

ISSUE BRIEF



# PROMOTING FOOD DONATION: FOOD WASTE DETERRENCE POLICIES

JULY 2023

## Authors

This report was written by Regan Plekenpol, Tori Oto, Joseph S. Beckmann, and Emily Broad Leib at the Harvard Law School Food Law and Policy Clinic.

## 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 about and compare the food donation laws and policies for the countries FLPC has researched to date, visit [atlas.foodbanking.org](https://atlas.foodbanking.org).

## About 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 [chlpi.org/FLPC](https://chlpi.org/FLPC).



## About The Global FoodBanking Network

The Global FoodBanking Network supports community-driven solutions to alleviate hunger in more than 40 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 [foodbanking.org](https://foodbanking.org).



## Made possible with support from the Walmart Foundation

The research included in this report was made possible through funding by the Walmart Foundation. The findings, conclusions, and recommendations presented in this report are those of the Harvard Law School Food Law and Policy Clinic alone and do not necessarily reflect the opinions of the Walmart Foundation.



Report design by Najeema Holas-Huggins.

# TABLE OF CONTENTS

- About this Issue Brief.....1
- Recommendations in Brief.....3
- Background.....4
- Overview of Food Waste Deterrence Policies in Researched Countries.....5
- Key issues.....6
- Recommendations.....7
  - 1) Adopt a national food waste deterrence law or policy.....7
    - 1a) Enact a food donation requirement for actors along the food supply chain.....7
    - 1b) Enact an organic waste disposal ban independently or with a food donation requirement.....9
  - 2) In the absence of a national policy, provide support for state, provincial, and local governments enacting regional and local food waste deterrence laws.....11
  - 3) Experiment with innovative policy designs that similarly financially disincentivize food waste.....12
  - 4) Invest in food recovery infrastructure and provide technical assistance for regional and local food waste deterrence laws and policies.....13
- Conclusion.....14

# ABOUT THIS ISSUE BRIEF

Food loss and waste (FLW) is one of the greatest food system challenges. FLW occurs at every stage of the supply chain and generates significant social, environmental, and economic costs.<sup>1</sup> An estimated one-third of food produced globally is ultimately lost or wasted along the supply chain.<sup>2</sup> This amounts to approximately 1.3 billion tons of food each year that ends up in landfills.<sup>3</sup> At the same time, the number of undernourished people in the world increased to 828 million in 2022—an increase of about 46 million since 2020 and 150 million since the outbreak of the COVID-19 pandemic.<sup>4</sup> Around 2.3 billion people (29.3 percent of the global population) were moderately or severely food insecure in 2021—350 million more compared to before the outbreak of the COVID-19 pandemic—with 924 million people (11.7 percent of the global population) facing food insecurity at severe levels, an increase of 207 million in two years.<sup>5</sup> Thoughtful public policies can help address the troubling mismatch between rates of food waste and rates of extreme hunger.

Food donation offers a solution to these parallel issues. Redirecting safe, surplus food to those who need it decreases FLW while increasing food security. However, scaling food donation requires aligned incentives or requirements that motivate individuals and companies to donate rather than discard safe, surplus food. Increasingly, countries around the world are adopting new policies that deter the disposal of organic matter into landfills, where it emits methane, a potent greenhouse gas with a concentrated global warming potential. These policies, collectively referred to in this issue brief as “food waste deterrence laws and policies,” have varied designs, from tax penalties to bans or fees for organic waste disposal. The following text box lists and defines the primary food waste deterrence policies seen in countries around the world.

