

ISSUE BRIEF

REDUCING FOOD WASTE: National Food Waste and Donation Strategies

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About The Global Food Donation Policy Atlas

The Global Food Donation Policy Atlas is a first-of-its-kind initiative to promote better laws on food donation to help address food loss and food insecurity. This project maps the laws affecting food donation in countries across the globe to help practitioners understand national laws relating to food donation, compare laws across countries and regions, analyze legal questions and barriers to donation, and share best practices and recommendations for overcoming these barriers. The project is a collaboration between the Harvard Law School Food Law and Policy Clinic (FLPC) and The Global FoodBanking Network (GFN). To learn more and compare the food donation laws and policies for the countries FLPC has researched to date, visit atlas.foodbanking.org.

About the Harvard Law School Food Law and Policy Clinic

The 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 www.chlpi.org/FLPC.



About The Global FoodBanking Network

The Global FoodBanking Network (GFN) supports community-driven solutions to alleviate hunger in more than 50 countries. While millions struggle to access enough safe and nutritious food, nearly a third of all food produced is lost or wasted. GFN is changing that. GFN believes food banks directed by local leaders are key to achieving Zero Hunger and building resilient food systems. For more information, visit www.foodbanking.org.



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ABOUT THIS ISSUE BRIEF

Food loss and waste (FLW) is a significant and complex food system challenge. FLW occurs at every stage of the supply chain and generates significant social, environmental, and economic costs.¹ An estimated one-third of food produced globally is ultimately lost or wasted along the supply chain.² This amounts to approximately 1.3 billion tons of food each year that ends up in landfills, where it emits methane, a potent greenhouse gas, as it rots.³ As of 2022, approximately 783 million people face hunger globally, or about 1 in 10 people;⁴ more than 3.1 billion people could not afford a healthy diet in 2021.⁵ Thoughtful public policies and government interventions can help address these troubling trends and augment food system resilience, aiding in food recovery for social benefit and mitigating the environmental cost of food loss and subsequent excess production.

Food systems are multifaceted; in most countries, many different ministries or departments are involved in the regulation of food and agriculture. This means that efforts to address food loss and waste similarly span various government entities. As a result, despite stated goals to reduce food waste, many governments lack internal cohesion around the issue, resulting in lackluster, disjointed, or even contradictory policy landscapes. Uniting the myriad government agencies and initiatives—along with stakeholders in the private sector and civil society—under a national strategy for food waste not only prioritizes FLW on the forefront of the national agenda, but also ensures that all actors are aligned and equipped to tackle the issue efficiently. Such a strategy also clarifies governance, delineating clear roles and responsibilities of different entities, which is critical for implementation, accountability, and collaboration across sectors, toward a clearly established national goal.

Beyond identifying that FLW is a problem that governments must tackle, it is critical that a strategy clearly prioritizes *how* it should be solved and sets concrete targets. In particular, global bodies such as the UN Food and Agriculture Organization (FAO), as well as many national governments, acknowledge a hierarchy of the best uses of food, which focuses on reduction at the source, followed by ensuring food makes it to use by humans, then by animals. Because food donation is so highly prioritized in the hierarchy, but also can come with its own set of logistical and legal challenges and questions, special attention should be paid to address these questions. A national strategy can be an effective means of aligning various food waste and donation-related policies, such as those researched in the Atlas project like date labeling and tax incentives, that interact to form a legal landscape that can either help or hinder food recovery and food redistribution. For example, a national strategy can codify the waste management hierarchy,⁶ establishing a clear priority to prevent food waste and recover food that is safe for human consumption, followed by other uses of food such as organic waste recycling, composting, biofuels. A national strategy can also prioritize policy and public education interventions that advance the aims of food donation and allocate resources appropriately. Finally, codifying a national FLW reduction goal can ensure internal policy coherence and align with international commitments, such as those made during COP climate convenings. By incorporating food waste management into these broader climate strategies, governments can not only meaningfully reduce emissions through mitigating FLW, but also demonstrate their commitment to sustainable environmental practices and tackle crucial societal issues like eliminating hunger.



RECOMMENDATIONS IN BRIEF

The recommendations presented in this brief provide a starting point for stakeholders across the globe to introduce or strengthen their national strategies surrounding food waste and food donation. Food banks and other organizations with the mission to reduce food waste and increase food donation for hunger relief (collectively referred to as “food recovery organizations” or FROs), donors, and policymakers should consider additional opportunities to advance food donation and reduce food waste. The recommendations are as follows:

To align all stakeholders around a feasible tactical strategy and attainable national FLW + food donation target, national governments and their relevant departments and agencies should:

- **Set a national goal for food waste reduction and food redistribution with subgoals within the overall waste reduction goal.**
- **Designate a lead ministry or establish an interagency working group with clear leadership mandate to advance food waste reduction and food donation activity and mobilize complementary ministries/agencies.**
- **Accompany the FLW reduction goal with a national tactical strategy that embodies a whole of government approach.**
- **Ensure there are accountability and reporting mechanisms to systematically and transparently report on progress.**
- **Consider establishing a binding or voluntary agreement for food system stakeholders.**
- **Enact a national food waste or food donation framework law.**

