Municipal Biowaste Collection Strategies in Portugal: Assessing Local Approaches to EU-Driven Separate Collection Requirements

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The separate collection of biowaste is a key requirement under European Union legislation, particularly following the revision of the Waste Framework Directive (Directive (EU) 2018/851), which mandates Member States to ensure that biowaste is either separated and recycled at source or collected separately and not mixed with other types of waste. This legal obligation put municipalities throughout Europe facing the challenge of adapting their waste management systems to comply with the new requirements, while addressing the environmental and operational demands of the transition toward a circular economy.

This study aims to assess the strategies adopted by Portuguese municipalities to meet the separate collection requirements for municipal biowaste. The research is based on a systematic analysis of the information made available on the official websites of Portuguese municipalities, considering this digital presence as a transparent communication channel to inform the public about local waste management practices.

The assessment framework included several dimensions of analysis: (1) the target sector of the collection schemes (residential households and/or service sector entities such as restaurants, hotels, canteens, and municipal markets); (2) the type of collection model implemented (kerbside collection, door-to-door systems, or co-collection integrated with other waste streams); (3) the type of access to the containers provided for biowaste disposal (free-access or access-controlled); (4) the size of the population targeted by the implemented collection strategy; and (5) the presence of incentives designed to encourage the separation of biowaste at source, such as tariff reductions.

To ensure comprehensive coverage, all 308 Portuguese municipalities were included in the analysis. The website analysis was carried out by four co-authors, each reviewing approximately 70-80 municipalities after receiving initial training on the research protocol. To validate the consistency and reliability of the data collected, an aleatory sample of 5% of the entries from each co-author was cross-checked by two other co-authors.

The analysis highlights the diversity of approaches adopted by Portuguese municipalities and provides insight into how local governments are interpreting and operationalizing European waste legislation at the municipal level. By mapping these strategies, the study contributes to understanding the implementation gaps and sets the basis for assessing the effectiveness of different approaches depending on the specific scope and context. Within the framework of sustainable urban waste management, the findings are intended to support policy development, dissemination of context and scope specific best practices and assist in the design of incentive mechanisms in promoting the separate collection of biowaste.

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