## FOOD WASTE DETERRENCE LAWS AND POLICIES

*A universe of laws or policies aims to reduce food waste and increase food recovery by making food waste financially burdensome for food waste generators (e.g., businesses, institutions, households, and other entities that create food waste). Food waste deterrence laws include various policy designs, such as restricting food waste sent to landfills, requiring food donation or diversion, and financially penalizing those who waste food.*

- **Organic waste disposal ban:** A law or policy that prohibits covered entities from sending all or an amount over a certain threshold of organic waste to landfills.
- **Mandatory recycling law:** A version of organic waste disposal bans that prohibits covered entities from sending organic waste to landfills and requires those entities to either subscribe to an organics collection service or send food waste to a compost or anaerobic digestion facility.
- **Food donation requirement:** A law or policy that requires covered entities to donate some or all of their surplus food that remains safe for consumption. These policies often exist in partnership with organic waste bans.
- **Waste disposal surcharge or landfill tax:** Laws or policies that charge entities or individuals a landfill tax per unit of trash (specifically organic matter or food waste) in addition to landfill tipping fees. These are usually geared toward businesses.
- **Pay-as-you-throw policies:** Laws or policies that charge entities, households, or individuals a fee for sending organic waste 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:** Laws that restrict 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 food was not fit for donation means the entity forgoes the opportunity to write off the loss.

Typically, food waste deterrence policies require diversion of food waste aligned with a hierarchy, prioritizing prevention, human and animal consumption, then food waste recycling, such as through required subscriptions to collection services that send food scraps to composting or anaerobic digestion facilities. This issue brief informs governments and policymakers of best practices for enacting food waste deterrence policies to promote the donation of safe, surplus food; reduce food waste; and eliminate food insecurity.

This issue brief is part of The Global Food Donation Policy Atlas project,<sup>6</sup> a partnership between the Harvard Law School Food Law and Policy Clinic (FLPC) and The Global FoodBanking Network (GFN) that promotes strong food donation policies as global solutions to hunger and FLW.<sup>7</sup> Across key issue areas—including food safety, date labeling, liability protection, tax incentives and barriers, donation requirements or food waste penalties, government grants and incentives, and national law or policy on food waste—restrictive, unclear, or inadequate laws and policies can undermine the efforts of food recovery organizations and create obstacles for businesses and other private-sector actors seeking to donate food. Such laws may also fail to incentivize socially beneficial behaviors. The Atlas project analyzes and compares these national laws and offers tailored recommendations to clarify and optimize the policy landscape for food donation.



## RECOMMENDATIONS IN BRIEF

The recommendations presented in this issue brief provide a starting point for stakeholders across the globe to strengthen food waste deterrence laws and policies. Food banks and other organizations with the mission to reduce FLW and increase food donation (collectively referred to as “food recovery organizations”), donors, and policymakers should consider additional opportunities to advance food donation and reduce FLW. The recommendations are as follows:

*To ensure that food suitable for donation is not treated or, worse, sent to accumulate in landfills with damaging ecological consequences, governments should:*

- **Enact a food donation requirement for actors along the food supply chain.**
- **Enact an organic waste disposal ban independently or with a food donation requirement.**
- **In the absence of a national policy, provide support for state, provincial, and local governments enacting regional and local food waste deterrence laws.**
- **Experiment with innovative policy designs that similarly financially disincentivize food waste.**

*To ensure the success of organic waste diversion policies, governments should:*

- **Invest in food recovery infrastructure and provide technical assistance for regional and local food waste deterrence laws and policies.**

# 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.<sup>8</sup> FLW occurs at every stage of the supply chain for a variety of reasons: during harvest and processing (packaging) due to fluctuating market prices, high labor costs, inadequate infrastructure, and demand for flawless produce;<sup>9</sup> during distribution due to spoilage; during the retail phase due to the overestimating of customer demands and misunderstanding of shelf life and product date labels by grocery stores and restaurants;<sup>10</sup> and during the consumption phase due to inefficient shopping and cooking practices and confusion and inconsistency around date labels.<sup>11</sup> These inefficiencies 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.<sup>12</sup> This damage is estimated at US\$700 billion in environmental costs and more than US\$900 billion in social costs per year.<sup>13</sup> This waste is expensive,<sup>14</sup> squanders natural resources, causes lasting environmental damage, and presents a missed opportunity to redistribute food to the more than 828 million people experiencing hunger.<sup>15</sup>

