INTRODUCTION
Reducing and preventing food loss and waste (FLW) is a global imperative. Up to 40 percent of all food produced is lost or wasted,¹ and addressing this challenge is essential to building a regenerative and resilient food system that helps to mitigate climate change, reverse nature loss, and deliver positive outcomes for both producers and consumers. An estimated $408 billion is spent each year in the US to grow, process, transport, store, and dispose of food that’s never eaten.²

Yet proven solutions exist that save money, time, and natural resources.³ In 2015, the US adopted a national goal of halving FLW by 2030. We can achieve that goal by accelerating public and private sector leadership and building on overwhelming public support for reducing FLW.⁴ The Harvard Law School Food Law and Policy Clinic (FLPC), ReFED, the Natural Resources Defense Council (NRDC), and the World Wildlife Fund (WWF) recommend that the Biden administration and Congress take ambitious action to reduce FLW, prioritizing the following:

1 Invest in the infrastructure to measure, rescue, recycle, and prevent organic waste from entering landfills and incinerators
2 Expand incentives to institutionalize surplus food donation and strengthen regional supply chains
3 Assert the US Government’s leadership on FLW globally and domestically
4 Educate and activate consumers via private and public food waste behavior change campaigns
5 Require a national date labeling standard

² “Roadmap to 2030: Reducing US Food Waste by 50% and the ReFED Insights Engine” (ReFED, February 2021).
³ “Roadmap to 2030: Reducing US Food Waste by 50% and the ReFED Insights Engine.”


1 INVEST IN THE INFRASTRUCTURE TO MEASURE, RESCUE, RECYCLE, AND PREVENT ORGANIC WASTE FROM ENTERING LANDFILLS & INCINERATORS

Overview

Food is the single largest input by weight into US municipal landfills and incinerators,\(^5\) where it has significant social and environmental impacts. Food waste produces high levels of methane emissions as it decomposes, along with local air and water pollutants from both landfilling and incineration. An estimated 80% of these municipal incinerators are in lower-income areas and on Indigenous lands, where they disproportionately affect underserved communities and communities of color.\(^6\) With low tipping fees\(^7\) in most parts of the country that fail to account for the true costs of waste, it is often cheaper to send organic waste such as food to landfills or incinerators than it is to donate, repurpose, or recycle it. Most businesses and municipalities will continue to landfill organic waste until it is cost-neutral or cheaper for them to change.

As Congress and the administration consider priority investments in US infrastructure and economic recovery, they should expand investments in and incentives for waste prevention, measurement, donation, waste-to-animal-feed, organics recycling, composting, and anaerobic digestion. The stated objective of these investments should be to measure, rescue, recycle, and prevent 50% of organic waste from entering landfills and incinerators by 2030.

Expanding food waste management infrastructure has the highest potential of any FLW solution to generate new jobs (an estimated 18,000 jobs annually through 2030).\(^8\) Massachusetts’ organic waste ban, for instance, supported 900 new jobs and $175 million in industry activity over its first few years.\(^9\) This infrastructure can also reduce the country’s annual emissions by 5.8 MMTCO\(_2\)e,\(^10\) return nutrients to degraded soils on American farms and public lands, and boost profitability for American farmers and ranchers.\(^11\)

Most importantly, diversion from landfills and incinerators coupled with better measurement can accelerate FLW prevention. The US EPA’s Food Waste Hierarchy prioritizes source reduction and practices that ensure surplus food is fed to hungry people before organics recycling efforts. Experience shows that the most successful organic waste management policies include provisions to measure FLW, prevent food from becoming waste, and incentivize rescue of surplus food. For example, Massachusetts, Vermont, and California have all followed this approach, offering funding and technical assistance for food waste prevention and rescue in parallel or as part of their organics recycling regulations—simultaneously reducing GHG emissions and costs associated with waste management, while increasing the amount of safe, surplus food to those in need.

