



# OPTIMIZING THE USE OF PLASTIC MATERIALS FROM WALLOON BUILDINGS FOR MATERIAL AND ENVIRONMENTAL INNOVATION

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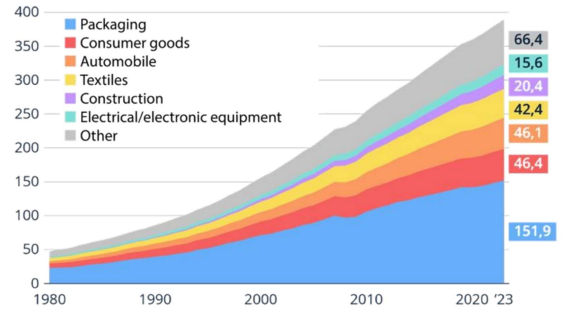
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## THE PROBLEM

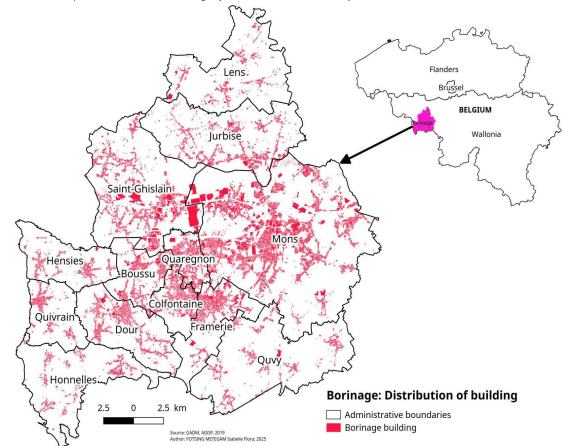
- Urbanization and consumer lifestyles generate massive plastic waste, causing substantial ecological harm (Jawaid et al., 2023).
- Over 300 million metric tons of plastic waste are generated each year, and the volume keeps rising (Singh & Sharma, 2016).
- Low recycling rates for plastic waste remain a major environmental challenge.
- Wallonia promotes a circular economy by reusing plastics as new raw materials (Scuvie, 2024).



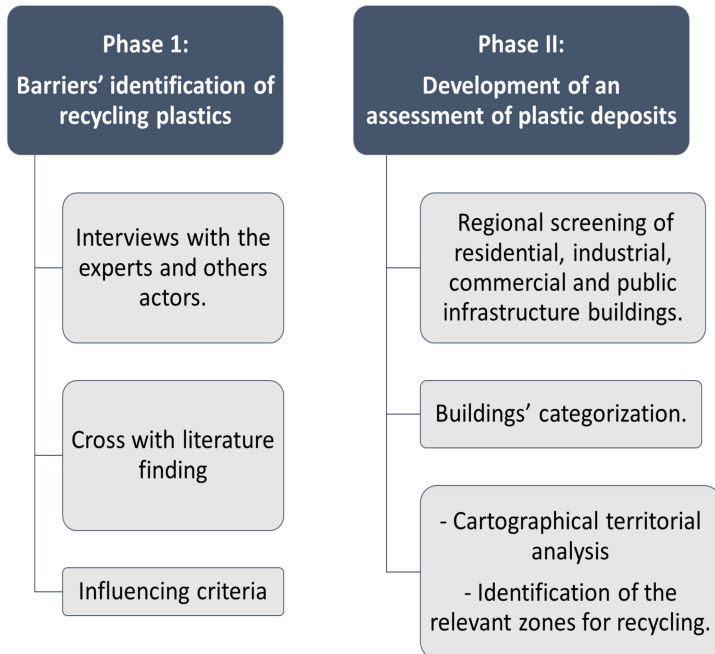
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## THE PROJECT

Win4C (Walloon Initiative for Circular Materials) is a strategic initiative promoting circular economy aiming to redefine the life cycle of technological materials, adopting a “cradle to cradle” approach, with a keen focus on cross-border material flow.



## METHODOLOGY



## RESULTS

<b>CHALLENGES IN APPLICATION</b> Lack of relevant policies in contemporary construction	<b>LACK OF DATA</b> Limited understanding of the recycling potential for circular economy	<b>RISK MANAGEMENT</b> Security, quality, Financial and legal challenge
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## PERSPECTIVES

### Quantification of the plastic materials in the identified building stock



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©<https://www.bobex.be/fr-be/isolation/types-de-isolants/polyurethane/pur/>, Accessed on: 05-05-2025

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**Characterization of plastic materials, analysis of their physical, chemical and mechanical properties**

**Actors and stakeholders' implications of the relevant ecosystem relevant to the materials' circularity.**