Policy brief

Smart Fridges, Smart Futures:

Fighting Food Waste in Estonia

Executive statement

Estonia can cut food waste fast. The evidence is clear: households drive the problem; cities and schools can unlock quick wins. We propose three actions. First, education from kindergarten upward. Teach smart shopping, safe leftovers, and "responsible basket" habits. Second, a clean and safe bio-waste system. Sealed bins, clear rules, frequent collection, and simple guidance in every building. Third, a national surplus-food app with open data. Connect kitchens, retailers, Toidupank (Food Bank), and citizens in real time. These steps are practical. They are innovative. They save money, reduce emissions, and build community. Roles are clear for government, municipalities, schools, NGOs, and businesses. With shared metrics and visible dashboards, Estonia can lead the Baltics in food-waste reduction by 2030.

Problem

- Food waste costs Estonia ~€160 million annually and contributes to 8–10% of global greenhouse gas emissions. Estonia wastes ~181,000 t of food/year (~134 kg per person). Households drive most of it.
- Many people fear bio-waste issues (odours, insects, rats) and aren't sure how to sort.
- Digital tools to rescue surplus food are patchy beyond big cities; no single national solution

Our recommendations

- Education at all levels — start with support

Raise awareness about food waste and responsible basket formation from kindergarten through adult learning. Provide lesson kits, teacher training, parent guides, canteen "waste dashboards," family challenges, and simple shelf cues in stores.

- Clean, safe bio-waste systems

Guarantee hygiene to remove fears: sealed bins, biodegradable liners, and regular collection (more in summer). One poster everywhere: why, what, where. Quick-help line. Train building managers and HOA bio-waste captains. Coach first; enforce after support.

- Common digital solution

Fund a national surplus-food platform with a near-me map, alerts, dynamic markdowns, and open APIs. Integrate Toidupank, school cupboards, and community fridges. Let existing apps plug in (e.g., ResQ Club, Olio, Phenix), and expand coverage beyond Tallinn/Tartu.

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Current situation (Estonia, EU, global, and practice):

Food waste costs Estonia ~€160 million annually and contributes to 8–10% of global greenhouse gas emissions. Estonia generated ~181,000 tonnes of food waste in 2022, equal to ~134 kg per person, with households as the largest source (European Environment Agency, 2025). The best national split indicates Households 48%, Food industry 19%, Primary production 14%, Retail 12%, and Catering 7%, with an estimated value loss of ~€164 million per year (Piirsalu et al., 2022). At EU level, about ~130 kg per person was wasted in 2023, and households generated 53% (Eurostat, 2025; European Commission, 2025). Globally, ~19% of food available to consumers is wasted—~1.05–1.09 billion tonnes in 2022—and households account for the majority (United Nations Environment Programme, 2024). Policy-wise, separate bio-waste collection is required across the EU since end-2023 (European Environment Agency, 2023); in Tallinn this comes with sealed bins, biodegradable liners, and emptying at least every two weeks to avoid odours and pests (City of Tallinn, 2025). Local momentum includes food-sharing cupboards in schools and kindergartens and broader circular initiatives (Eurocities, 2025), while the Estonian Food Bank redistributed 4.4 million kg last year and supports ~17,500 people weekly. Digital gap: Estonia lacks wide-coverage surplus-food apps — Too Good To Go is not available in the Baltics, and the main option (ResQ Club) operates chiefly in Tallinn and Tartu, areas that together house ~40% of Estonia's population, leaving most regions without service (Too Good To Go, n.d.). Insights from Impact Day underline that behaviour and social norms drive household waste (Ruka et al., 2025) and that innovation—data, AI, and "handprints" that help others reduce footprints—can accelerate solutions (Norris, 2025).

