

POLICY BRIEF

BUILDING CONSUMER CAPACITY FOR A JUST ZERO FOOD WASTE TRANSITION



ZeroW tackles Food Loss and Waste (FLW) through a coordinated set of innovations piloted in nine real-world Systemic Innovation Living Labs (SILLs) aiming to achieve significant reductions across all stages of the food supply chain - from pre-harvest to consumption. A dedicated Policy Team complements this work by defining a 'Just Transition Pathway' toward near-zero FLW, offering a practical framework to bridge systemic barriers (e.g., fragmented and lengthy nature of the food supply chains, the digital divide, challenges in scaling innovative waste reduction technologies) and on-the-ground FLW solutions. Drawing on economic modelling and insights from the stakeholders and the SILLs, the team identified key recommendations promoting a flexible, equity-focused transition.

Introduction

In many EU countries, a substantial portion of food waste occurs at the consumer level - within households, restaurants, and retail environments - driven by behavioural habits, inadequate information, and structural inefficiencies. The transition towards near-zero food waste in our food systems must be aligned with the principles of the Fair Transition and the European Pillar of Social Rights, ensuring that consumers, particularly those facing economic constraints and knowledge gaps are supported rather than disadvantaged. Systemic barriers disproportionately affect the most vulnerable consumer groups.

The ZeroW Policy Team identified a 'Just Transition Pathway', which recognises these inequalities and fosters enabling environments that prioritise practical solutions, promote behavioural change, and safeguard social inclusion. In addition, consumers should neither be blamed nor sidelined in the just transition towards a near-zero FLW food system. For EU policymakers, reducing food waste among consumers presents a high-impact opportunity to lower greenhouse gas emissions, alleviate pressure on food systems, and advance sustainability and climate goals.



This focus has become even more critical in light of the provisional agreement reached on 19 February 2025 during trilogue negotiations on the revision of the Waste Framework Directive (WFD) between the European Commission, the European Parliament, and the Council. Notably, the agreement includes the world's first legally binding national targets for food waste reduction, to be achieved by 31 December 2030.¹ These legislative developments underscore the urgency for Member States to develop and implement effective national action plans that place consumers at the centre of food waste reduction strategies. This policy brief outlines evidence-based recommendations to help governments create enabling environments that support consumer awareness, incentivise behaviour change, and build more efficient food systems with the EU's Just Transition, which will guide the action plans of Member States for the newly adopted binding targets.

