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## SOLID WASTE MANAGEMENT SYSTEMS ASSESSMENT: THE MUNICIPALITY’S POINT-OF-VIEW

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### Abstract

The objective of the paper is to present *sustainability indicators* for municipal solid waste management (MSWM). Sustainability implies *environmental*, *economic* and *social* acceptance. The complexity of the system-in-focus requires the employment of a systems (or cybernetic) approach: *Acceptance* implies clear *objectives*, from a specific *point of view* (here, the viewpoint of the municipal administration is taken), over a *time horizon* covering at least two generations, a *life-cycle* consideration, clear evaluation *criteria* for alternative MSWM systems, and finally specific and measurable *indicators* of the degree to which the objectives have been met. In this paper, a number of specific *environmental indicators* (abiotic depletion, human toxicity, global warming, acidification, eutrophication, photo-oxidant formation, etc.), *economic indicators* (cost per ton or per household or per person, revenue from recovered material and energy, MSWM system cost as % of GNP of the city, diversion between revenue and expenditures for MSWM, cost per capita as % of minimum wage, subsidies per person) and *social indicators* (odor, visual impact, comfort, required or used-up space, noise, system complexity, employment quality, etc.) are suggested for measuring the performance of municipal SWM systems. Specific real application is mentioned for a Greek city.

*Keywords:* solid waste management, evaluation criteria, performance indicators, sustainability, life cycle analysis

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