Food banks and other food recovery organizations can help mitigate unnecessary FLW by recovering and redistributing safe, surplus food when policies enable and support such activities. In 2019 food banks in more than 70 countries recovered an estimated 3.75 million metric tons of safe, wholesome food.<sup>16</sup> 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.<sup>17</sup>

While FLW results in economic loss, food donation can generate sizeable economic gains. First, donation reduces the economic and environmental costs of producing food that otherwise goes uneaten<sup>18</sup> and curbs methane emissions caused by food decomposing in landfills.<sup>19</sup> Second, donation alleviates hunger, reducing health care expenses associated with malnutrition<sup>20</sup> and increasing productivity, educational fulfillment, and economic potential.<sup>21</sup> Third, food recovery operations create job opportunities at food banks and intermediaries and stimulate the economy by increasing the spending power of food recipients. Indirect gains such as reduced hunger costs and more resilient supply chains that flow to society ultimately help build stronger communities. Unlocking this spectrum of benefits requires clarity and sufficient incentives for donors to safely redistribute rather than discard surplus food.

As awareness of FLW grows and food donation efforts expand worldwide, governments are increasingly exploring opportunities to implement policies that will reduce and divert food waste. These food waste deterrence policies are a category of laws and regulatory requirements that restrict the amount of organic waste or food waste that can be disposed of in landfills or incinerators and/or require that food waste generators engage in organic waste diversion. They also can create a financial penalty for wasting food. Unlike policies that may facilitate or incentivize food waste prevention or food donation but can be ignored by disinterested companies, these policies affect businesses more generally and fundamentally change the ability to continue “business as usual” related to food waste. For this reason, food waste deterrence policies are one of the most effective tools policymakers have at their disposal to change the way businesses and consumers manage and value their food waste. The following sections dissect the policy design of best practice laws and aid policymakers in identifying key considerations for a cost-effective food waste deterrence policy to combat the dual burden of food waste and food insecurity, thereby advancing a more sustainable food system.

These policies require careful design, implementation methods, and enforcement mechanisms to bolster compliance and overall effectiveness. For instance, the decision to implement a food waste deterrence law or policy necessarily involves balancing financial, environmental, and social costs and benefits. Conducting a cost-benefit analysis of such policies will help identify common sources of revenue, job creation, money saved, and other benefits as well as relevant expenses to governments and groups of stakeholders such as the food businesses that will be regulated. Adopting food waste deterrence policies, effectively implementing these policies, and providing clarity surrounding the implications of the policies will significantly reduce needless food waste and should increase rates of safe, surplus food donation.

## OVERVIEW OF FOOD WASTE DETERRENCE POLICIES IN RESEARCHED COUNTRIES

Country	Nationwide food waste deterrence law or policy	Local or regional food waste deterrence law or policy	Atlas ranking
Argentina	N/A	N/A	No Policy
Australia	N/A	N/A	No Policy
Brazil	N/A	N/A	No Policy
Canada	N/A	Provincial organic waste disposal bans <sup>22</sup>	Limited Policy
Chile	Food waste tax penalty <sup>23</sup>	N/A	Moderate Policy
China	Penalty for food waste behavior <sup>24</sup>	City-level corporate food waste prevention <sup>25</sup>	Moderate Policy
Colombia	N/A	N/A	No Policy
Costa Rica	N/A	N/A	No Policy
Dominican Republic	N/A	N/A	No Policy
Ecuador	Organic waste disposal ban <sup>26</sup>	N/A	Strong Policy
Ghana	N/A	N/A	No Policy
Guatemala	N/A	N/A	No Policy
India	N/A	City mandatory recycling law <sup>27</sup>	Limited Policy
Indonesia	N/A	N/A	No Policy
Israel	N/A	N/A	No Policy
Kenya	N/A	N/A	No Policy
Mexico	N/A	State food waste requirements <sup>28</sup>	Limited Policy
Nigeria	N/A	N/A	No Policy
Paraguay	Ban on destroying seized food	N/A	Moderate Policy
Peru	Food donation requirement <sup>29</sup>	N/A	Moderate Policy
Singapore	N/A	N/A	No Policy
South Africa	N/A	Provincial organic waste ban <sup>30</sup>	Limited Policy
United Kingdom	N/A	State organic waste bans <sup>31</sup>	Limited Policy
United States	N/A	State organic waste bans and food donation requirements <sup>32</sup>	Moderate Policy