Policy Problem

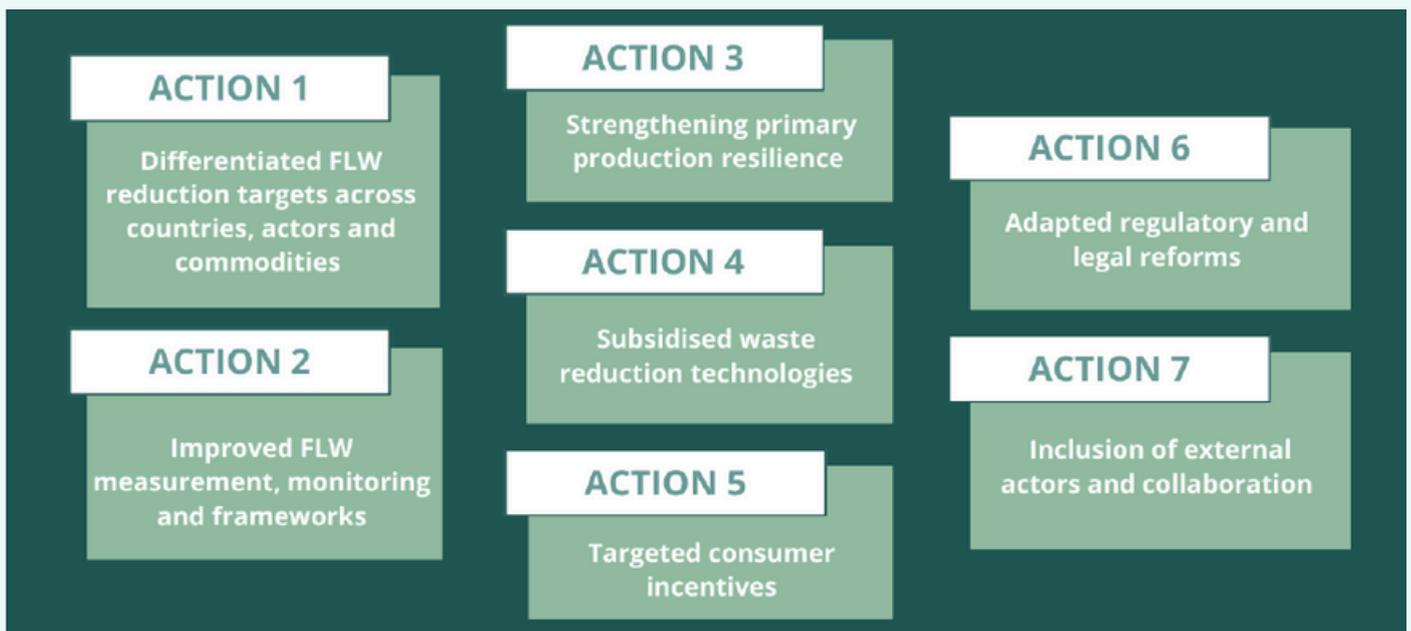
As household food waste comprises the largest share of food waste in the EU, a relevant approach to consumers should be prioritised in the just transition. The ZeroW Policy Team identified the limited effectiveness of current awareness and information campaigns, reiterating the need for more targeted consumer incentives and a greater policy emphasis on social innovation. The behavioural aspect, often overlooked in innovation development, is crucial to tackle household food waste. This begins with reframing how food waste is perceived and understood, forming the basis for policy interventions coupled with meaningful social innovation.

Evidence from Project

To achieve a just and fair transition toward near-zero FLW by 2050, practical solutions that support consumer engagement and behavioural change must be prioritised. Such change needs to be embedded within broader systemic reforms, which are essential to transform current food systems and market dynamics. A crucial aspect of this shift, emphasised in Deliverable D8.2's literature review, involves moving beyond the perception of food as a tradable commodity (i.e., valued for traits such as shelf life, visual appeal, and standardisation) and instead recognising it as a fundamental good, with intrinsic nutritional, cultural, and social value.

Reframing how food is valued also necessitates rethinking the notion of food waste, challenging the perceived “convenience” of discarding food, and fostering the revalorisation of surplus and discarded food. This shift should form part of a broader behavioural and societal transformation. The importance of this ‘mindset change’ was reiterated by several different stakeholders in roundtable working groups organised by the ZeroW Policy Team, as they emphasised that while technological innovations are valuable in addressing food system challenges and lowering abatement costs, fostering a shift in mindset is equally important. Cultural norms and social behaviours related to food disposal play a critical role and demand interventions that go beyond technological fixes. This is where the Just Pathway Action 5 “Targeted Consumer Incentives” from the ZeroW Deliverable D8.2 becomes particularly relevant. The ZeroW roundtable discussions and simulation results underscore that consumer behaviour - though complex and slow to shift - is essential to achieving FLW reduction targets. Behavioural change needs to be recognised as both a social and policy challenge, requiring tailored incentives and enabling environments.

Financial incentives for low-income households to adopt food-saving practices - tax credits for food-saving apps, rebates on smart storage tools, or free compost collection services - can make a significant impact, particularly given that household food waste represents the largest share of total FLW in the EU. Other European projects like CHORIZO highlight the need to empower consumers by translating good intentions into practical action, through supportive environments and hands-on guidance.



