

# **Municipal Waste to Energy Value Chain Logistics in the City of Johannesburg**

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## **Abstract**

concerns over the effects on health and the environment have grown especially about urban solid waste. In response to these concerns, the study assessed the state of reverse logistics for the generation of bioenergy in Johannesburg. The research has contributed to the creation of information systems and databases with raw data that includes, returns rate, recovery rate, returns inventory turnover, waste quantification, and supply chain management systems and framework. This new knowledge can be applied to any other cities. The study developed a logistics model for waste to bioenergy in an urban setting, which included process options and conversion paths for converting the targeted waste stream to enriched bioenergy. The study also developed a framework for the management system to successfully achieve a municipal waste reverse logistics system for bioenergy production.