

# 10-YEAR WASTE RDI ROADMAP FOR SOUTH AFRICA (2015-2025)

## Industry-meets-Science Workshop on Food Waste



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ImS Food Waste Workshop

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science  
& technology

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REPUBLIC OF SOUTH AFRICA

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# Priority Waste Streams of the Roadmap



- **Municipal Solid Waste**

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



- **Waste Plastic**

e.g. pre- and post-consumer plastics (all)



- **Waste tyres**



- **Electronic Waste (WEEE)**

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



- **Organic Waste**

e.g. industrial biomass, OFMSW, food waste

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.

# Industry-meets-Science Workshops

- The DST has to date held 3 Industry-meets-Science workshops
- With the aim of strengthening relationships between industry and academia, to ensure that RDI is directed to solving real challenges
- This workshop is different in that it's the first time where "industry" could be considered the generators of, or contributors to, the waste stream
  - Previous workshops, industry was typically the recyclers/reprocessors who recovered value from the waste stream, or who were looking for new business opportunities in the waste stream
  - Interestingly, this has had a noticeable impact on the willingness of industry to formally engage on this topic
- Having said that, we are not here to point fingers, but to share, to learn, to explore opportunities, and ultimately, to co-create South Africa's future R&D agenda on food waste management

# Industry-meets-Science Workshops

- How has DST used the outputs of these previous ImS workshops?

Focus area	Date	Activities
Organic waste	26-27 Nov 2015	Informed the 2015/16 <b>Call for post-graduate Scholarships</b> and Call for Research Proposals, from which the DST awarded 4 (of 8) <b>scholarships</b> and 8 (of 11) <b>research grant</b> projects in organic waste beneficiation
Bioplastics	21 Jan 2016	Established the <b>SA Bioplastics Forum</b> , currently engaging with how we strengthen this potential new economic sector in South Africa
Electronic waste	8 March 2016	Informed a <b>targeted research</b> project on the South African WEEE Technology Landscape (Mintek) and the 2016/17 Call for Proposals from which the DST awarded five (5) new <b>research grant</b> projects

# Grant funded R&D Projects (Organic)



Beneficiation of **forestry biomass** waste streams  
[Prof B Sithole, CSIR NRE, Durban]



Valorisation of **waste chicken feathers**  
[Prof B Sithole, CSIR NRE, Durban]



Value recovery from **solid confectionary waste**  
[Prof S Harrison, UCT, Cape Town]



Biogas and volatile fatty acids biorefinery by co-digestion of **fruit juice wastes** with lignocellulosic biomass  
[Prof J Görgens, SUN, Stellenbosch]

# Grant funded R&D Projects (Organic)



Sustainable utilization and conversion of post-harvest **agricultural waste** residues into value added materials  
[Dr M John, CSIR MSM, Port Elizabeth]



Reactor design for industrial furfural production from **sugar cane** agricultural residues [Prof J Görgens, SUN, Stellenbosch]



Production of novel cellulose nanocomposites from **organic waste**  
[Dr A Chimphango, SUN, Stellenbosch]

# Industry-meets-Science Workshops

- Series of workshop reports



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