Pioneers in the Fight Against Food Waste

Lessons from Food Waste Deterrence Policies in South Korea, France, and Peru

Food loss and waste is a significant global food system challenge with massive **environmental**, **social**, and **economic** repercussions.

An estimated one-third of the global food supply is lost or wasted as it moves through the supply chain, equating to 1.3 billion tons of edible food annually. Much of the wasted food ends up in landfills, where it emits methane—a greenhouse gas that is more than 28 times more effective than carbon dioxide at trapping heat in the atmosphere (over a 100-year timeframe). The methane created from landfills is the solid waste sector's most significant contribution to greenhouse gas emissions. Studies project that these emissions will surge by more than 60% by 2050 due to the anticipated growth in the global population unless improvements are made.

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ENVIRONMENTAL IMPACTS

Food that is lost or wasted has a sizeable carbon footprint of 3.6 gigatons, using roughly 28% of agricultural land and accounting for 8%, or 70 billion tons, of total global greenhouse gas emissions.

SOCIAL IMPACTS

At the same time, the number of undernourished people in the world is increasing, with nearly 1/3 of the global population (about 2.3 billion people) moderately or severely food insecure in 2021.

ECONOMIC IMPACTS

Collectively, this damage from food loss and waste costs nearly $1 trillion per year, or about $940 billion.

The international community has sought to address this problem and mobilize the reduction of food waste, especially within the framework of the 2030 Agenda for Sustainable Development. Sustainable Development Goal Target 12.3 calls for halving per capita global food waste at the retail and consumer level and reducing food losses along production and supply chains (including post-harvest losses) by 2030.

While many individual nations are also eager to design their own policy responses to this challenge, policymakers often ask where to start—or what works best.

POLICY SOLUTIONS NEEDED: 3 COUNTRIES PROVIDE KEY LESSONS

In recent years, several countries have adopted so-called "food waste deterrence policies" to keep food out of landfills and encourage a shift toward treating surplus food as a valuable resource. While these policies are still relatively new (the earliest generally date back to the 2000s) and can take many forms (see "Policy Design" sidebar on the next page), they collectively aim to achieve lower levels of food waste and higher rates of food redistribution. Three nations have garnered international attention for their commitment to addressing the environmental, social, and economic consequences of food waste through food waste deterrence policies.

- **SOUTH KOREA is known for its stringent and exceptionally successful food waste laws**, including its PAYT, or "pay-as-you-throw," system and ban on food disposal in landfills.

- **FRANCE is well known for becoming the first country to ban supermarkets from destroying surplus food** while also mandating that they work with food recovery organizations to redistribute edible food to communities.

- **PERU uses similar policies to address high levels of food insecurity and waste** and is the first country outside Europe to enact a food donation requirement.

Despite significant differences in policy design and political context, the measures enacted in each of these countries have succeeded in reducing waste or increasing food donations. For instance, South Korea reportedly diverted 96% of its food waste from landfills while France observed significant changes in the amount, frequency, and diversity of food donations. In Peru, food donations to the Peruvian Food Bank tripled in the year after it enacted its food donation law. Methane emissions in South Korea and France are also trending down (even if it is difficult to discern precisely how much of the decrease is attributable to food waste policies).

The experiences from these countries offer valuable lessons for other nations that may wish to develop their own food waste deterrence policies, which is why **The Global FoodBanking Network, Harvard Law School Food Law and Policy Clinic, and Global Methane Hub recently collaborated on an in-depth analysis of each law's successes and challenges.** The study, *Pioneers in the Fight Against Food Waste*, which draws upon insights gathered from stakeholder interviews and literature reviews, highlights factors for all policymakers to consider when designing and enacting similar policies in their own local contexts.

Key recommendations from the report follow on the next page.

POLICY DESIGNS

Organic Waste Disposal Ban: Prohibits covered entities from sending organic waste to landfills.

Mandatory Recycling Law: Prohibits covered entities from sending organic waste to landfills and requires those entities to subscribe to an organics collection service or send food waste to a compost or anaerobic digestion facility.

Food Donation Requirement: Requires covered entities to donate some or all their surplus food that remains safe for consumption.

Waste Disposal Surcharge or Landfill Tax: Charges entities or individuals a landfill tax per unit of trash (specifically organic matter or food waste) over and above general landfill tipping fees. These are usually geared toward businesses.

Pay-As-You-Throw Policies: Charges entities, households, or individuals a fee based on the amount of organic waste sent to landfills. While many waste collection systems charge a fixed fee, pay-as-you-throw policies charge individuals based on the amount of waste generated.