Policy Recommendations

A Offer Funding for States and Cities that Incentivizes Organic Waste Measurement, Rescue, Recycling, and Prevention (Administration, Congress)

Provide annual funding through 2030 to support state- and city-level investment in infrastructure and other costs associated with implementing plans for organic waste measurement, rescue, recycling, and prevention that meet pre-defined quality standards. California has implemented a leading model for its jurisdictions and already invested $140 million in organic waste infrastructure funding.\(^12\) Policy options for states and cities looking to follow a similar model include: organic waste landfill bans or organic waste recycling requirements;\(^13\) mandated food scrap recycling;\(^14\) Pay-As-You-Throw (PAYT) policies that disincentivize landfilling and incineration as opposed to recycling and composting organics;\(^15\) a landfill tax per unit of trash added to the existing tipping fee;\(^16\) and policies that stimulate demand for compost or promote organic

---


\(^{7}\) Tipping fees refer to the gate fee or fee charged by a landfill operator to anyone disposing waste at a landfill.

\(^{8}\) "Roadmap to 2030: Reducing US Food Waste by 50% and the ReFED Insights Engine" (ReFED, February 2021).

\(^{9}\) “Massachusetts Commercial Food Waste Ban Economic Impact Analysis” (Massachusetts Department of Environmental Protection, 2016).

\(^{10}\) "Roadmap to 2030: Reducing US Food Waste by 50% and the ReFED Insights Engine" (ReFED, February 2021).


\(^{13}\) FLPC, Bans and Beyond: Designing and Implementing Organic Waste Bans and Mandatory Organics Recycling Laws, 2019.


\(^{15}\) Mugica.

waste prevention and food rescue. Organic waste bans have shown particular promise in reducing food waste in landfills—with a demonstrated impact in food waste prevention, donation, and recycling. For example, Vermont saw food donation triple after implementing its organic waste ban, and Massachusetts documented a 22% increase in donation. To accelerate the widespread adoption of these strategies and build the nation’s organic waste recycling infrastructure, the administration and Congress should provide $650 million in annual funding for states and cities through at least 2030.

B Require the Development of Food Waste Measurement Planning and Transparency (EPA, Congress)
As the saying goes, you can’t manage what you don’t measure. Today, state- and city-level waste characterization studies are conducted periodically (typically every five years), with few requirements for waste haulers and businesses to regularly report waste generation data publicly. High-quality organic waste characterization, rescue, recycling, and prevention plans by cities and states should include a strategy to aggregate, anonymize, and publicly report monthly or quarterly waste generation data through centralized databases like the ReFED Insights Engine. This reporting will introduce much needed transparency and establish more timely monitoring of organic waste generation. The data can then be used by states and cities to develop detailed plans for organic waste recycling infrastructure requirements and prevention strategies, and to track their progress.

C Build Demand for Compost (USDA, Congress)
In parallel with the efforts to divert organic waste to compost instead of landfills, policymakers should help stimulate demand for finished compost products. This should include updating the USDA’s definition of compost products so that a greater number of potential buyers (such as farms, golf courses, or other operations near waterways) are encouraged to purchase compost; developing a marketing campaign to build compost demand; and streamlining the compost contracting process (e.g., by helping to match compost generators with potential buyers). Congress should reauthorize and expand appropriations for the recent Community Compost and Food Waste Reduction pilot projects, authorized in the 2018 Farm Bill, through which the USDA invested $1 million into 13 projects to develop and implement municipal compost and food waste reduction strategies—with an emphasis on making compost accessible to farmers.

D Fund the Development of FLW Public-Private Partnerships (Congress)
There is evidence that public-private sector partnerships can accelerate food waste reduction, with an estimated 80:1 return. The Pacific Coast Collaborative’s West Coast Voluntary Agreement to Reduce Wasted Food and NRDC’s Food Matters project show how cities, states, and businesses can work together pre-competitively to share best practices, discuss common-sense policymaking, and address shared sustainability challenges around FLW. Congress should allocate $50 million in funding for cities and states to apply to develop these partnerships, which could be managed through the Federal Interagency Food Loss and Waste Collaboration.

E Eliminate Restrictions and Barriers to Feeding of Food Scraps to Animals (USDA, FDA)
Many restaurants, grocery stores, food manufacturers, and small and large farms produce food scraps that are no longer suitable for human consumption but are still safe and wholesome for animals. In order to support more uniformity and science-based regulations on this process, FDA and USDA should provide guidance and technical assistance to states on optimal regulations regarding feeding food scraps to animals, which state governments can use to review and eliminate any overly stringent restrictions or bans in place today.