To strategically incorporate state and local governments towards meeting national FLW targets, national governments and their relevant departments and agencies should:

- **Use state and local governments to support the national strategy and include mechanisms for state and local governments to give input and facilitate implementation.**
- **Absent a national-level strategy, consider producing a state or local level food waste strategy to make progress and build a foundation for a future national-level strategy.**

To empower consumers and other stakeholders to participate in the strategy and help them understand their role in meeting national FLW targets, national governments and their relevant departments and agencies should:

- **Get input from public sector and industry when crafting the strategy.**
- **Create a comprehensive public education campaign to ensure all stakeholders understand their role in achieving national targets.**

BACKGROUND

The past decade saw an exponential increase in attention toward food loss and waste (FLW), with the international community committing to halve FLW in the 2030 Agenda for Sustainable Development, reflected in Sustainable Development Goal 12.3 (“SDG 12.3”).⁷ FLW occurs at every stage of the food system: during the initial harvest due to fluctuating market prices, high labor costs, inadequate infrastructure, and demand for flawless produce;⁸ by grocery stores and restaurants that overestimate customer demands and misunderstand shelf life and product date labels;⁹ and by consumers that engage in inefficient shopping and cooking practices.¹⁰ These behaviors have significant environmental, economic, and social consequences. Food that is lost or wasted has a massive carbon footprint of 3.3 gigatons, using roughly 28% of agricultural land and accounting for 8%, or 70 billion tons, of total global greenhouse gas emissions.¹¹ This damage is estimated at \$700 billion in environmental costs and more than \$900 billion in social costs per year.¹² This waste is expensive,¹³ squanders natural resources, causes lasting environmental damage, and presents a missed opportunity to redistribute food to the more than 820 million people experiencing hunger.¹⁴

In addition to other avenues to reduce food waste reduction at the source and prevent waste, the next best avenue for surplus food is to ensure it stays in the human food chain, through redistribution. Food banks and other food recovery organizations can help mitigate unnecessary FLW by recovering and redistributing safe, surplus food, when policies enable and amplify such activities. In 2019, food banks in more than 70 countries recovered an estimated 3.75 million metric tons of safe, wholesome food.¹⁵ This recovery helped avoid an estimated 12.39 billion kilograms of greenhouse gas emissions arising from the anaerobic digestion of unnecessary food waste in landfills and provided food access to 66.5 million food-insecure people.¹⁶

While FLW results in economic loss, food donation can generate sizeable economic gains.¹⁷ First, donation reduces the economic and environmental costs of producing food that otherwise goes uneaten¹⁸ and curbs methane emissions caused by food decomposing in landfills.¹⁹ Second, donation alleviates hunger, reducing health care expenses associated with malnutrition²⁰ and increasing productivity, educational fulfillment, and economic potential.²¹ Third, food recovery operations create job opportunities at food banks and intermediaries and stimulate the economy by increasing the spending power of donation recipients.²² Indirect gains, such as reduced hunger costs and more resilient supply chains, flow to society and ultimately help build stronger communities. Unlocking this spectrum of benefits requires clarity and sufficient incentives for donors to redistribute rather than discard surplus food.

While many governments have campaigns, targeted policies, coalitions, or working groups dedicated to reducing FLW, most of these initiatives result in a patchwork that fails to comprehensively tackle such a complex, multisectoral problem. Further, few countries have specifically identified food redistribution as an effective tool to simultaneously mitigate needless food waste and food insecurity. For this reason, a national strategy specifically targeting FLW reduction—including opportunities to advance surplus food redistribution—can significantly streamline and amplify national efforts to tackle FLW. National strategies allow governments to align public policy, private sector activity, and inspire necessary behavior change across the supply chain toward an established FLW reduction goal.²³ Whether it is efficiently directing government resources, creating multi-agency coalitions, identifying an entity to take a leadership role in FLW reduction, comprehensively measuring and reporting rates of waste and donation, setting national targets, or signaling government commitment, adopting a national strategy is a critical tool to ensure safe, surplus food makes it to those in need, instead of ending up in a landfill.

Investing in FLW reduction is a strategic move with significant socio-economic benefits for any government. A well-executed strategy can streamline the food supply chain, reducing waste management costs and reclaiming value from otherwise wasted food, and thereby enhancing economic efficiency. For businesses, reducing waste translates to lower operational costs and increased profitability. A national strategy also aligns with environmental goals, integrating organic waste management into broader climate objectives. Importantly,

incorporating food donation into this strategy can play a critical role in mitigating food insecurity, contributing to social equity and supporting nations with hunger reduction targets.

The majority of nations—even those without a national food loss and waste strategy—have set a national FLW goal aligned with SDG 12.3, publicly setting their reduction targets consistent with halving FLW by 2030.²⁴ According to Champions 12.3, as of early 2019, countries comprising 50 percent of the world’s population set an explicit FLW reduction target that aligns with SDG 12.3, including Australia, the European Union, Norway, Japan, the United Arab Emirates, and the United States.²⁵

Among the many countries with a national FLW reduction goal, a much smaller number have implemented an official national strategy for FLW reduction. As of the time of publication, Australia, Croatia, Germany, Portugal, Argentina, Chile, Brazil, Canada, and the United Kingdom are among the countries with national strategies to tackle food loss and waste. The United States released a draft strategy at the end of 2023 to be adopted in 2024 and South Africa also has a draft strategy underway. Others, like China²⁶ and Singapore, have overarching zero-waste strategies that include specific sections on FLW.

