



Practice Abstract #9: Approaches for combining food waste data with environmental impact data



WASTEWISE
Waste Avoidance Strategies for
Environmental Sustainability

Food waste represents a major environmental challenge, yet the environmental impacts embedded in wasted food are still insufficiently quantified and systematically assessed. Existing studies have largely focused on climate change impacts, often overlooking other critical environmental dimensions such as biodiversity loss and water scarcity. This narrow focus risks masking trade-offs between impact categories and limits the effectiveness of food waste prevention and reduction strategies.

Life Cycle Assessment (LCA) is a standardized and widely used method for evaluating environmental impacts across the entire life cycle of products. In principle, LCA is well aligned with food waste monitoring, as food waste arises at multiple stages of the supply chain. However, practical integration of food waste data with LCA databases remains challenging due to differences in data granularity, structure, and nomenclature, and the lack of a harmonized framework.

“A systematic integration of food waste data with LCA is essential to quantify environmental impacts and to support effective food waste reduction policies.”

WASTEWISE developed a systematic methodology to integrate quantified food waste data with established LCA databases. The framework uses the FoodEx2 classification system and hierarchical structure as a standardized language to link food waste reporting with environmental impact data. This approach enables assessments at both detailed product levels and aggregated food group levels, while ensuring consistency and transparency across impact categories.

By bridging methodological gaps between food waste monitoring and environmental life cycle assessment, this framework enhances the comparability and robustness of food waste impact assessments. The integration of food waste quantities with LCA-based environmental indicators provides valuable insights for identifying priority intervention points and supports the development of effective policies aimed at reducing food waste and its environmental consequences.

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