# KEY ISSUES

Landfilling food waste is unsustainable and costly. Uneaten food anaerobically digests in landfills and emits greenhouse gases<sup>33</sup> instead of feeding hungry people. The cost burden is not solely on the environment. Businesses also incur expenses, as transporting waste to landfills is expensive due to labor and infrastructure requirements. Additionally, landfills are increasingly low on space,<sup>34</sup> leading many countries or state/regional governments to look for ways to reduce the quantity of unnecessary materials entering landfills, especially materials that can be upcycled or repurposed to higher utility. Despite the social and economic costs, disposal is often a cheaper and easier option than donation in most countries.

To address this issue, countries are pushing food waste generators to divert their waste from landfills by passing food waste deterrence laws and policies, such as organic waste disposal bans, food donation requirements, or food waste tax penalties. As defined previously in the text box, this is the universe of laws or policies that aim to reduce food waste and increase food recovery by making food waste financially burdensome for food waste generators, such as policies that restrict food waste sent to landfills, require food donation or diversion, or financially penalize those who waste food. The text box also describes the catalogue of various food waste deterrence policies in greater detail. These policies drive urgency and scrutiny by food waste generators (e.g., food businesses or other organizations that generate food waste) to evaluate where they waste food within their business processes and spark the adoption of new strategies that prevent, rescue, and recycle waste. By increasing the number of people and organizations who must reconsider their food waste practices, food waste deterrence laws and policies help shift cultural norms around food waste toward valuing food as a resource. While many organic waste bans and food donation requirements stand alone, some of the strongest food waste deterrence policies include requirements to ensure surplus food that remains safe for human consumption is ultimately distributed to people. Even those US states without food donation requirements see an increase in food donation after an organic waste disposal ban's introduction. In Massachusetts, after one year with an organic waste ban, businesses diverted food waste from landfills at a rate five times higher than before the organic waste ban was adopted, resulting in a 25,000 ton increase in food donated.<sup>35</sup> Similarly, Vermont saw a 60% increase in food donation following the implementation of its organic waste ban.<sup>36</sup>

Many countries within the Atlas project have adopted such legislation. Even more have introduced bills, engaged in ongoing conversations about the potential benefit of such legislation, or enacted local or regional level laws and policies. Strong examples of such policies represented in the Atlas project include Ecuador, Peru, and a few state and local level examples in the United States, India, and Mexico. China also enacted an Anti-Food Waste Law in April 2021, which includes penalties for wasted food in the catering sector but does not strictly prohibit the disposal of organic matter into landfills. The remaining sections of this issue brief outline global best practices from the Atlas project and beyond as well as key considerations for design of effective food waste deterrence policies.

Key challenges in enacting and enforcing organic waste bans and donation requirements remain relevant for policymakers seeking to mitigate food waste and increase food security through food waste deterrence policies. For example, some policies are narrowly applied to only certain generators, subject to too many exemptions, or lack proper enforcement. Additionally, passing such legislation requires policymakers' attention and adequate financing for required infrastructure (e.g., food recovery pickup, processing and distribution capacity, organic and anaerobic digestion processing facilities).

The decision to implement a food waste penalty or other diversion law necessarily involves balancing financial, environmental, and social costs and benefits. These policies are not one size fits all. Each country that develops such a policy must make decisions based on its geographic, economic, and cultural characteristics; desired outcomes; and resource constraints. These factors challenge the development of such policies. However, unlike policies that facilitate or incentivize prevention or donation but can be stifled due to lack of interest or inertia, food waste deterrence policies are transformational, as they apply broadly and hold stakeholders

financially accountable when they fail to treat food as a valuable resource. Thus, these policies change the default from one where food waste is cheap and easy to one where it is financially burdensome. The following recommendations highlight these challenges to preempt potential policy shortcomings while outlining model food waste deterrence laws and policies.

