African smart electricity meter is expected to grow from less than US$90bn in 2019 to close to US$340bn in 2023. The SA electronics sector is well positioned to take advantage of this rapid market growth.

90% of global PGMs reserves

World-class electronics capabilities
South Africa has advanced electronics manufacturing capabilities. The country's firms offer an integrated and well-established electronics value chain that includes design, engineering, manufacturing, testing, implementation and maintenance.

Key inputs for emerging technologies
According to the Department of Mineral Resources, South Africa holds more than 90% of global platinum group metals (PGMs) reserves and 75% of global supply. PGMs play an important role in the manufacturing of emerging fuel cell technology. South Africa's leading reserves ensure ready access to PGMs.

Gateway to Africa
South Africa is the leading manufacturing hub in Africa. Its manufacturing capabilities, its efficient logistics network and preferential regional market access position the country as an ideal location for electronics companies seeking to supply their products into Africa.
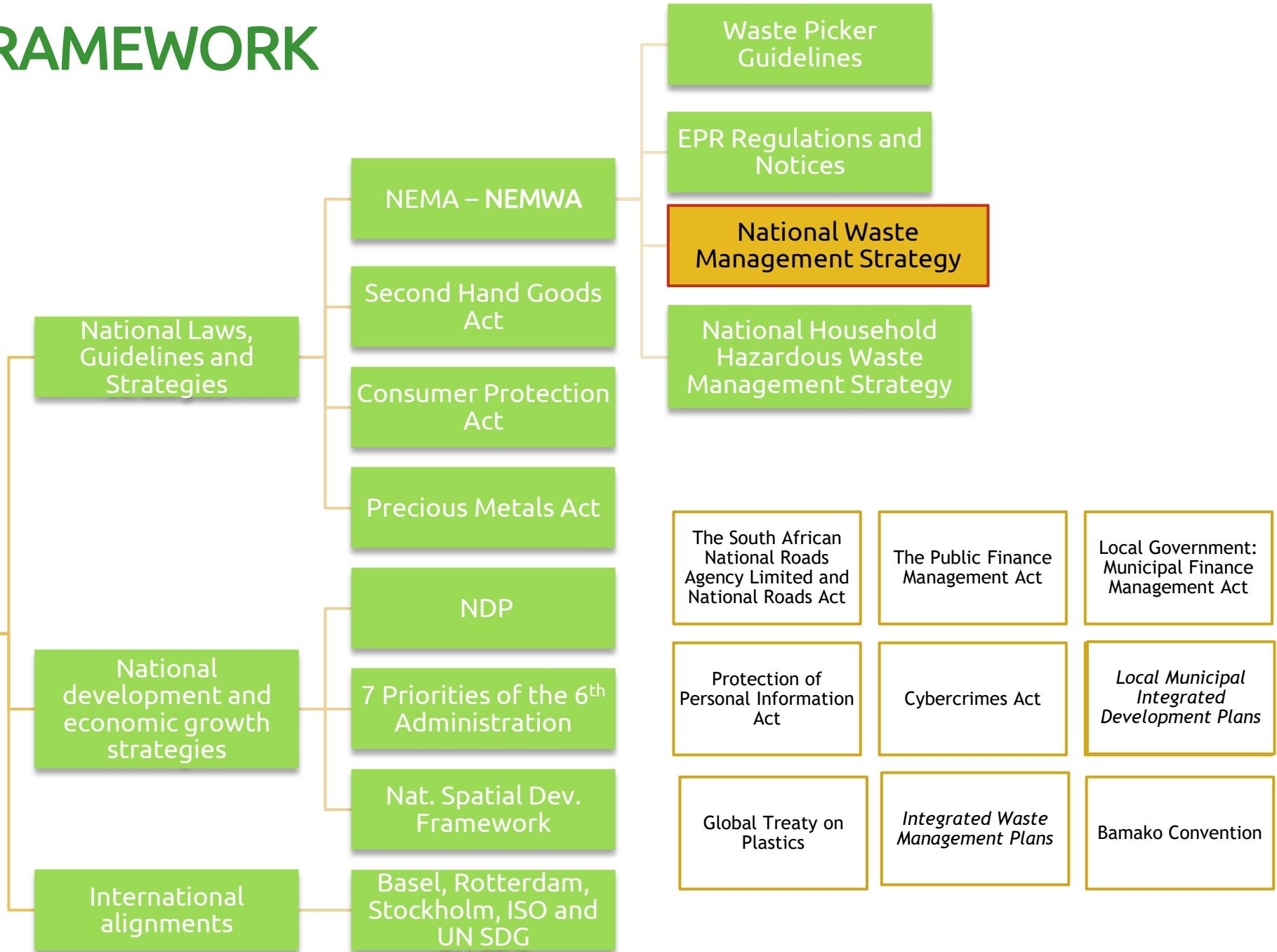
Access to **1.2bn** consumers

