

**Solid waste generation and management in Portugal:  
- An environmental input-output modelling approach**

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**Abstract**

Waste generation can be a source of pollution and at the same time a loss of resources, both in the form of materials and energy. In addition, once waste has been produced, dealing with it is expensive and causes a number of pressures on the environment, including the use of land for landfills and the emission of greenhouse gases from the treatment and decomposition of organic waste.

The focus of this research is the generation and management of solid waste and their economic and environmental dimensions. An environmental input-output model for the Portuguese economy is presented to give an analytical representation of the interdependencies between the economic activities and the quantities of waste generated, the main specific sources of waste generation, the significance of hazardous substances present in the waste generated, and the overall dependence on landfill consumption of individual industries. With reference to the Portuguese economic structure, this modelling approach is tested on the study of the waste-economy-environment interactions. Finally, the most important results, as well as the potentialities and limitations of the modelling analysis implemented, will be critically assessed and a summary concerning the needs for future research will be given.

**Keywords:** Environmental input-output analysis; Solid waste; Portugal.

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