## RECOMMENDATIONS

### 1. ADOPT A NATIONAL FOOD WASTE DETERRENCE LAW OR POLICY.

Within the growing universe of food waste deterrence policies, various policy designs worldwide make it financially burdensome to waste food, such as outright organic disposal bans (e.g., US state-level laws like Vermont), food donation requirements (e.g., Peru), fees for disposing organic waste by weight (e.g., South Korea), or even tax penalties—or the inability to claim tax benefits—for disposing food suitable for human consumption (e.g., Chile). The following recommendation outlines the strongest policies within the larger food waste deterrence landscape as well as design considerations for maximally effective policy. To keep food high in the food recovery hierarchy, promoting food waste prevention and the donation of edible food, and to encourage actors across the supply chain to find innovative ways to reduce food waste, policymakers should enact an organic waste disposal ban or a food donation requirement either on their own or together. This recommendation first discusses food donation requirements, then organic waste disposal bans.

#### 1a. ENACT A FOOD DONATION REQUIREMENT FOR ACTORS ALONG THE FOOD SUPPLY CHAIN.

Requiring businesses and institutions to donate surplus food can greatly increase the amount of food that stays out of landfills and instead goes to people. Food donation requirements implemented along all points of the food value chain can create institutional change and progress toward a more sustainable food system.

Several member states of the European Union recently enacted food donation requirements focused on the food retail sector. For example, in Belgium, two laws in the Brussels<sup>37</sup> and Walloon<sup>38</sup> regions oblige supermarkets to donate surplus food that remains safe for human consumption to maintain their environmental permits. The laws also require supermarkets to compost any unsuitable food waste.<sup>39</sup> In the Czech Republic, amended Law no. 180/2016 on foodstuffs and tobacco requires food retailers with supermarkets of more than 400 square meters to redistribute food.<sup>40</sup> France's n° 2016-138 Law on Fighting against Food Waste similarly obliges supermarkets more than 400 square meters to establish contracts with relevant charitable organizations to donate retailer food surplus.<sup>41</sup> In 2019 France extended the donation requirement to institutional feeding/mass catering entities (i.e., those preparing more than 3,000 meals a day) and the rest of the food industry with an annual turnover that exceeds €50 million.<sup>42</sup> In 2020 LOI n° 2020-105 (*Relative à la Lutte Contre le Gaspillage et à L'économie Circulaire*) strengthened fines in France for destroying unsold food products fit for consumption, increasing fines to up to 0.1% of the annual turnover from the previous penalty of only €3,750.<sup>43</sup> In Spain, the Council of Ministers approved the first law against food waste, entering into force in early 2023, which requires supermarkets to lower the price of products that are about to expire and donate or dispose surplus food in line with the recovery hierarchy.<sup>44</sup>

Peru is another example of a food donation requirement. In 2016 it adopted a Food Donation Law to facilitate and promote the donation of food that has lost commercial value but is still safe for human consumption (chapter II) and to further incentivize donations during “states of emergency” following natural disasters (chapter III).<sup>45</sup>

Chapter II explains the general model for food donation that applies under ordinary circumstances: Donated food should be distributed to people in need for free either directly or through charities registered with the Tax Authority as recipient entities of donations.<sup>46</sup> At the time of the law’s adoption, it promoted but did not require the donation of food that had lost commercial value but was still suitable for human consumption to qualifying institutions.<sup>47</sup> However, as the law stipulates, starting on the third year after enactment, the voluntary suggestion became a donation *requirement*. This requirement applies only to supermarkets and food storage facilities or warehouses. Other supply chain actors are still only encouraged to donate.<sup>48</sup>