E-waste: The WC is estimated to have generated between 43 290 – 68 501 tonnes of e-waste in 2020. The market value is estimated at between R55.2 – R109.8 million per year. At a municipal level, the greatest value lies in the Cape Town metropolitan area, with an estimated market value of between R36.5 – R77.4 million. However, based on actual landfilled numbers of ~3 697 tonnes at CCT landfills and ~1 026 tonnes landfilled at the private landfill, this value is between R6.1 – R7.6 million per year.
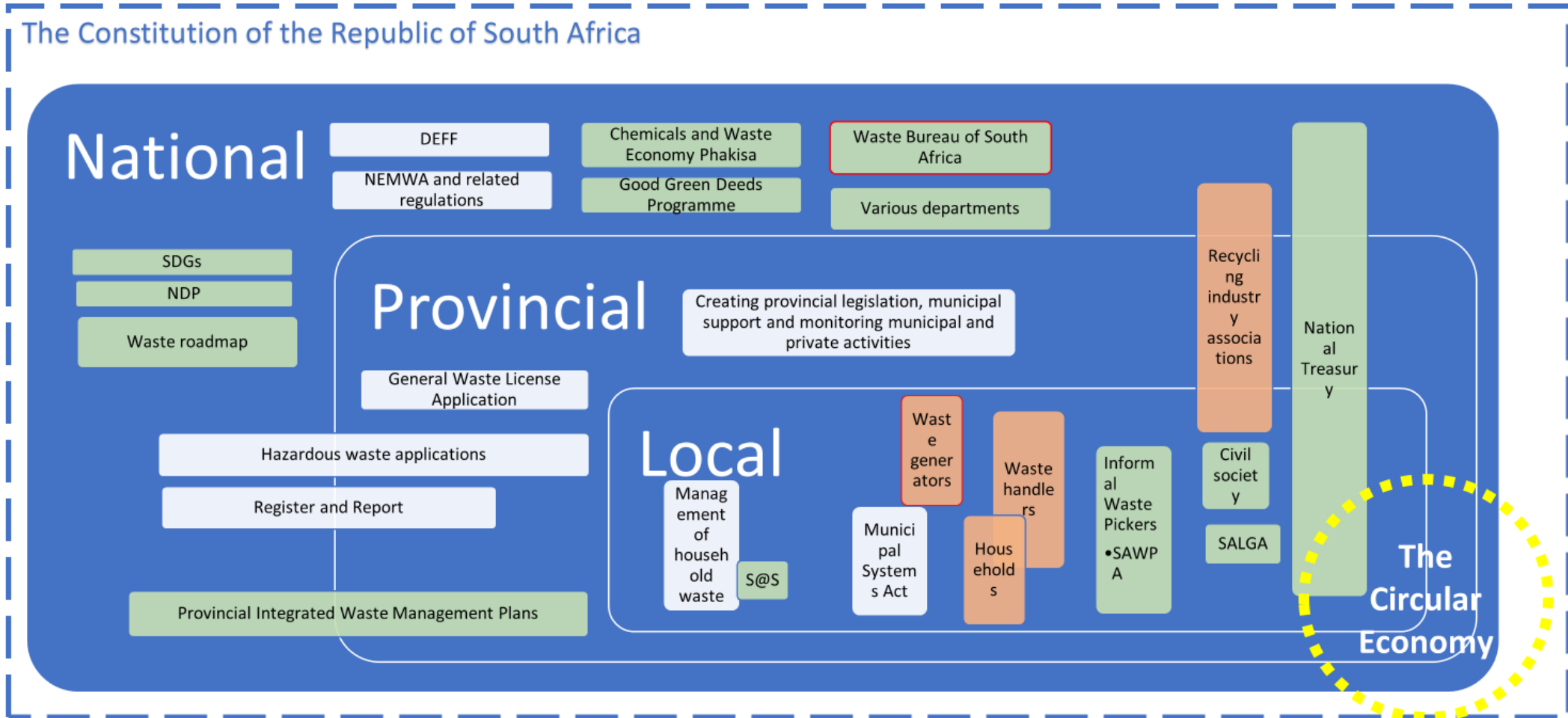
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LEGAL FRAMEWORK

