



"Gheorghe Asachi" Technical University of Iasi, Romania



ESTABLISHING AN ECOSYSTEM OF PREPARATION FOR REUSE CENTRES IN ITALY

Alessio Fabrizi*, Luca Pomili

Pomili Demolizioni Speciali Srl, via Salaria km 26.300 snc 00015 Monterotondo (Roma), Italy

Abstract

In 2022, 90% of Italians contributed to product reuse, and 70% recognized the importance of considering the Life Cycle Assessment (LCA) to extend product lifespan and reduce waste, according to Fragilitalia Report by ISPOS & Area Studi Legacoop. The European 'waste hierarchy' has the dual aim of minimizing production impacts (e.g., CO₂ emissions) and improving resource efficiency, and a key element is Preparation for Reuse (PfR), now further promoted through the creation of Preparation for Reuse Centres (PfRCs). These Preparation for Reuse Centres (PfRCs) can operate in the following areas: (i) Preparation for Reuse - i.e., recovery operations aimed at inspection, cleaning, or repair, (ii) Prevention - Reduction - Promotion and resale of used products. This paper aims to: (1) provide a graphical representation of PfRC waste management activities and investigate the following questions: (2) can the process be optimized while complying with current regulations? (3) Can the benefits of these activities be quantified? For the first time in Italy, the reuse preparation process has been translated into a graphic model fully compliant with the MASE Decree No. 119/2023 and immediately integrated into the "Go2Life" management software, ensuring traceability and regulatory compliance at every operational stage. This study presents an innovative methodological approach that combines process mapping and digital implementation to optimize the environmental and economic performance of preparation for reuse centers. The proposed analysis is designed to be evaluated also through a Life Cycle Assessment (LCA), to quantify the avoided environmental impacts and the net benefits resulting from reuse compared to the disposal scenario. This document described represents a first pilot cycle, preparatory to subsequent development phases already planned. Innovating and refining the Preparation for Reuse activity is desirable and achievable by creating an Ecosystem for PfRCs. Digitalizing processes can ensure regulatory compliance, operational certainty, efficient product, inflow and outflow waste tracking to support the ecological transition.

Key words: preparation for reuse (PfR), preparation for reuse centre (PfRC), reuse, waste

Received: May, 2025; Revised final: August, 2025; Accepted: September, 2025; Published in final edited form: October, 2025

* Author to whom all correspondence should be addressed: e-mail: a.fabrizi@pomilids.it; Phone: +39 069060232; Fax: +39 069060437