Who wastes the most

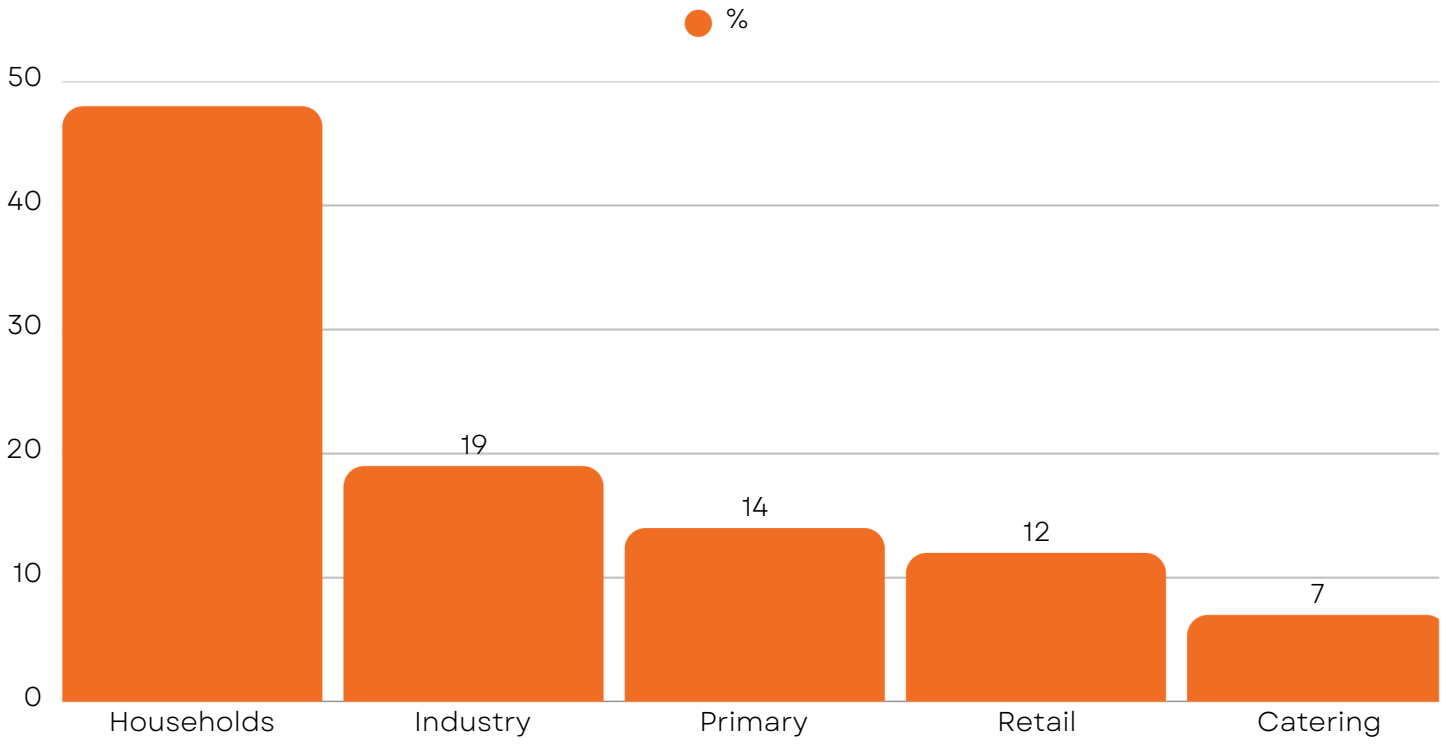

Table 1. Who wastes the most (Piirsalu et al., 2022)

Recommendations

Here are our recommendations: We focus on education at every level, clean and safe bio-waste systems, and a common digital platform—practical steps that households, cities, and partners can act on now for quick, measurable cuts in food waste.

Recommendation	We need to	Who leads
Education at all levels — start with support.	• Raise awareness about food waste and "responsible basket" at all educational levels. • Build the support system first • Start in kindergartens; continue in schools, VET, universities, and adult learning.	HARNO; municipalities & educational institutions, NGOs
Clean, safe bio-waste systems — fix fears, build know-how	• Fight fear of insects, rats, and smells with sealed bins, biodegradable liners, and regular collection. • Put one poster everywhere: why, what, where. • Set up a quick-help line; train "bio-waste captains." • Coach first; enforce after support.	Ministry of Climate; municipalities; haulers; apartment associations; inspectors
Common digital solution — national platform + open apps	• Develop a national surplus-food platform and dedicate a budget. • Offer a near-me map, alerts, dynamic markdowns, and open APIs so tools can plug in. • Aggregate what exists but isn't everywhere: ResQ Club (active mainly in Tallinn/Tartu), Too Good To Go (large EU app, not in Baltics), Phenix (FR/BE/ES/PT), Olio (peer-to-peer sharing), Foodhero (LV). • Integrate Toidupank, school cupboards, community fridges; share public dashboards.	Government / Enterprise Estonia; municipalities; retailers & food service; edu/startups.

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