The Constitution

National Laws, Guidelines and Strategies
- NEMA – **NEMWA**
  - Waste Picker Guidelines
  - EPR Regulations and Notices
  - National Waste Management Strategy
  - National Household Hazardous Waste Management Strategy
- Second Hand Goods Act
- Consumer Protection Act
- Precious Metals Act

National development and economic growth strategies
- NDP
- 7 Priorities of the 6th Administration
- Nat. Spatial Dev. Framework

International alignments
- Basel, Rotterdam, Stockholm, ISO and UN SDG

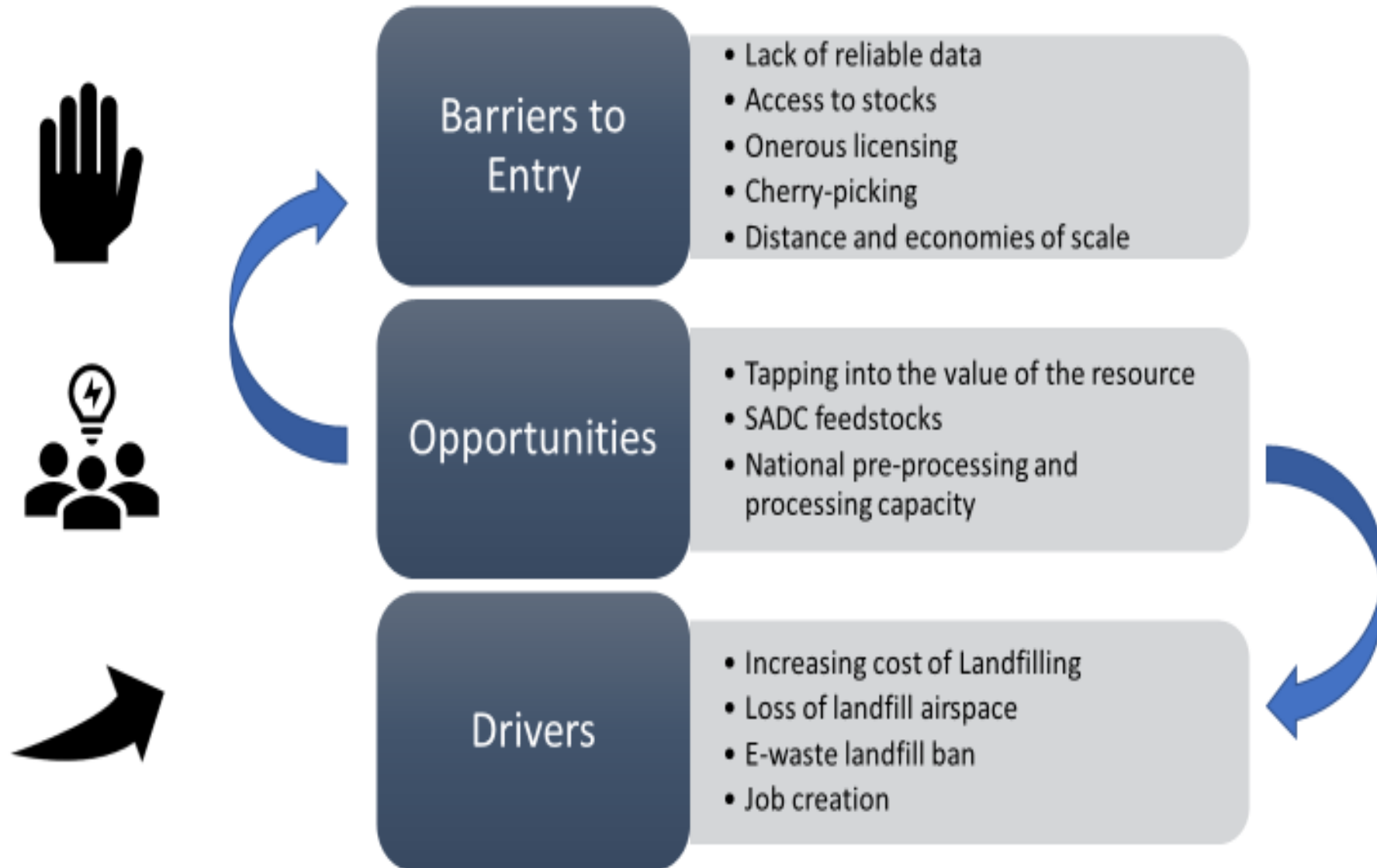|		
The South African National Roads Agency Limited and National Roads Act	The Public Finance Management Act	Local Government: Municipal Finance Management Act
Protection of Personal Information Act	Cybercrimes Act	*Local Municipal Integrated Development Plans*
Global Treaty on Plastics	*Integrated Waste Management Plans*	Bamako Convention

