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## WASTE MANAGEMENT: A LIFE CYCLE PERSPECTIVE

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### Abstract

The purpose of this LCA study is to analyze the evolution of environmental impact of management system of MSW Iasi between 2011 - 2038, by comparison of some evolutionary scenarios that take into account the increase in waste collected and used by recycling and composting and some alternative scenarios for waste treatment by switching from landfilling to energy recovery by incineration.

The functional unit of the study is a tone of waste for comparisons of units, or total MSW generated in the year of scenario and processed in the waste management system.

The system begins with the collection of MSW in the housing areas of the city and includes transport of waste, different methods for their treatment (landfilling, recycling, composting and incineration). System boundaries are finished when the waste is finally disposed whether by landfilling or incineration. Life cycles of secondary products are not considered in this system.

LCIA (Life Cycle Inventory Analysis) data for this study were collected from Waste Management Strategy in Iasi (Iasi County Council, 2009), Master plan of waste management in the county of Iasi (Romair Consulting LTD, 2006).

*Key words:* energy, incineration, Integrated Waste Management, Life Cycle Assessment, Municipal Solid Waste

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