

Focus on CSIR Research in Pollution and Waste

CSIR Natural Resources
and the
Environment
2007

Integrated waste management

Main focus

Research into integrated waste management is undertaken in view of the impact of increasing populations and a strong national focus on industrial, agricultural and urban growth that is likely to result in the increase of human induced pressures on the environment. Despite the implementation of policy to ensure the reduction and mitigation of pollution, there will be an ongoing need to deal with waste.

The focus of the Research Group, Integrated Waste Management and Industrial Ecology, is on understanding the opportunities and constraints provided by general and hazardous waste generation in Southern Africa.

Research Focus for 2006

Research conducted during 2006 focused on building research capacity around identified priority waste streams, waste processes, and social and governance aspects of sustainable waste management. This included research on:

- Redefining waste to support reuse
- Mining waste
- Organic waste
- Waste information and behaviour
- Industrial ecology

Research Focus for 2007

Research focus for 2007 is on:

- Alternative technologies in organic waste reuse
- Economic instruments in waste management
- Mining and industrial waste
- Industrial ecology

Research Outputs for 2006

Defining waste – Are we beyond the age of ‘waste’?

This paper, submitted for journal publication, explores the global debate around the

definition of waste and the need to support waste reuse initiatives by facilitating either streamlined definitions or supportive administrative processes.

The enabling environment for mining waste reuse

Mining waste constitutes approximately 88% of all waste produced in South Africa. While opportunities for reuse exist, little progress in mining waste reuse has been realised. This research explores the reuse opportunities for mining waste and the governance environment required to support it.

Composting as a tool for poverty alleviation

Composting of the organic fraction of municipal solid waste provides opportunities for community poverty alleviation. This research explores a number of implementation models and their potential for generating income for municipalities and communities.

The generation of biogas from the organic fraction of municipal solid waste

This position paper explores the use of organic waste in generating biogas as a possible alternative energy source. This theme has been identified as a flagship project for further research, by the CSIR, in 2007.

South Africa’s progress in industrial ecology

This paper, submitted for journal publication, explores the topic of industrial ecology and its relevance to the future management of waste in South Africa.

Implementing Industrial Ecology in Industrial Development Zones (IDZ)

This report explores the opportunities for implementing industrial ecology and waste symbiosis in South Africa’s IDZs.



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