---

20 Waste characterization is a method to segment (e.g., food waste, paper, glass, etc.) and measure discarded solid waste.
25 A regional public-private partnership between WWF, West Coast governments, and major food companies to reduce FLW by 50% by 2030.
26 City and regional initiatives across the US led by NRDC to develop programs and policies to measure, prevent, rescue, and recycle FLW.
27 See page 6 for more information on the Federal Interagency Food Loss and Waste Collaboration (formerly the Winning at Reducing Food Waste Initiative).
2 EXPAND INCENTIVES TO INSTITUTIONALIZE SURPLUS FOOD DONATION AND STRENGTHEN REGIONAL SUPPLY CHAINS

Overview
Nationally, less than 10% of food is donated rather than wasted. In 2020, the sudden demand shift at the onset of COVID-19 exposed the inflexible and siloed nature of existing supply chains, when cancelled contracts (in the restaurant and hospitality sectors, for example) left surplus food stranded on American farms—even as demand at food banks and grocery stores skyrocketed. To help farmers become more resilient, profitable, and capable of donating food that would otherwise be lost, the USDA should develop stronger regional food supply chains that: 1) empower farmers to sell through new direct-to-consumer distribution channels, and 2) provide fresh produce and nutritious foods to the growing number of families facing hunger. Congress should also revise donation policies to make it easier for retailers and food service organizations to donate excess food to food rescue organizations.

Policy Recommendations

A Expand the Federal Enhanced Tax Deduction for Food Donation to Include Non-Profit Sales and Transport (Congress)
Under current law, the federal enhanced tax deduction for food donations can only be claimed when food is donated to a non-profit that does not charge the end recipient for the food. Expanding the federal tax deduction can incentivize donations to more recipients, including social supermarkets that sell donated food at an extremely discounted price or food rescue organizations that charge recipients a minimal fee to help offset the costs of home delivery. Adding transport services for donated food as a separate cost eligible for an enhanced tax deduction will also help overcome one of the most expensive barriers for businesses and food rescue organizations to get excess food to those in need.

B Enable Greater Food Donation by Farmers (Congress)
The existing federal enhanced tax deduction for food donations is not well-suited to farmers and is not often claimed by them, as many farmers operate at low profit margins and do not make enough income to claim a tax deduction. Further, the calculation of the value of the deduction is very onerous for farmers. To incentivize farmers to donate surplus crops and offset some of the costs of donation (including labor), Congress could provide an alternative tax credit that farmers could opt to claim instead of the existing enhanced deduction. Congress could also appropriate additional funds to support programs—such as the Farm to Food Bank Program created within The Emergency Food Assistance Program (TEFAP) in the 2018 Farm Bill—to help cover the harvesting, processing, packaging, and transportation costs of donating agricultural products to local food banks.

C Strengthen Liability Protections for Food Donation (Congress)
To encourage food donation, Congress could strengthen liability protections for food donation in a number of ways, including: 1) broadening protections to include food items sold at a low cost and “direct donations,” or food donations offered directly from certain food business donors to end recipients; 2) granting administrative authority of the Federal Bill Emerson Good Samaritan Food Donation Act to USDA and directing USDA to write regulations that clarify the language of the Act; and, 3) requiring USDA to implement an education campaign on donation liability protection for potential food donors and food rescue organizations.

D Clarify Guidance on Food Safety for Donations (FDA, Congress)
US federal food safety legislation and regulations developed by FDA and USDA generally do not mention the food safety practices that should be followed for food donations, leading to confusion and varying rules in different states and localities. These laws and agency regulations should be updated to feature

donation-specific chapters—on topics such as temperature, transportation, and labeling of donated foods. In December 2020, USDA’s Food Safety and Inspection Service (FSIS) published draft guidance along these lines that lays out the food safety protocols for meat or poultry to be donated from FSIS-inspected facilities.\textsuperscript{34} FDA should follow suit with guidance on food safety protocols for donations from FDA-inspected facilities. As retail and food service establishments are licensed and inspected under state law rather than federal law, with guidance provided by the FDA Food Code, FDA also should provide guidance for states and localities on food safety for donated food. Such guidance can help promote more uniformity in state and local regulations around food safety for donations, and can also inform food donation practices by national food businesses. In the absence of action by FDA, Congress should require FDA to publish such guidance.

