

# Chapter 15

## Reverse Logistics and Solid Waste: Challenges for the National Waste Policy (PNRS) in Brazil

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### ABSTRACT

*This chapter promotes a selection of works collected that seek to analyze the need and the evolution of reverse logistics into the context of the National Policy on Solid Waste in Brazil. Nineteen years of intensive discussion have been held until the legal framework for the implementation of Agenda 21 of 1992 on the environmentally sound management of solid waste could be announced. The principle of shared responsibility for the product lifecycle, which reaches manufacturers, importers, distributors and traders, consumers, and holders of public solid waste management services, is the central theme of the law and undoubtedly innovates on the issue, placing Brazil alongside countries such as those of the European Union and Japan. However, a serious problem that distances them is to achieve large population densities with the benefit of municipalization of the process of control of urban waste. The rate of effective management of solid wastes is relatively low at the municipal level compared to the countries mentioned.*

### INTRODUCTION

In the twentieth century, due to industrial revolution and technology development, consumption patterns of the people, all over the globe, have changed. The use of natural resources and goods has increased a lot. Due to this, huge quantities of different types of solid wastes are produced every day creating an enormous problem of their disposal. It is now recognized that proactive management is required to deal with this problem, i.e., it is required to reduce the generation of solid waste, effective collection of solid waste and utilization of solid waste rather than concentrating on disposal alone. Thus, solid waste management involves management of activities associated with generation, storage, collection, transfer and

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transport, reuse and recycling, processing and disposal which should be environmentally compatible, adopting to the principles of economy, aesthetics, and energy conservation.

Over the past 25 years, Europe has moved ahead, ordering the entire waste management process in the Old Continent and issuing dozens of European Community directives. And, notably in Europe, there has been considerable scientific and technological progress in the field of waste management.

Brazil's neighbors Uruguay, Argentina, Peru and Chile were able in the meantime to edit their General Waste Laws. In the wake of these achievements, the quality of life, the urban environment, society and economy were privileged. The United Nations Conference on Environment and Development (Rio-92) adopted a program of action for sustainable development, now known as Agenda 21. With regard to solid waste, the document recognizes that unsustainable patterns of production and consumption are causes of environmental degradation, and a significant change of this model is indispensable in order to minimize the generation of waste at all stages cycle of the product or service.

According to Agenda 21, the environmentally management of solid waste must go beyond its deposit or use by safe methods, which requires the participation of the whole society. To this end, public power in all spheres, together with the business sector, consumers and other segments of society, must act by encouraging the introduction of new environmentally healthy products and services, recycling and reuse of the product consumed and the inputs used in processes of production and also by reducing the waste in the packaging of the products.

The debate about a national solid waste management and management policy goes in the 1980s, started from a proposal presented in the Brazilian Federal Senate, which had specific provisions on health service waste. During the long process of the matter in Parliament (11 years, until the Agenda 21 and then, 8 more until signing The National Policy of Solid Waste, totaling 19 years), the project started to incorporate different issues related to solid waste and, gradually, a legislative proposal based on the principles established in Agenda 21 was consolidated.

In this chapter, solid residues are approached from the perspective of the national policy of solid waste in Brazil and its process, with a focus on understanding conceptual details of the management, control, tools and integrated participation proposal, presenting some difficulties in its implementation and with emphasis on the treatment and management of municipal solid waste.

## **GENERAL CATEGORIES OF SOLID WASTE (SW)**

“Based on the source of contributors, four common categories of solid waste are: a) Municipal waste<sup>1</sup>, b) Industrial waste, c) Agriculture and Animal waste and d) Hazardous waste” (Nag & Vizayakumar, 2005, p.11).

## **MUNICIPAL WASTE (MSW)**

According to Nag & Vizayakumar (2005), there are several derivations of meaning and context to consider. Useless, can not be used, not wanted. These are some of the meanings of the waste dictionary. Generally, readers are driven by such concepts, as if only part of the solid waste meant municipal solid waste (MSW). “In addition to MSW, there is a substantial contribution in terms of solid industrial waste of variable composition and solid waste from thermoelectric power plants and activities related to agri-

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