Overview of the Just Pathway Actions

Technological innovations, such as the smart packaging for fresh fish being developed in SILL2, exhibited the need for consumer guidance and support to address issues like neophobia and build trust in new food packaging practices fighting food waste. Providing targeted support is essential to foster consumer acceptance. Hence, the behavioural dimension should not be decoupled from technological innovation, and consumers' perspectives should be considered when designing new research projects. EU policymakers should incorporate this approach into the design of more targeted consumer-focused engagement strategies and interventions. Hence, these findings guide the following policy recommendations.

Key Policy Recommendations

Drawing on the research and findings of the ZeroW project, this set of specific policy recommendations is designed to enhance consumer engagement and implement targeted interventions, all within the framework of a just transition toward near-zero food waste in our food systems.

1. Implement data-driven, consumer-centric interventions, and more targeted consumer engagement

Consumer-oriented strategies are essential to reducing household food waste and policymakers should prioritise them in their action plans.

Educational initiatives and information campaigns should improve when targeting schools, community centres, and workplaces. These should highlight the environmental and economic impacts of food waste, while addressing how cultural norms and social behaviours influence consumptions and disposal practices. Examples include integrating mandatory educational modules into school curricula, launching community education programmes focused on practical skills for waste reduction, such as Hungary's project "Wasteless", a comprehensive national programme combining formal education and community workshops, focusing on circular-economy cooking and bilingual school materials.

Activities include school-based lessons on zero-waste cooking, home preservation techniques, and waste audits. Since 2016, the training has been delivered to approximately 35000 students and 1900 teachers. Embedding these activities directly into school curricula has already proven successful, as the project reached approximately 27% quantifiable reductions in avoidable household food waste and significantly strengthened consumer capacity to apply practical skills at home.² These actions align with the ZeroW stakeholders' priorities that place waste prevention measures at the forefront.

Dynamic consumer engagement models are needed to move beyond traditional awareness campaigns, by using interactive and participatory methods such as gamification. Inspiring examples include “No Scrap Left Behind”, a gamified in-store campaign that used trivia and prize-based visual prompts to encourage consumer action.³ This typology of game achieved micro behavioural changes even without heavy monetary incentives. Such successful demonstrations of engagement should be further supported and promoted.

Other dynamic engagement models include peer-driven community challenges, such as the “Campus Race to Zero Waste” competition from the United States.

Universities compete on reducing total waste, including food waste. The organisers take advantage of inter-university rivalries, peer sharing, and public recognition incentives to stimulate collective action and shared responsibility.⁴ Moreover, social media-driven behavioural nudges should not be underestimated.



Annual or seasonal social media campaigns have the potential to reach millions of people and spark considerable change. An example is the Zero Waste Week⁵, an award-winning, grassroots annual awareness campaign originally started in the UK, which now takes place online and on-the-ground, directly helping householders, businesses, and organisations reduce landfill waste. The strong impact and broad reach of this grassroots campaign should serve as a catalyst for the expansion of similar initiatives, ideally backed by proactive support and endorsement from policymakers.

Fiscal incentives retain a crucial importance for consumers, for instance implementing targeted tax credits or direct subsidies to encourage concrete interventions to support households, particularly among low-income populations. Examples include subsidies for purchasing food storage solutions such as smart fridge sensors or vacuum storage systems and promoting usage of food-saving mobile applications, like those piloted in SILL9.

Fiscal incentives can go hand in hand with inclusive technological solutions, implementing incentives to adopt technology-driven solutions, such as providing discounted smart storage technologies including mobile apps for sensor-based storage units designed to reduce food waste. It is imperative to ensure that these tools are accessible by offering features suitable for users with varying digital literacy. This includes simplified user interfaces, multilingual guides, or voice-command functionality for those less confident with digital devices. Gender-specific barriers should be addressed by providing inclusive training sessions - for example, workshops specifically designed for women entrepreneurs or consumers - to build digital skills and confidence. Diverse user groups should be actively involved (including women, elderly, and rural communities) in the technology design and implementation process. This approach helps to create practical, culturally relevant technologies responsive to genuine user needs. In the context of a Just Transition, vulnerable groups should be prioritised to ensure equitable access for all.