E Continue to Create Alternative Market Channels for Producers and Consumers (USDA, Congress)
At the state of the pandemic, the USDA took emergency measures, such as developing the Farmers to Families Food Box program, to help farmers find new distribution channels for unprecedented levels of surplus.\textsuperscript{35} This created new supply lines between distributors, farms, food banks and other nonprofits, and families in need.\textsuperscript{36} Anti-hunger experts believe that up to 50% of food bank supplies came from these emergency programs during a time when demand for food at food banks increased 60%\textsuperscript{37} and as many as one in four American adults were facing hunger.\textsuperscript{38} Federal policymakers should incorporate learnings from pandemic-era programs into traditional assistance programs. For example, the Farmers to Families Food Box Program could be a model for future procurement and distribution of fresh products, such as commodity purchasing programs like TEFAP and the USDA Foods in School program. USDA should ensure the contracting process for any such program is transparent and explicitly inclusive of different scale growers (especially minority- and women-owned, small- and mid-scale, or organic operations) and local food system groups.\textsuperscript{39} This should include conducting outreach to train and develop the capacity of these small and mid-scale growers and food groups to participate in online and direct-to-consumer distribution—who can then be published in regional lists of “USDA-encouraged” or “USDA-supported” producers for USDA contractors to easily reference.\textsuperscript{40} Congress and USDA should also work to ensure that SNAP benefit amounts are adequate to ensure a nutritious diet, and to support the roll out of technology that allows small-scale producers, independent retailers, farmers, and farmers markets to participate as vendors in online SNAP markets (building on the support from Congress in the American Rescue Plan). These efforts can help to increase the food security of SNAP participants, ensure small producers maintain market opportunities for their nutritious foods, and strengthen regional supply chains.

F Establish New Positions for Regional Supply Chain Coordinators at USDA (USDA, Congress)
A lack of real-time food supply data has led to an inability to efficiently find and transport food from where it is grown or stored to where it is needed most. In addition to investing in more transparent and centralized waste information flows, there is a critical need to invest in new positions within the USDA and with trusted partners to achieve supply chain resiliency goals. Regional Supply Chain Coordinators would oversee the efficiency and adaptability of regional food supply chains by aggregating critical data sources on surplus products, stranded assets, and gaps in cold storage and distribution infrastructure. These positions could be especially effective in bringing federal funding and assistance to food deserts and other communities facing barriers to access.

\textsuperscript{34} “FSIS Guideline to Assist with the Donation of Eligible Meat & Poultry Products to Non-Profit Organizations December 2020” (FSIS, December 2020).
\textsuperscript{35} Emily M. Broad Leib et al., “An Evaluation of the Farmers to Families Food Box Program” (The Harvard Law School Food Law and Policy Clinic, February 1, 2021).
\textsuperscript{38} Diane Whitmore Schanzenbach, “Not Enough to Eat: COVID-19 Deepens America’s Hunger Crisis” (Food Research Action Center, September 2020)
\textsuperscript{39} Jessica Fu, “The Farmers to Families Food Box Program Is Winding down. Some Farmers Say It Left Them High and Dry,” The Counter, October 22, 2020; Emily M. Broad Leib et al., “An Evaluation of the Farmers to Families Food Box Program” (The Harvard Law School Food Law and Policy Clinic, February 1, 2021).
\textsuperscript{40} Emily M. Broad Leib et al. “An Evaluation of the Farmers to Families Food Box Program” (The Harvard Law School Food Law and Policy Clinic, February 1, 2021).
3 ASSERT THE US GOVERNMENT’S LEADERSHIP ON FLW GLOBALLY & DOMESTICALLY

Overview
Redesigning food systems and reducing waste can generate enormous benefits for people and nature. The US has re-entered the Paris Agreement and an important priority of the Biden administration’s climate plan is decarbonizing the food and agriculture sector. Fixing long-standing social, environmental, and supply chain issues in the food system is critical to the administration’s climate and COVID-19 recovery objectives. The US has one of the world’s highest levels of food waste per capita, and it is vital for the nation’s food security, climate, and recovery objectives that the administration double-down on its FLW goals.43