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Governance Map of the National Waste Management Strategy

Key roles and Relationships in the Waste Sector: 2020 NWMS vision

WEEE in the MSME context

Barriers to Entry
- Lack of reliable data
- Access to stocks
- Onerous licensing
- Cherry-picking
- Distance and economies of scale

Opportunities
- Tapping into the value of the resource
- SADC feedstocks
- National pre-processing and processing capacity

Drivers
- Increasing cost of Landfilling
- Loss of landfill airspace
- E-waste landfill ban
- Job creation

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OUTCOME ONE

An **adequate policy and legislative framework** enables the implementation of a sustainable e-waste management system.

UP TO NOW

- Final: Policy Summary Report
- Final Draft: DFFE WEEE Policy Document
- First Draft: Policy Guideline report
- First Draft: Municipal By-Law Harmonisation Toolkit.
- Significant PRO Engagement

GOING FORWARD

- WEEE Policy Implementation Committee (WEEEPIC) after the DFFE Gazette the final WEEE Policy
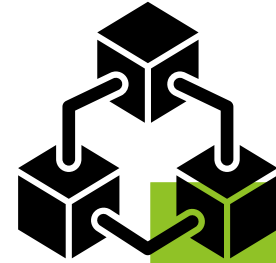- WEEE Policy Costing Framework
- Municipal WEEE Compass

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South Africa Policy Development Baseline Study

Supporting Analysis with a Focus on Global EPR-based WEEE Management Systems

March 2023

POLICY
PROCEDURE

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OUTCOME TWO

Normative requirements and performance measures ensure a level playing field.

UP TO NOW

- Final Draft of Norms and Standards document ready shortly for public input/industry consultation
- First Draft: Guideline report on how to apply N&S based on stakeholder groups
- First Draft: Summary of the Elements required for development of a Conformity Assessment and Verification Protocol

GOING FORWARD

- Workshops and Training related to N&S and Guidance thereof
- Conformity assessment schemes and verification procedures
- N&S Auditing Protocol Development
- Conducting and Documenting the Auditing Training
- Pilot Audits for PROs

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