Many countries align climate strategies with the expectations and requirements of international agreements, such as the Nationally Determined Commitments (NDCs) coined under the Paris Agreement.²⁷ However, according to Waste & Resources Action Programme (WRAP), only 21 countries²⁸ (representing 21% of the world’s population) committed to reducing FLW directly within their NDCs,²⁹ with the rest not yet considering FLW in their efforts to curb emissions.

The existing national strategies for FLW reduction provide a wealth of best practices from which other nations can derive valuable lessons. This issue brief collates and analyzes case studies from various regions, offering targeted recommendations for countries aspiring to develop their own comprehensive FLW strategies. The insights gathered here serve as a guide for formulating effective policies and practices in the fight against food waste and in promoting sustainable food systems.

Food Loss and Waste Framework Laws

Many countries have national food waste framework laws that do not necessarily equate to having a national strategy. Despite the laws often being titled a “Food Waste Law” or “Food Donation Law,” in most cases they do not develop a comprehensive framework to address FLW or food donation at the multisector, national scale. Rather, many of these laws approach a specific element of food donation, such as introducing liability protection for food donors and FROs (such as in Israel or Brazil), or mandating a food donation requirement, wherein certain stakeholders are legally bound to donate surplus food (such as in France or Ecuador). A few “food donation laws” may introduce working groups or designate a specific government entity to take a leadership role on food waste. While these laws are important in building a policy landscape that is favorable to FLW reduction and food redistribution, they are not analogous to developing a national strategy. In most cases, a national strategy can serve as a central force that aligns and coordinates these types of food donation policies within a larger framework.

Overview of National Strategies in Researched Countries of the Atlas Project

Country	Food Waste Reduction Goal more aggressive than SDG 12.3	National Framework Law (Y/N)	National Food Waste or Food Donation Strategy
Argentina	SDG 12.3	National Food Donation Law	National Plan for the Reduction of Food Loss and Waste
Australia	SDG 12.3	No	National Food Waste Strategy
Brazil	SDG 12.3	Law No. 14.016	Intersectoral Strategy for the Reduction of Food Loss and Waste
Canada	SDG 12.3	No	No
Chile	Increase municipal organic waste recovery from 1% to 30% by 2030; 66% by 2040	No	National Organic Waste Strategy Chile 2040
China	SDG 12.3	Anti-Food Waste Law	Action Plan on Food Loss and Waste Reduction
Colombia	SDG 12.3	Law 1990	No
Costa Rica	Reduce food waste by at least 3x by 2025	No	No
Dominican Republic	SDG 12.3	No	No
Ecuador	SDG 12.3	Food Donation Law	No
Ghana	SDG 12.3	No	No
Guatemala	SDG 12.3	No	No
India	Halve food waste by 2030; food manufacturers reduce waste by 30% by 2025	No	No
Indonesia	30% waste reduction and 70% waste handling by 2025	No	No
Israel	SDG 12.3	Food Donation Law	In progress
Kenya	SDG 12.3	No	No
Mexico	SDG 12.3	No	No

Nigeria	SDG 12.3	No	No
Paraguay	SDG 12.3	Ley 6601: Food Donation Law	No
Peru	SDG 12.3	Law No. 30988: Preventing Food Waste	In Progress
Singapore	Reduce waste-to-landfill per capita per day by 20% by 2026	No	No
South Africa	SDG 12.3	No	No
United Kingdom	SDG 12.3	No	Food Waste Reduction Roadmap
United States	SDG 12.3	No	Draft National Strategy to Reduce FLW

KEY ISSUES

In many countries, despite earnest effort to reduce FLW and increase food donation activity, a key barrier to widespread adoption of these best practices is ambiguity about which government entity should take ownership of the issue. Given the multisectoral nature of food waste, interventions could span ministries, from environment, to food safety, to agriculture, to social welfare. Because food waste and recovery does not neatly fit under the jurisdiction of one entity, it often falls through the cracks entirely.

Clearly delineated roles and responsibilities in a comprehensive roadmap is critical for an effective national approach to reducing FLW and enhancing surplus food recovery. Without clear strategy, nations risk duplication in efforts or gaps in implementation as various stakeholders take siloed approaches across government, private sector, and civil society.

Most nations have economic, hunger, and climate goals top of mind, but have yet to strategically integrate food waste reduction as a meaningful contribution to those aims. In isolation, FLW reduction often lacks adequate public and policy attention to attract resources and national focus proportional to the scale of the issue. A cohesive national strategy unifies society around clear goals and targets.

Often, food waste reduction efforts are fragmented across different sectors without a cohesive approach. Without a centering force, different sectors may unknowingly have conflicting policies, leading to inefficiencies, missed opportunities, or unnecessary barriers to reducing FLW or donating surplus food. A national strategy provides a unified framework, ensuring that all sectors work towards common goals and policies are aligned. By signaling FLW as a national priority and providing resources to problem-solvers, a national strategy can also foster innovation in waste reduction technologies and practices.

