A WASTE RDI ROADMAP FOR SOUTH AFRICA

Overview of the DST and the Waste RDI Roadmap









Outline of presentation

- Overview of the Department of Science and Technology (DST)
- Brief overview of the 10-Year Waste RDI Roadmap process and outcomes







Department of Science & Technology



- Vision
 - Increased well-being and prosperity through science, technology and innovation.
- Mission
 - To provide leadership, an enabling environment, and resources for science, technology and innovation in support of South Africa's development.

The Waste RDI Roadmap is therefore implemented in line with the DST's mandate "to use science and technology to improve the country's economy, create employment and improve the quality of life of all citizens" [Minister, 2014], as part of a suite of strategies including the Global Change Implementation and Bioeconomy strategies







Department of Science & Technology









Human Sciences Research Council





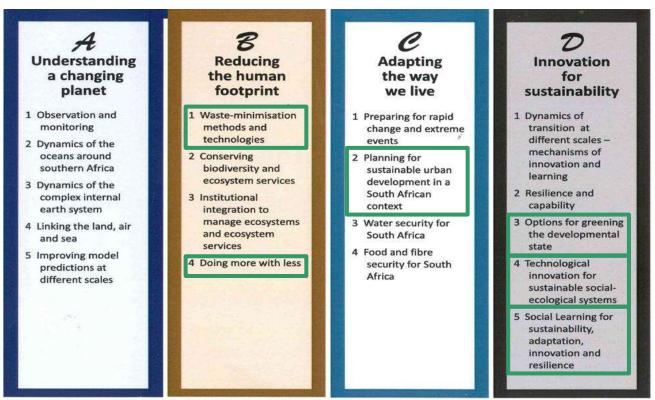


Industry / Business





The Need for Waste RDI in SA



The Global Change Research Plan identifies four major cross-cutting knowledge challenges and 18 key research themes.



The Need for Waste RDI in SA

Waste RDI Roadmap – 2015, DST

The Strategy calls for informed decisionmaking supported by scientific research.

National Waste Management Strategy - 2011, DEA

Drivers in Waste





The Need for Waste RDI in SA

- The correct management of waste and the diversion of waste away from landfill —
 - Creates opportunities to move resources into a local secondary resources economy
 - And in so doing, create environmental, social and economic opportunities for South Africa
- In this lies significant opportunity and need for research, development and innovation (RDI) to –
 - Unlock new solutions for utilising "waste"
 - Inform policy development and implementation
 - Inform technology uptake
 - Inform decision-making through sound evidence







Informing the Waste RDI Roadmap



"Skills for an Innovative Waste Sector: Current waste HCD initiatives in South Africa"



"Current and Required Institutional **Mechanisms** to Support Waste Innovation"



"Waste Research,
Development and
Innovation (RDI)
Capabilities at South
African Universities and
Science Councils (2014)"



"The economic benefits of moving up the waste management hierarchy in South Africa?







Informing the Waste RDI Roadmap



South African Waste Sector – 2012



Opportunities for Priority Waste Streams



Trends in Waste
Management and
Priority Waste Streams
for the Waste RDI
Roadmap



A Waste Research, Development and Innovation Roadmap for South Africa (2015-2025)







Background: The Approach







- Developing the Roadmap together with the waste and recycling sector through –
 - Regional stakeholder workshops to priortise the waste streams and goals
 - Industry expert working groups for each of the 5 priority waste streams
 - Academic expert working groups for each of the 6 clusters of the Roadmap





Background: Priority Waste Streams



Municipal Solid Waste

e.g. paper and packaging, C&D waste, OFMSW, residual waste



Electronic Waste (WEEE)

e.g. all fractions, metal, plastic, glass, etc.



Waste Plastic
 e.g. pre- and postconsumer plastics (all)



Organic Waste

e.g. industrial biomass, OFMSW, food waste



Waste tyres

Maximising the diversion of waste away from landfill towards value-adding opportunities, including prevention of waste and the optimised extraction of value from reuse, recycling and recovery, in order to create significant social, economic, and environmental benefit for South Africa.







10-year Waste RDI Roadmap for SA

- The Department of Science and Technology (DST)
 - Published South Africa's 10-Year Waste Research Development and Innovation (RDI) Roadmap in 2014
 - Aimed at providing strategic direction to guide South Africa's portfolio investment, for the next 10 years, in six identified clusters of waste and secondary resources research, development and innovation activity
 - That would lead to (1) More effective decision-making, (2) Faster insertion of context-appropriate Technology, (3) Export of Know-How and Technology, (4) Strengthened RDI capability and capacity
 - And ultimately support South Africa's implementation of the National Waste Management Strategy and the waste hierarchy



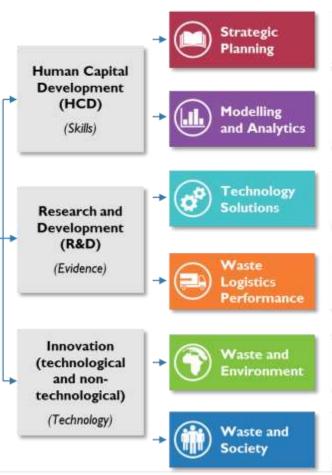


10-year Waste RDI Roadmap for SA

Problem — Means — How — Opportunities

Problem Statement:

- 90% of South Africa's waste goes to landfill
- Resulting in loss of resources to the economy
- Resulting in social (human health) and environmental impacts
- Municipalities face challenges in delivering services and diverting waste from landfill
- Alternative waste treatment typically more expensive than landfilling



Strengthen skills and generate evidence to inform decisionmaking, planning and policy development by government and industry

Strengthen skills in methods, tools, models and techniques and apply these to generate evidence to inform the management of waste

Develop, evaluate, demonstrate, localise and deploy technologies to support municipalities and industry in diverting waste away from landfill towards value-add

Strengthen skills and generate evidence to optimise decision-making around the movement of waste across the country (logistics, assets, resources)

Strengthen skills, generate evidence, deploy technologies to reduce the impacts of waste on receiving environments

Deepen understanding of the socio-economic opportunities provided by waste, but also the threats that waste poses to human health

Opportunities:

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- Preventing waste creates opportunities for industry to increase value-addition and competitiveness
- Diverting waste from landfill creates opportunities for new direct and indirect jobs and enterprises
- Improved management of waste reduces risks to human health and environment







10-year Waste RDI Roadmap for SA





EPUBLIC OF SOUTH AFRICA





Implementing the Waste Roadmap











- The CSIR was appointed by the DST to implement the Waste RDI Roadmap from April 2015
- The Waste RDI Roadmap Portfolio Management Unit (PMU) is hosted by the CSIR Implementation Unit and headed up by Prof Linda Godfrey
- The PMU is tasked with driving human capital development (HCD), research and development (R&D) and innovation
 - In partnership with Government, Industry and Academia, and
 - Actively engage opportunities (local and international)
 for waste RDI collaboration and co-investment





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Waste RDI Roadmap

Outlines the proposed interventions, progression paths and the related instruments, and the required RDI investment over time







Trends

Describes the local and global trends in waste management and approach adopted in arriving at the priority waste streams for the Roadmap

Capabilities

Maps the nature, availability and maturity of waste RDI capability and capacity in South Africa

Opportunities

Provides an overview of the Market Opportunities we see, how attractive they are and what is required to realise them