California Senate Bill 1383 (SB 1383) passed in 2016 and is another best practice among food waste deterrence policies.<sup>49</sup> While California is only a state, with 39 million people and \$3.5 trillion gross state product it is larger than many small countries and thus can be an illustrative example globally. SB 1383 sets an ambitious, statewide target of recovering 20% of all edible food that would otherwise be wasted to feed people in need by 2025.<sup>50</sup> Although the goal is 20% statewide, to meet that goal the state regulatory agency requires that certain commercial food generators donate all of their excess edible food.<sup>51</sup> Another strength of California’s policy is the phased approach, requiring entities that tend to be most experienced with food recovery and donation practices (tier one) to comply with the donation requirements as of January 1, 2022, and a larger set of entities (tier two) to comply as of January 1, 2024.<sup>52</sup> To support the increase in food recovery activity stemming from the law, the responsible agency, CalRecycle, provides grants for food recovery practices. So far it has funded more than 100 projects totaling \$28.8 million through the Edible Food Recovery Grant Program (started in 2021)<sup>53</sup> and the Food Waste Prevention and Rescue Grant Program (started in 2017).<sup>54</sup> To further support the infrastructure for effective implementation, the law also requires jurisdictions to provide mandatory organic waste collection for all generators, develop the capacity to recycle<sup>55</sup> those organics,<sup>56</sup> and implement residential food scraps collection and composting programs.<sup>57</sup> While it is a statewide law, SB 1383 requires local jurisdictions, including cities and counties, to implement the donation requirement, including educating generators about the requirement, facilitating connections between generators and food recovery organizations, and monitoring generators’ compliance with the donation requirement.<sup>58</sup>

While donation requirements are a relatively new brand of policy, best practices are emerging across the globe. When designing a donation requirement, a policymaker should consider the following elements to create a model policy.

- **Require donation of food that meets health and safety requirements and recycling of any remaining food scraps.** To ensure that food goes to its highest use—human consumption—surplus food that meets local health and safety requirements should be donated to food recovery organizations that feed people. To ensure the maximum amount of waste is diverted, a law should then require that any remaining food scraps, either those that are not fit for human consumption or that food banks reject (due to spoilage, inadequate nutrition, or undesirableness), be sent to organics recycling. Both Brussels and Walloon in Belgium have such a requirement, where supermarkets must first donate surplus food, then recycle all remaining food scraps.<sup>59</sup>
- **Apply a tiered and phased-in approach.** A phased-in approach, with different dates on which different types and sizes of food waste generators are subject to the provisions of the donation requirement law, allows generators and jurisdictions time to build and fund the food recovery infrastructure necessary for implementation. A great example of this is the aforementioned law in California.
- **Promote outreach and education.** Food donation requirements should include mandated outreach and education by the relevant agency or department, with sector-specific guidance tools to assist with these requirements. Outreach and stakeholder engagement should occur leading up to, during, and after any regulations implementing the law. This will help increase industry buy-in and ensure the law is crafted in a manner that makes it feasible for generators to comply. Guidance should include specifics on who must comply and how to comply as well as resources on how to build industry buy-in and support compliance. Guidance may also clarify legal terms used in the law to ensure that all stakeholders are adequately informed about the policy’s requirements. While many strong food waste deterrence laws have enforcement mechanisms and fines, the agency or department implementing

the law should prioritize voluntary compliance through outreach and education before resorting to penalties. For example, France’s supermarket food donation law allows for the country to levy sanctions for noncompliance, but even without having levied such fines, food donation within the country increased after the law went into place.<sup>60</sup> One study found that the percentage of supermarkets donating unsold products rose from 66% prior to 2016 to more than 90% in 2018.<sup>61</sup>

- **Monitor and track outcomes.** Food donation requirements should also provide a mechanism to track compliance. Countries could consider requiring businesses to report the amount of food donated, requiring food recovery organizations to keep records of donations received (although they should be given flexibility to do so in whatever format they already keep records and should receive funding to support them in maintaining such records), or enforcing compliance in other ways, such as conducting inspections of food businesses.

