RETASTE Conference Abstracts
RETASTE-CFW-1347-In-person Oral
Rethymno, September 16-18, 2026
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DOI:10.5281/zenodo.23678455

From Everyday Life to Carbon Footprint: Digital Tool and First Household Surveys for Climate-friendly Consumption

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Abstract

Households play a central role in reducing the environmental impacts associated with food waste and clothing consumption. The Horizon Europe-funded CARE project addresses these challenges by developing, testing and evaluating circular consumption practices at the household level. Its aim is to measurably reduce the environmental footprint of households while simultaneously ensuring sustainable well-being. A first step toward achieving these objectives involves conducting household surveys and related environmental assessments. These make it possible to identify improvement potentials, present them in an understandable way, derive suitable measures and continuously monitor progress. The data basis includes detailed questionnaires and diary records on food waste, clothing purchases, clothing use and garment care. In addition, aspects of the sustainable well-being of household members are collected. To assess environmental impacts, a life cycle-based assessment model is applied. Another key element of the project is the CARE CO_2 Tool, a digital instrument designed to support climate-friendly everyday decision-making. The tool makes CO_2 emissions from household-related consumption and usage practices in the areas of food, clothing and laundry transparent and highlights concrete reduction potentials. Through easy-to-understand visualizations and the temporal tracking of changes, it also serves as an awareness-raising and motivational tool for sustainable behavioral change. Initial analyses of the baseline assessments reveal considerable differences between households in terms of emission levels and behavioral patterns. Food waste as well as washing and usage practices in the clothing sector emerge as particularly important short-term levers for CO_2 reductions. The CARE CO_2 Tool helps households recognize these relationships and directly understand the impact of even small behavioral adjustments. Overall, the combination of a digital feedback instrument, detailed household surveys and life cycle-based assessment methods highlights the potential of integrated approaches to promote and evidence-based evaluate climate-friendly consumption decisions at the household level.

Keywords: circular consumption, Household sustainability, Food waste, Clothing consumption, CO_2 reduction