Many individuals and businesses may not recognize the importance of their role in minimizing waste or have access to insights around simple and effective behavior change. In these cases, a well-publicized national

strategy can raise public awareness and education about sustainable consumption, giving consumers actionable steps and enhancing participation in FLW interventions. A coordinated strategy can also include reporting and monitoring requirements that improve data collection and analysis on food waste and provide insights for better policy decision-making and progress tracking.

RECOMMENDATIONS

1. SET A NATIONAL GOAL FOR FOOD WASTE REDUCTION AND FOOD REDISTRIBUTION

A national food waste goal is a specific target established by the government to reduce FLW. Setting a national FLW goal—and including a sub-goal for how much of diverted food waste should be donated to hunger relief—is a critical first step to reducing levels of food waste and ensuring safe, surplus food is not destined for landfills. A unified, codified national goal ensures that FLW is prioritized on the national agenda and sufficient resources are dedicated to meeting the goal. Defining a specific reduction goal, with a benchmark from which to improve, also enables efficient measurement and reporting towards that goal.

Most countries around the world have aligned with the UN Sustainable Development Goal (SDG 12.3) of halving FLW by 2030. To further solidify this commitment, it is essential for countries to formally announce the goal in order to build awareness and signal commitment. The goal should be incorporated into a national strategy, ensuring that it is not just a theoretical target but a concrete objective. Some countries have published intermediary sub-goals, made binding commitments to even more ambitious goals, or set targets that are more precise depending on their context.

Efforts to minimize FLW should align with a food waste use hierarchy, focusing first on prevention then on redistribution to people, the highest and best use for safe, surplus food. While there is not much precedent for including a food donation/redistribution goal as a sub-goal of the food waste reduction target, a best practice would consider the means by which food waste is reduced. California, in the **United States**, is an example of a state-level FLW reduction goal that incorporates food redistribution. California's SB1383 requires that certain commercial food waste generators donate their excess edible food to food recovery organizations and recycle any remaining food.³⁰ The law sets an ambitious state-wide target of recovering 20% of all edible food that would otherwise be sent to landfills to feed people in need by 2025.³¹ While not expressly a food donation goal, **France, Ecuador, Italy, and the Netherlands** have codified a food recovery hierarchy in national law.³² These hierarchies prioritize food donation and redistribution above other food recovery options. **Austria, Belgium, Ireland, and Spain** also prioritize food donation and redistribution through complementary policy, though they do not do so with a formal food use hierarchy.³³ Intentionally incorporating food redistribution into national FLW targets—aligned with the hierarchy—ensures that allocated resources and resultant strategies prioritize food for humans over other valorization opportunities.

Additionally, when reviewing their Nationally Determined Contributions (NDCs), which are nation-specific goals central to the implementation of the Paris Agreement on climate change, governments should include specific targets and strategies related to FLW—specifically including surplus food redistribution—as a major albeit overlooked contributor to greenhouse gas emissions. By aligning FLW reduction goals with NDCs, countries can ensure a cohesive approach that contributes to broader climate action plans, highlighting the intersection between FLW management and environmental sustainability. According to research by World Wildlife Fund, Namibia, Sierra Leone, Cote d'Ivoire, Burkina Faso, Gambia, China, and the UAE are part of the small sampling of global leaders committed to FLW reduction efforts in their NDCs.³⁴

In other regions of the world, the national focus has been specifically on post-harvest food loss reduction. In 2014, as part of the Malabo Declaration, the African Union set a target of reducing postharvest losses by 50% by 2025³⁵ and African nations (such as Ethiopia, Kenya, Zambia, and Zimbabwe) have since crafted national postharvest food loss reduction strategies.³⁶ Similarly, Vietnam has a target to reduce postharvest losses of agricultural and fishery products by 50% by 2020.³⁷

2. DESIGNATE A LEAD MINISTRY OR ESTABLISH AN INTERAGENCY WORKING GROUP WITH CLEAR LEADERSHIP CHARGED WITH ADVANCING FOOD WASTE REDUCTION AND FOOD DONATION ACTIVITY

Due to the intersectional nature of food waste, it is often unclear which government entities should be responsible. Establishing a mandate for a dedicated ministry or working group to focus on FLW is a critical step in reaching national FLW reduction goals. Currently, FLW issues are often dispersed across various departments, leading to fragmented approaches and diluted focus. A specialized ministry or a dedicated working group within an existing structure can provide the concentrated effort required to tackle FLW issues comprehensively. This focused approach ensures that policies and strategies are not only well-coordinated but also tailored to address the unique challenges of FLW. It allows for the integration of diverse perspectives, ranging from environmental impact, economic implications, to social aspects like food security. Moreover, a centralized entity is more effective in mobilizing resources, steering legislative changes, and fostering partnerships across public, private, and civil society sectors.