Policy Recommendations

A Commit to FLW Reduction as a Lever to Mitigate US Emissions (Administration)
Taking sufficient steps to meet the US commitment to reduce FLW by 50% by 2030 can lower US GHG emissions by 75 MMTCO₂e per year.44 The administration should formally recognize this potential by making FLW reduction a part of its Nationally Determined Contribution (NDC) toward the Paris Agreement. The Federal Interagency Food Loss and Waste Collaboration is already aligned to the United Nations’ Sustainable Development Goal (SDG) 12.3 to reduce FLW 50% by 2030, and the administration is well-positioned to lead by advancing FLW reduction alongside other climate solutions. Doing so would also send a market signal for states, cities, and companies to similarly make FLW reduction an official part of their climate strategies.

B Require Federal Facilities to Measure, Rescue, Recycle, and Prevent Organic Waste, and to Purchase Finished Compost Products (Administration, Congress)
The federal government can send a clear market signal by requiring federal facilities to divert all organic waste from landfills and incinerators. Government entities and agencies should be required to measure and annually report on the progress of a food waste action plan to prevent food from being wasted, rescue and donate surplus food, and recycle food scraps—all of which can also save the government money by eliminating waste. The existing Federal Food Donation Act of 2008 requires federal agencies to encourage federal contractors to donate excess food, yet it does not require such donations and does not stipulate that agency food donation be tracked or monitored in any way. Congress should amend the Act to instead have agencies require (in their contracts) that their contractors donate safe surplus food (for example, for any contracts over a certain baseline amount); and add a reporting requirement for agencies to report food waste and donation to incentivize more food donation. Secondly, the Sustainable Acquisition Policy should be updated to require the purchase of compost by federal agencies made from recovered organic waste materials per the EPA’s existing guidance, giving preference to small business, women- or minority-owned composting facilities.

C Fund and Incentivize FLW Innovation (Congress)
State and local governments, food businesses, and NGOs are increasingly taking action to pilot new interventions that effectively prevent FLW.45 Congress should allocate $50 million in grants for FLW research and innovation (that could be overseen via the Federal Interagency Food Loss and Waste Collaboration) to accelerate these efforts—similar to what Canada has recently done with its $20 million Food Waste Reduction Challenge.46 Funding could also be used to target development of food donation and recycling infrastructure to underserved areas. The EPA Excess Foods Opportunity Map showcases food banks, anaerobic digesters, and composting facilities to enable food businesses to better divert their surplus food and food scraps. It also makes visible the regions and states that are most lacking in donation and recycling infrastructure, where investment is most needed.

43 Tim Searchinger et al., “Creating a Sustainable Food Future” (World Resources Institute, May 12, 2018).
44 “Roadmap to 2030: Reducing US Food Waste by 50% and the ReFED Insights Engine.”
47 “Roadmap to 2030: Reducing US Food Waste by 50% and the ReFED Insights Engine” (ReFED, February 2021).
D Boost Funding for Food Waste Interagency Food Loss and Waste Collaboration (Congress)
The Federal Interagency Food Loss and Waste Collaboration is a joint effort launched by the FDA, USDA, and EPA in which the three agencies affirm their shared commitment to work towards the national goal of reducing FLW by 50% by 2030. To meet the initiative's target, it will take at least $2 million in funding for additional personnel to oversee the program and competitive grant funding outlined in this action plan.

4 EDUCATE AND ACTIVATE CONSUMERS VIA PRIVATE AND PUBLIC FOOD WASTE BEHAVIOR CHANGE CAMPAIGNS

Overview
Across the food supply chain, the largest amount of FLW in the US occurs at the household level (37%). Waste reduction efforts must empower residents to change their behaviors everywhere that they eat. Recent polling confirms that the overwhelming majority of Americans believe food waste is a critical issue, which over 80% of respondents said they are taking steps to address at home. Yet American household food waste per capita is not declining fast enough, and more must be done to educate consumers on the steps they can take to reduce their waste at home. Coordinating these campaigns with key interventions that businesses can implement (e.g., portion sizes, package design) can also drive consumers towards better food management and reduce GHG emissions by 34 MMTCO2e annually.

