

# **Drivers and barriers for household waste recycling behavior in the Baltic region. Lessons from Lithuania**

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## ABSTRACT

The European Waste Framework Directive aims at mainstreaming a more sustainable management of municipal waste in the European Union and provides basic management principles and targets for waste collection and recycling. Implementing the Directive, the EU Member States employ similar policy measures (e.g. landfill taxes, landfilling restrictions, recycling targets, deposit-refund systems, EPR programs) and have similarities in institutional set-ups for sharing waste management (WM) responsibilities among relevant actors. However, in spite of more than two decades of economic, institutional and infrastructural convergence and regulatory harmonization, there are significant disparities in waste management achievements across the region. Some countries managed to reduce the landfilling rates to less than 1%, whereas in other countries up to 70% of municipal waste can still be landfilled. Much of this disparity could be attributed to different pathways of economic, infrastructural and institutional developments, but the role of households in WM is also a significant factor. In countries with high waste material recovery rates, households are usually much more involved in primary waste sorting.

There are several studies conducted on behavioral aspects of household's role in recycling, but so far focus has been mainly on WM systems with well-developed sorting schemes such as those in the old EU Members States and considerably less is known what motivates households e.g. in the Eastern Europe.

The objective of the current study is to explore the main drivers and barriers for households' recycling behavior in less developed WM schemes. This paper focuses on socio-psychological, techno-organizational and political aspects inhibiting a wider spread of household-driven sorting and is based on a case study from the Baltic States. The empirical results are based on the probability survey (with 400 responses) of household recycling behavior (HRB) in Lithuania selected using a multi-stage stratified probability sampling method. Households' behavior is analyzed for four packaging materials (metal, glass, paper and plastic) along four behavioral variables (socio-demographics, infrastructure, environmental concerns, and attitudes to authorities) exploring Spearman's rank order correlations between them. Cluster analysis was used to explore which factors drive HRB in different household groups, what are the main barriers for non-recycling behavior.

The current study discusses the motivating role of environmental awareness and how internal socio-psychological (norms, attitudes, habits) and convenience factors (levels of infrastructure development) influence HRB. The paper uses cluster analysis of different household groups (e.g. recyclers, casual recyclers and non-recyclers) and explores the effects of different (a) infrastructural aspects of waste management schemes, and (b) policy measures (e.g. deposit-refund systems, unit-based waste tariffs, informational instruments). By comparing the results between the clusters the paper discusses what policy makers should consider when improving policy measures and strategies for waste management.