There are a few examples of intentional and effective adoption of food waste into existing government entities, wherein one ministry takes a leadership role and delegates or creates joint agreements as relevant. **India** is a unique example wherein the Food Safety and Standards Authority of India (FSSAI) took initiative on FLW despite not having the directive to do so. FSSAI established a platform called the Indian Food Sharing Alliance (IFSA) to promote food donation activity and took proactive measures to reduce confusion regarding food safety for donations by publishing Surplus Food Regulations.³⁸ In this way, FSSAI established itself as a leader of reducing FLW and took ownership of the issue. However, because departments or ministries may be slow to take ownership on their own, it is best practice for the executive branch or legislature to formally assign responsibility to a ministry to ensure accountability and increase the chance of leadership longevity as compared to a ministry that self-appoints.

In the **United Kingdom**, responsibility for policies and regulations related to food waste is squarely in the domain of the Department for Environment, Food & Rural Affairs (DEFRA), which develops strategies, funds research, and collaborates with other organizations to reduce food waste across the country including the notable “Love Food Hate Waste” campaign³⁹ and the Courtauld Commitment.⁴⁰ **France’s** Ministry of Ecological Transition oversees policies related to waste management and partners with other ministries where relevant. For example, the ministry recently joined forces with the Ministry of Energy Transition to launch the National Seal against food waste in 2023.⁴¹ The **Danish** government combats food waste under the Ministry of Environment and Food, which secures funding for innovation in waste reduction and collaborations with non-profits and private organizations on creative campaigns.⁴²

Even when one agency adopts the responsibility of food waste and recovery, a collaborative approach is still recommended, as tackling this complex issue requires expertise across sectors and agencies. For example, in 2018 the **United States**, prior to the establishment of an official national FLW strategy, three government agencies—the United States Department of Agriculture (USDA), Environmental Protection Agency (EPA), and Food and Drug Administration (FDA)—established a joint formal agreement to reduce FLW.⁴³ The following year, the agencies launched the 2019 Winning on Reducing Food Waste Federal Interagency Strategy⁴⁴ (since renamed to the Federal Interagency Collaboration to Reduce Food Loss and Waste), which included several important aspects, such as clarifying roles and responsibilities of each agency, forging new partnerships

with stakeholders and expanding existing ones, and enhancing food donations through federal policy.⁴⁵ This collaborative work was important on its own, and also set the stage for later development of a national food waste strategy, a draft of which was published in December 2023.⁴⁶

There are also examples of effective national-level task forces that coalesce different government entities. **The Netherlands** established a Taskforce Circular Economy in Food, which brings together stakeholders from various sectors to collaborate on reducing food waste in a national program called “United Against Food Waste.”⁴⁷ The group is made up of various government ministries, as well as representation from companies, research institutes, and civil society organizations.⁴⁸ This task force operates within the framework of the national program, ‘Netherlands Circular in 2050,’ and has been instrumental in developing innovative solutions and promoting a circular economy in food production and consumption.⁴⁹

Finally, it can also be effective to appoint a specific liaison to represent food waste and recovery among the suite of government agencies. Some countries or cities have appointed a specific individual as a “Food Waste Czar” or “Food Waste Champion.” Their role is to lead initiatives, coordinate efforts across different sectors, and drive policies aimed at reducing food waste. For instance, in 2018, the **UK** appointed the government’s first Food Surplus and Waste Champion to help drive forward the government’s plans to cut food waste.⁵⁰ The United States also appointed a Food Loss and Waste liaison within the Department of Agriculture.⁵¹

Designation of a specific lead ministry, establishment of an interagency working group, or appointment of a dedicated official in charge of food waste reduction is a strategic approach to address the multifaceted nature of FLW. This recommendation recognizes the need for a focused, centralized entity to bring coherence, efficiency, and effectiveness to FLW initiatives as well as accountability for reaching determined milestones. Such an approach ensures that policies and strategies are not only well-coordinated across various sectors but are also adaptable to unique challenges. This can range from integrating environmental, economic, and social perspectives to mobilizing resources and concentrating influence for legislative advocacy.

3. CRAFT A NATIONAL STRATEGY TO MEET ESTABLISHED FLW REDUCTION GOAL

Crafting and disseminating a unified national strategy specifically targeting FLW reduction—with special attention to surplus food redistribution—can significantly streamline and amplify national efforts to meet the established goal. The first step in crafting a national FLW strategy is conducting a thorough needs assessment. This involves understanding the key gaps, areas of opportunity, and identifying the most impactful leverage points.

Engaging diverse stakeholders—both public and private industry—in this process is crucial to ensure a comprehensive understanding of the issues. In establishing a national strategy for FLW reduction, **Australia** conducted a multi-step process that allowed them to be thorough, economically precise, and encompass input from myriad diverse stakeholders. Considered a gold standard of national strategies, **Australia** initially published their national strategy,⁵² and shortly after created a roadmap⁵³ for achievement and commissioned a feasibility study to identify the most cost-effective interventions.⁵⁴ Drafted by Food Innovation Australia Limited (FIAL), a contractor of the Australian Government, with input from WRAP, the feasibility study was arguably the most influential element of the process.⁵⁵ The study helped quantitatively assess the nature of the food waste problem, establish a baseline for progress measurement and realistic goal setting, as well as tested the cost-benefit ratio for different scenarios to identify the most efficient approach for Australia to actually meet its food waste reduction goal.⁵⁶ Consultations and data collection for the study involved a wide range of stakeholders including state and territory governments, food producers, retailers, consumer groups, charitable organizations, waste management services, academic institutions, and indigenous communities to ensure the study captured a broad spectrum of perspectives and practices related to food consumption and waste, from agricultural production to household consumption.⁵⁷ The analysis of various scenarios in

the Feasibility study ultimately showed that initiatives targeted at industry, such as voluntary agreements, provided the most cost-effective approach to reducing food waste, once a supportive policy framework is in place.⁵⁸ The resulting national strategy transforms these insights into tailored actions to meet the national food waste reduction goals across four key areas: policy support, business improvements, market development, and behavior change.⁵⁹