2. Foster social innovation and reframe food waste perceptions

Effective reduction of food waste requires consumer-focused strategies that recognise and address behavioural dynamics. A good starting point would be further encouraging social innovation by supporting community-driven projects that shift perceptions of food waste from purely environmental concerns to moral and community responsibilities. Campaigns should emphasise positive impacts such as community solidarity, economic savings, and improved food security.



Vulnerable consumers must be protected, creating targeted interventions ensuring vulnerable groups, especially lower-income households, benefit equitably from innovative waste reduction solutions. Incentives should be designed with inclusion in mind by ensuring offline access, providing support for digitally excluded populations, and maintaining the accessibility and affordability of healthy food options.

Behavioural integration with technological innovation should be prioritised, reinforcing the linkage between technological innovations (e.g., smart fridges, smart packaging for fresh food products) and behavioural aspects through comprehensive training, personalised feedback systems, and support networks. Another important way to make these linkages is by including distinct target groups (e.g., women, people of varying age categories, and with varying degrees of digital literacy) in the design process of the solution. Trust building campaigns are essential and should be tailored to different cultural contexts and user preferences. Fostering data sharing between consumers and supermarkets, as outlined in SILL9, can further enhance collaboration and improve FLW reduction at household and retail levels.

Throughout the entire process, guidance should be action-oriented, providing clear, actionable, and practical guidelines that translate consumer willingness into concrete behavioural changes, emphasising ease, convenience, and immediate benefits which will sustain stakeholders interest and engagement. Examples include effective food storage, mindful shopping practices, meal planning, and creative food reuse through various accessible media platforms. Drawing from the experience and results of SILL2, this guidance must be designed to align with innovations addressing consumer perceptions to foster widespread adoption and success.⁶

3. Incentivising urban consumers to reduce food waste through local policy initiatives

To effectively engage urban populations, policies should prioritise:

- **Local policy initiatives:** Foster urban-specific policies, such as city-based incentive programmes rewarding reduced household waste measured through municipal waste audits.
- **Community-level innovations:** Encourage municipal-led initiatives like community refrigerators, neighbourhood composting programmes, and local food-sharing platforms. Policy incentives could include grants or municipal recognition for high-performing communities.
- **Economic and practical incentives:** Implement economic benefits like reduced waste collection fees for households or communities demonstrably reducing their food waste footprint.⁷
- **Collaborative frameworks:** Facilitate collaboration between local authorities, businesses, and NGOs to create cohesive local food waste reduction ecosystems. Promote partnerships with retailers and restaurants for donation systems and waste reduction collaborations. Collaborative frameworks should be built on collective policymaking, ensuring active contributions from all stakeholders in the design, development, and implementation of FLW reduction solutions.
- **Local capacity building:** Invest in capacity building through local workshops and training sessions designed to equip urban consumers with skills and knowledge needed for effective food waste management practices.

Conclusion

Achieving a near-zero FLW future in the EU by 2050, now underpinned by legally binding national targets, demands more than technological innovation or general awareness campaigns. As evidenced by the ZeroW project and reinforced through stakeholder engagement and simulation results, the most effective path forward places consumers at the core of systemic change.

Household food waste remains the largest contributor to overall FLW in the EU, and current interventions have proven insufficient. Addressing this challenge requires a multidimensional approach that integrates behavioural insight, targeted fiscal and technological incentives, inclusive policy design, and social innovation. Crucially, efforts need to move beyond treating food waste as a matter of individual responsibility and instead foster enabling environments that shift cultural norms, redefine the value of food, and close equity gaps - particularly for low-income and digitally excluded populations.



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