Policy Recommendations
A Fund Research and Awareness Campaigns to Reduce Consumer Food Waste (Congress, USDA, EPA, FDA)
To address this, Congress should fund $3 million annually through 2030—with $1 million for research into effective consumer food waste reduction strategies and $2 million into consumer-facing behavior change campaigns. The UK, South Korea, and others have demonstrated that coordinated public campaigns to educate consumers on food waste reduction strategies can provide straightforward savings to government agencies, businesses, and consumers. Policymakers can leverage existing national ad campaigns like NRDC’s Save The Food, social marketing campaigns like the US EPA’s Food Too Good To Waste, consumer education provided by FDA through web resources and consumer education animated shorts, as well as sector toolkits (developed by WWF for restaurants, hotels, hospitality, and schools) to build unified campaigns that businesses, governments, educators, NGOs, and others can use to drive awareness and action. Additional research is also needed to determine which household activities have the biggest impact in reducing household food waste. Congress should fund household food waste reduction research in alignment with the recommendations from the National Academies of Science’s recent report: A National Strategy to Reduce Food Waste at the Consumer Level. The USDA Food Loss and Waste Liaison—in partnership with EPA and FDA, and close coordination across USDA agencies (such as the National Institute of Food and Agriculture or Food and Nutrition Service)—should ultimately oversee these efforts.

B Pass the School Food Recovery Act (Congress)
The bipartisan School Food Recovery Act introduced by Representatives Chellie Pingree (D-Maine) and Dan Newhouse (R-Washington) in the 116th Congress would direct the USDA to provide funding for schools to engage in FLW efforts—enlisting teachers and students to turn cafeterias into classrooms by measuring and reducing their waste, publicly aggregating and reporting waste data, and driving greater awareness of FLW solutions across our communities. This model has already been piloted and studied through WWF’s “Food

---

50 “Roadmap to 2030: Reducing US Food Waste by 50% and the ReFED Insights Engine.”
51 According to the World Resources Institute, food loss is food that spills, spoils, or is lost before reaching consumers. Food waste refers to food that is fit for consumption but is discarded and never eaten by consumers. FLW is the acronym used to refer to both in this paper.
54 “Roadmap to 2030: Reducing US Food Waste by 50% and the ReFED Insights Engine” (ReFED, February 2021).
55 Lipinski, “SDG Target 12.3 on Food Loss and Waste: 2020 Progress Report (Champagne 12.3).”
Waste Warrior” and NRDC’s “True Food, No Waste” programs. These programs have demonstrated the possibilities in decreasing student plate waste, increasing students’ fruit and vegetable consumption, and cutting down on cafeteria plastic and packaging waste.

## REQUIRE A NATIONAL DATE LABELING STANDARD

### Overview

Date label confusion is one of the leading causes of consumer food waste, estimated to drive nearly 85% of Americans to prematurely toss food that is still safe to eat. Lack of consistency in labels contributes to additional waste among grocery stores and other consumer-facing businesses and unnecessarily restricts the safe donation of nutritious foods past their date labels to food rescue organizations.

Recent voluntary initiatives in the US have coalesced around the standard labels “BEST if Used By” for food’s peak quality and “USE By” for food safety. This standardization only works, however, if there is full adoption across the industry and education of consumers on how to interpret these labels. Without standardization at the federal level, current laws in more than half of our states restrict the ability for businesses to use these two standard labels and limit capacity for streamlined public education.

### Policy Recommendations

#### A Pass the Food Date Labeling Act (Congress)

The bipartisan Food Date Labeling Act, introduced in the 116th Congress by Representatives Chellie Pingree (D-Maine) and Dan Newhouse (R-Washington) and Senator Richard Blumenthal (D-Connecticut), requires FDA and USDA to ensure that businesses that choose to place a date label on their products to use one of two standard phrases to indicate either the peak quality (“BEST if Used By”) or safety (“USE By”) of food products depending on the type. The bill would clarify that food can be safely donated past the “BEST If Used By” date. The bill also critically requires FDA and USDA to educate consumers about the meaning of these date label terms. Effective implementation of consumer education is essential for date label reform to result in meaningful change in consumer behavior.

---