A needs assessment need not be as costly and time consuming as the Australia feasibility study, but requires a methodical approach to establishing a baseline, incorporating diverse food system perspectives, and identifying a cost-effective path forward, with clear assignment of duties within and outside of government. Building on the data generated through a needs assessment, governments should craft and disseminate a comprehensive interagency national strategy for the reduction of food waste. A robust national strategy requires the commitment of multiple agencies. This roadmap should identify supporting policy frameworks, incentives (both existing and new), allocate adequate financial resources, and set milestones and checkpoints. An effective strategy also requires a mechanism for monitoring progress and implementing corrective actions.

Another key element in an effective national strategy is a whole of government, multi-stakeholder approach, even if one key agency or ministry is taking the charge. **Brazil's** approach to reducing FLW encompasses a comprehensive Intersectoral Strategy that involves 20 government ministries, private sector players, and civil society organizations.⁶⁰ The strategy focuses on a broad-based whole of government and food system approach, including the entire food supply chain from production to consumption. Key elements include improving agricultural practices to reduce pre-harvest losses, enhancing logistics and storage facilities to prevent post-harvest losses, and encouraging responsible consumption habits among consumers.⁶¹ Notably, the strategy includes specific policy considerations that would enhance food redistribution, including addressing civil liability for food donation, tax exemption for food donors, and labeling laws.⁶²

Chile successfully approved its National Organic Waste Strategy for 2040⁶³ in 2021, alongside updated Nationally Determined Contribution (NDCs) with support from Environment and Climate Change Canada.⁶⁴ The strategy aims to dramatically increase municipal organic waste recovery, from the current 1% to 66% by 2040, with an intermediate goal of recovering 30% by 2030.⁶⁵ The strategy document covers major considerations such as institutional organization and establishing roles, securing financing for necessary transformations, identifying and removing regulatory barriers, strategically involving citizens, generating demand for new secondary products, and monitoring progress towards goals.⁶⁶ Regarding food donation and redistribution, the strategy mentions support of a pending bill to regulate the distribution of food suitable for human consumption,⁶⁷ and promotes other actions to promote the redistribution of food suitable for human consumption, such as: public engagement campaigns and activities, household-level platforms to share surplus food, and platforms to encourage food outlets (supermarkets, restaurants, cafes, small businesses, etc.) to sell surplus food at discounted prices.⁶⁸ Chile has been a model for other South American nations seeking to formalize their strategy; their leadership on FLW inspired **Peru** to initiate a scoping analysis to develop their own strategy.⁶⁹

Argentina's National Plan to Reduce Food Loss and Waste, initiated in 2019, targets food loss and waste across the entire food value chain.⁷⁰ It includes interventions such as improving technology in food processing to extend shelf life, developing better transportation and storage infrastructure, and promoting efficient market mechanisms to ensure timely distribution of food products.⁷¹ The program engages stakeholders from multiple government agencies—from economy to food—agribusiness, and the food retail industry.⁷²

Germany's 2019 National Strategy for Food Waste Reduction,⁷³ spearheaded by the Federal Ministry of Food and Agriculture, is characterized by a multi-tier approach. It involves collaboration between the federal government, states, and municipalities, and includes the participation of businesses, NGOs, and consumers.⁷⁴ The strategy sets clear targets for reduction at each stage of the food supply chain and implements a monitoring system to track progress. Educational campaigns aimed at consumers to prevent food waste at home, coupled with incentives for businesses to optimize supply chains and reduce waste and an 'eco-platform'

to make food donation more efficient, are key components.⁷⁵ The strategy also emphasizes the importance of research and innovation in developing new methods to reduce, reuse, and recycle food waste.⁷⁶

Other nations are not far behind in officially adopting a national strategy for the reduction of food waste. The World Bank and WRAP UK supported **Mexico** in the drafting of a conceptual framework for a national strategy on food loss and waste, which may be a valuable resource for countries seeking to develop similar materials.⁷⁷

Finally, considering FLW reporting in a national strategy is a best practice to ensure efficiency and accuracy. Incorporating measurement and reporting requirements into a national strategy enables decision-makers to periodically gauge progress towards established goals or benchmarks and iterate or pivot when necessary. These types of accountability and reporting mechanisms are critical for strategy success. Further, setting sub-goals within the overall waste reduction goal can be an effective means to make incremental progress, adapting the strategy over time. Thus, by integrating FLW reporting into a national strategy, countries can not only track their achievements and challenges in waste reduction more effectively but also enhance the adaptability and effectiveness of their strategies to meet environmental and sustainability goals.