Food Waste Tax Penalties: Restricts entities from claiming a "business loss" (tax deduction or credit) for wasted food if that food could have been donated. Failing to prove that the disposed of food was unfit for donation means the entity forgoes the opportunity to write off the loss.

POLICY RECOMMENDATIONS

The study found that government policies to ban food waste disposal, mandate food donations, and/or impose tailored disposal fees were effective at reducing the amount of food waste sent to landfills. However, different experiences from each early implementing nation made clear that policymakers should keep several important factors in mind when designing their own measures.

Take a tiered and phased-in approach
Laws should be designed to gradually cover more entities over time. This not only gives food waste generators the requisite time and capacity to adapt but can stimulate improved food waste prevention, recovery, and recycling practices before a law's expansion.

Follow the food waste hierarchy
Policies should always prioritize food waste prevention first, then redistribution to human and animal consumption, then—when food waste cannot be prevented—food scraps should be sent for recycling or conversion into animal feed, compost, or biogas. In all cases, disposal should be discouraged.

Employ a "whole-of-government" strategy
By engaging a broad range of government entities that oversee food-related issues (e.g. ministries of environment, agriculture, health, social services), policymakers can ensure their policies consider the various environmental, economic, and social implications in ways that siloed efforts cannot.

Provide sustained support for shifting needs
There is often a need to continually reassess infrastructure and capacity-building needs and provide sustained governmental support as they evolve. That's because, as organic waste disposal and food recovery systems mature, funding needs may shift toward technology, data management, and diversification or coordination of food recovery systems or recycling facilities.

Involve stakeholders at all stages
Bringing affected stakeholders to the table at the outset, including the planning and execution stages, can help identify implementation challenges early on while also surfacing innovative solutions that may well improve the policy's overall efficacy.

Build in the right compliance mechanisms
While most enforcement mechanisms are effective at driving behavioral change, they do not have to be particularly burdensome to achieve their purpose. In fact, food waste deterrence laws can move action even without a mandate or enforcement at all; incentive mechanisms are also effective at encouraging compliance.

Set baselines and targets to track progress
Using standardized frameworks and methodologies for measuring food loss and waste—such as those developed by the European Union, United Nations Environment Programme, and FAO—is critical for setting baselines, measuring progress, and comparing policy impacts across national borders.

OVERVIEW OF FOOD WASTE DETERRENCE POLICIES IN RESEARCHED COUNTRIES*

Country	Type of FW Deterrence Law or Policy	First Enacted	Current Scope of Covered Entitles	Enforcement Mechanisims
South Korea	Pay-As-You-Throw Policy	1995	All waste generators (including individuals)	Fines
	Food Waste Disposal Ban	2005	All waste generators (including individuals)	Penalties (including imprisonment) and/ or fines depending on the seriousness of the violation
France	Mandatory Source Separation and Recycling	2012	All waste generators (including individuals)	Fines and potential imprisonment for violations by commercial generators
	Prohibition on destruction of edible food	2016	Food distributors, food wholesalers, and agri-food industry operators and collective caterers	Fines up to 10% of annual revenue
	Food Donation Contract Requirement	2016	• Food retailers (larger than 400 sq. meters) • Collective caterers (preparing more than 3,000 meals/day) • Agri-food industry operators and food wholesalers (with annual turnover above 50 million euros)	Fines (€1500, which may be increased to €3000 for repeat offenses)
Peru	Food Donation Requirement	2016	Supermarkets and food warehouses	n/a

This chart does not include the full range of laws and policies that these countries have enacted to reduce food loss and waste, increase food donation, or divert food waste from landfills.

ABOUT

"Pioneers in the Fight Against Food Waste"
This report examines the implementation of food waste deterrence policies in South Korea, France, and Peru to gather insight into opportunities, challenges, and learnings that can inform the development of effective measures in other countries. It examines the specific contexts in which each policy was enacted and reports on relative successes and challenges, utilizing interviews with key stakeholders and a review of published literature on their implementation and impact.

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The Global FoodBanking Network
Food banking offers a solution to both chronic hunger and the climate crisis. GFN works with partners in over 50 countries to recover and redirect food to those who need it. In 2023, our Network provided food to more than 40 million people, reducing food waste and creating healthy, resilient communities. We help the food system function as it should: nourishing peopleand the planet together. Learn more at foodbanking.org.

Harvard Law School Food Law and Policy Clinic
FLPC serves partner organizations and communities by providing guidance on cutting-edge food system legal and policy issues, while engaging law students in the practice of food law and policy. FLPC focuses on increasing access to healthy foods; supporting sustainable food production and food systems; and reducing waste of healthy, wholesome food. For more information, visit chlpi.org/FLPC.

Global Methane Hub
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