

A Comparative Analysis of Solid Waste Treatment Technologies on Cost and Environmental Basis

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Abstract : Waste management decision making in developing countries has moved towards being more pragmatic, transparent, sustainable and comprehensive. Turkey is required to make its waste related legislation compatible with European Legislation as it is a candidate country of the European Union. Improper Turkish practices such as open burning and open dumping practices must be abandoned urgently, and robust waste management systems have to be structured. The determination of an optimum waste management system in any region requires a comprehensive analysis in which many criteria are taken into account by stakeholders. In conducting this sort of analysis, there are two main criteria which are evaluated by waste management analysts; economic viability and environmentally friendliness. From an analytical point of view, a central characteristic of sustainable development is an economic-ecological integration. It is predicted that building a robust waste management system will need significant effort and cooperation between the stakeholders in developing countries such as Turkey. In this regard, this study aims to provide data regarding the cost and environmental burdens of waste treatment technologies such as an incinerator, an autoclave (with different capacities), a hydroclave and a microwave coupled with updated information on calculation methods, and a framework for comparing any proposed scenario performances on a cost and environmental basis.

Keywords : decision making, economic viability, environmentally friendliness, waste management systems

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