3A. CONSIDER A VOLUNTARY AGREEMENT FOR FOOD SYSTEM STAKEHOLDERS

Short of a comprehensive national strategy, binding or voluntary agreements with food system stakeholders can be effective mechanisms to bolster coordinated multisector support for FLW reduction. For example, in 2017, five **Norwegian** government ministries and 12 food industry organizations signed an agreement to halve food waste across Norway's food value chain before 2030, hitting a 30% reduction by 2025.⁷⁸ The agreement is binding for the contracting parties but otherwise voluntary.⁷⁹ With over 120 producers, manufacturers, retailers, and restaurants signed on, the agreement contributed to a 9.5% reduction in just 5 years.⁸⁰ Another case is the **United Kingdom's** Courtauld Commitment, a successful voluntary agreement facilitated by WRAP that brings together businesses across the food supply chain—from producers and manufacturers to retailers and hospitality providers—to achieve specific targets for reducing waste and improving resource efficiency, requiring periodic reporting on food waste reduction.⁸¹ Non-binding collaborations, when well-structured, supported by dedicated organizations, and generating buy-in from all stakeholders, can effectively mobilize industry-wide action towards ambitious FLW reduction goals, particularly due to the reporting requirement.

Mexico has a voluntary agreement is known as “Pacto por la Comida” that has gathered 20 signatories.⁸² It focuses on corporations in the food supply industry committing to measure and reduce FLW across their operations. Mexico's efforts also include assistance to enable signatories to progress in FLW measurement, as well as creating a supportive environment for increasing food donations, especially significant during the pandemic.

The **South African** Food Loss and Waste Voluntary Agreement has seen a broader engagement with 90 signatories.⁸³ Similar to Mexico, it involves collaborative efforts to measure and report food waste, establishing a baseline for the voluntary agreement. It also emphasizes the importance of food waste measurement, food donation, and addressing policy, standards, and regulation within the supply chain.

4. INCLUDE STATE OR LOCAL LEVEL GOVERNMENTS IN STRATEGY DEVELOPMENT AND/OR IMPLEMENTATION

In certain scenarios, where a national strategy for food waste reduction is challenging to implement, focusing on state or local level strategies can be a highly effective alternative. Such strategies allow for the adaptation of broader goals to specific local contexts, making them more relevant and actionable. By breaking down national objectives into attainable micro-goals at the state or local level, these strategies can address unique regional

challenges and opportunities, ultimately contributing cumulatively to national targets or serving as pilots for national-level initiatives.

Even should a national strategy be feasible, it is still pertinent to acknowledge the nuances of different areas of the country and include elements within the national plan that can be tailored to local contexts. A well-designed national strategy should engage state and local governments in both planning and implementation.

Milan, **Italy** is the initiator of the Urban Food Policy Pact, an international protocol signed by more than 100 cities worldwide that spurs the development of sustainable food systems and includes specific actions to reduce food waste.⁸⁴ Part of ‘Food Policy di Milano’ is a specific section on how the city plans to collaboratively approach FLW reduction and donation, including city-wide ‘Food Waste Hubs’ for sector-wide food recovery and redistribution,⁸⁵ awareness campaigns in schools and public spaces, and local legislation that supports food waste reduction, including laws that make it easier for businesses to donate surplus food.⁸⁶ The city also offers incentives to businesses that actively participate in food waste reduction initiatives.⁸⁷

Washington State in the **United States** implemented a comprehensive and ambitious strategy to reduce food waste, aligning with national and global goals. The strategy, known as “Use Food Well Washington Plan,” sets clear targets and outlines actionable steps to significantly reduce food waste across the state.⁸⁸ Washington’s Plan is multifaceted, involving a range of stakeholders, including government agencies, businesses, non-profit organizations, and community groups. Key components of the plan include enhancing food recovery efforts, improving consumer education on food waste reduction, and supporting the development of infrastructure for better food waste management.⁸⁹ The state also focuses on policies and programs that encourage food donation, thereby addressing both waste reduction and food insecurity.⁹⁰ In the **United States**, the momentum generated by successful state-level initiatives has set the stage for a national food waste reduction plan. The Biden Administration released a draft national food waste strategy during the 2023 COP28 conference.⁹¹

These state and local level food waste strategies highlight the critical role of adapting reduction efforts to align with specific local needs and capabilities, thereby contributing significantly to broader national and global food waste reduction objectives. Tailoring strategies to address unique challenges within individual jurisdictions not only enhances their effectiveness but also serves as a model of best practices. These models can inspire and inform policy development in other regions, potentially paving the way for broader adoption at the national level.

5. CREATE A COMPREHENSIVE PUBLIC EDUCATION CAMPAIGN TO ENSURE ALL STAKEHOLDERS UNDERSTAND HOW THEY CAN ADVANCE FLW REDUCTION

Successful mitigation of the food waste crisis hinges on the involvement and education of all sectors of society. To this end, creating a comprehensive public campaign to complement the national strategy is pivotal to ensure that every stakeholder understands and embraces the unique ways they can contribute. A national campaign enriched with comprehensive, interdisciplinary educational content signals a strong whole-of-society commitment to FLW reduction. It provides tactical strategies that are specifically tailored to the needs and capabilities of different actors within the system. Such a campaign not only raises awareness but also empowers each stakeholder with the knowledge and tools necessary to contribute effectively to the overall goal.

