

Collection: the strongest link for a sustainable solid waste management

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More than ever, waste collection is the most important operation for promoting sustainable waste management. This sentence is the backbone of the book *Sustainable Solid Waste Collection and Management* (Pires et al., 2019). Beyond showing the technical, economic, psychological and environmental perspectives of waste collection, the book highlights how waste collection must be operated to ensure the implementation of Sustainable Development Goals from the United Nations in the waste management sector.

Part I focuses on the fundamentals ruling how waste collection and management should be performed. Through the perspective of the waste hierarchy principle, all stages are addressed in the book: products in their pre-waste state, waste generation, collection and post-waste generation. This novel approach to the waste problem can incentivise students, professionals and researchers to devote their time to considering waste collection as a way to enhance waste hierarchy and to promote a circular economy framework.

For each waste stream and waste material, the specificities of the waste collection need to be taken into account in order to ensure success. But what is a successful waste collection system? It is a system which a) removes all waste from the streets (or from deposition places), and is not a threat to public health; b) is capable of collecting secondary resources for reintroduction into the economy, where the waste producer is, in fact, the provider of resources; c) directs the waste with no chance of recovery to a destination with limited risk to the environment and public health; d) is cost-efficient and complies with (several) target regulations. In short, Part II highlights the challenge of the design, plan, operation and management of a waste collection system, and identifies factors capable of affecting its performance.


Part III explores the several faces of sustainable waste management promoted by the waste collection. Methodologies and techniques capable of assessing, optimizing and identifying compromises and solutions are the tools presented and illustrated by

case studies, demonstrating to readers the many possibilities of using such methods in their waste collection schemes.

Finally, Part IV looks to the future of waste collection and the pursuit of sustainable waste management. A closer look at the Sustainable Development Goals from the United Nations and the role of waste collection is discussed here. Notwithstanding, the future challenges and perspectives of waste collection in different global realities and contexts are highlighted. The challenges faced by developing countries, such as the absence of appropriate waste collection schemes, result in marine litter and public health problems. In developed countries, the novelty of the Internet of Things, the fourth Industrial Revolution, smart cities and urban intelligence are generating new materials, new products and new waste flows with consequent new challenges. A new waste collection era is rising, and this book intends to illuminate the path for such an era.

More information can be found at <https://www.springer.com/gp/book/9783319931999#aboutBook>.

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Reference

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