A well-designed public campaign will articulate the behavior changes required across diverse sectors, guiding each group to adopt practices that align with the broader objectives. This approach recognizes that the successful implementation of a national strategy depends not just on top-down policy directives but also on bottom-up, grassroots involvement and commitment.

To ensure that all relevant stakeholders understand and participate in the national effort, some countries have employed creative engagement strategies to capture the attention and compliance of actors across the supply chain, such as interactive websites or national challenges.

The **United Kingdom's** Food Waste Reduction Roadmap is a great example of an effective multisectoral campaign that mobilizes diverse actors towards meeting shared goals.⁹² The roadmap engages over 150 businesses and organizations in a collaborative effort to halve food waste by 2030 and provides detailed guidance and tools to help businesses measure, manage, and report food waste in a consistent manner.⁹³ This unified approach facilitates the sharing of best practices and fosters a collective responsibility among various sectors, from retail to hospitality, to reduce food waste effectively.⁹⁴

Several countries have integrated public engagement into their national strategies and FLW campaigns. **China's** introduction of the Anti-Food Waste Law in 2020⁹⁵ and The Law of the People's Republic of China on Assuring Food Security in 2023,⁹⁶ coupled with the ongoing 'Clean Plate Campaign,'⁹⁷ collectively target consumer behavior to reduce wastage in the food sector. Reflecting the government's commitment to reducing food waste at both the individual and institutional levels, the campaign encourages citizens to order and cook food mindfully to avoid excess and reduce waste.⁹⁸ It targets restaurants, urging them to offer smaller portion sizes and implement measures to discourage customers from ordering excessive amounts of food, from signage to incentives to bring home leftovers to and reminders about the environmental impacts of food waste.⁹⁹ The law also establishes food redistribution frameworks, emphasizing not just waste reduction but also the efficient use of resources.¹⁰⁰ This approach effectively combines legislative action with public awareness and participation encompassed within China's robust 5-year climate plans and aligned with their national action plan on saving food.¹⁰¹

Similarly, **Singapore's** national zero waste goal is supported by a dynamic educational web platform that engages the public in understanding and practicing waste reduction.¹⁰² This platform offers insights into alternative behaviors and actively involves citizens in the government's waste reduction initiatives. Both the **UK**¹⁰³ and **Singapore**¹⁰⁴ offer downloadable resources that are tailored for various sectors, businesses, and industries. These resources help stakeholders identify key areas for behavior change and leverage points for waste reduction, fostering a broader understanding and commitment to FLW goals.

India's nationwide campaign, introduced at COP26 by Prime Minister Modi, is characterized as a movement for "mindful and deliberate utilization," aiming to shift public attitudes away from "mindless and destructive consumption" and towards environmental preservation.¹⁰⁵ The campaign's website is not only informative, providing tips on waste reduction, but also interactive, featuring activities like a virtual game to educate about waste management.¹⁰⁶

Finally, a nation-wide food waste reduction challenge is a gamification strategy used by a few countries to date in engaging industry in FLW reduction aims. For example, in the **United States**, USDA and EPA host several initiatives aimed at reducing food waste. The Food Waste Challenge, a shared venture of EPA and USDA, was launched in 2013 with a goal to have 400 partner organizations by 2015 and 1,000 by 2020.¹⁰⁷ EPA and USDA also jointly implement the U.S. Food Loss and Waste 2030 Champions, which encourages businesses and organizations to publicly announce their commitment to reduce food waste by 50% by the year 2030.¹⁰⁸ **Canada** also launched a Food Waste Reduction Challenge in November 2020, an initiative to which the government directed \$20 million in funding.¹⁰⁹ Approaching the issue of FLW holistically, the Challenge includes multiple "challenge streams," seeking innovation in business models or technologies that prevent food waste, divert food waste, transform food waste, or extend the life of food.¹¹⁰ Most recently, Canada announced the finalists for a 'Novel Technologies for Food Waste Reduction Challenge' hosted at the beginning of 2023.¹¹¹

These examples underscore the importance of engaging the public in national FLW strategies, combining education, legislative advocacy, challenges, and interactive tools to foster significant behavioral change.

CONCLUSION

Developing and publishing a national strategy is a cost effective and highly impactful step towards meeting national FLW goals and advancing food redistribution. Critical elements of a strategy, as discussed herein, include establishing leadership over the implementation of the plan—while one ministry may be assigned ownership over the issue, a full government, multiagency approach is recommended—thoughtfully including all stakeholders, from public to industry, and establishing reporting requirements. Strategic involvement of state and local governments is also critical, whether they be deployed in achieving the national goal or, absent a national-level strategy, used as pilots. Governments may also see success establishing voluntary agreements among food system stakeholders. Finally, the initiative must be complemented with a comprehensive public education campaign to ensure all stakeholders understand their role in achieving national targets. This avenue of government action will enhance food redistribution efforts and minimize the social and economic costs of FLW worldwide.

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