While sometimes implemented as a stand-alone policy—such as in the previous examples—food donation requirements can work effectively in tandem with organic waste disposal bans by creating a destination for the food waste prohibited from landfills.

## **1b. ENACT AN ORGANIC WASTE DISPOSAL BAN INDEPENDENTLY OR WITH A FOOD DONATION REQUIREMENT.**

Organic waste disposal bans require food waste generators to reduce their food waste and ensure diversion from landfills. The bans are typically outcome-oriented rather than process-oriented. This allows generators to choose how to comply with the law’s requirements: by preventing food waste up front, donating surplus food, or sending food waste to organic or anaerobic digestion processing facilities. Organic waste disposal bans can encourage generators to divert food to its most beneficial uses, such as feeding people.

Organic waste disposal bans also positively impact the economy. One study in the US state of Massachusetts shows many positive economic impacts on a range of stakeholders. Researchers found that the three primary sectors impacted by the ban (organic waste hauling, organic waste processing, and food rescue) together supported more than 900 jobs, with more than 500 jobs added to the sectors from 2010 to 2016.<sup>62</sup> Together, these jobs generated more than \$46 million in labor income, and the industries contributed nearly \$77 million to the gross state product and produced almost \$175 million in industry activity.<sup>63</sup> These same benefits are likely experienced at a larger scale when an entire country, as opposed to one US state, implements a ban.

A thoughtful combination of a waste ban and a donation requirement is a maximally effective policy design, as it ensures food that is safe to eat can go to its highest use while keeping as much food as possible—even food that is no longer safe to consume—out of landfills. Among countries researched for the Atlas project, Ecuador has a best practice for a comprehensive organic waste penalty and donation requirement. In May 2022 Ecuador passed the Law to Prevent and Reduce Food Loss and Waste and Reduce the Hunger of People in Vulnerable Situations (*Ley para Prevenir y Reducir la Pérdida y el Desperdicio de Alimentos y Mitigar el Hambre de las Personas en Situación de Vulnerabilidad Alimentaria*, hereinafter the “FLW Law”).<sup>64</sup> The FLW Law penalizes destroying food that is fit for human consumption<sup>65</sup> and includes a hierarchy of alternative uses such as donating to a food bank, feeding animals, producing renewable energy, and composting.<sup>66</sup> It applies to a broad scope of actors, including food businesses, all organizations that receive donations, donors, beneficiaries, and those that help facilitate donations.<sup>67</sup> These actors must not only not destroy the food, but also must comply with food safety requirements to keep food fit for donation.<sup>68</sup> Anyone that destroys food because it is no longer edible must justify the decision and show that no alternative under the food recovery hierarchy was feasible.<sup>69</sup>

The FLW Law categorizes potential infractions as minor, serious, or very serious.<sup>70</sup> Minor infractions include violations by food banks or other organizations that receive donations (e.g., using donated food for a purpose other than alleviating hunger).<sup>71</sup> Serious infractions include destroying food that is “fit for human consumption”

or selling or allocating donated food directly or indirectly for a different purpose than articulated by the law.<sup>72</sup> Depending on the infraction, the penalty ranges from 50% to 200% of a standard worker's salary, as calculated by the Ecuadorian government.<sup>73</sup> The FLW Law identifies several next steps for the agencies responsible for implementing the law. For example, it delegates the task of creating criteria for food vulnerability to the Ministry of Economic and Social Inclusion (*Ministerio de Inclusión Económica y Social*).<sup>74</sup> The ministry's determinations regarding food vulnerability are critical because the FLW Law is meant to meet the immediate needs of those facing food vulnerability, and regional governments must prioritize areas facing higher food vulnerability rates.<sup>75</sup>

Organic waste disposal bans often vary in terms of which types of entities are covered under the law; how much organic waste an entity must produce to be covered; and whether exceptions or waivers exist based on geographic, financial, or other considerations. Generally, stricter requirements (e.g., covering more types of entities, lowering the threshold for consideration as a covered entity, and including fewer waivers or exceptions granted) will result in a stronger policy. However, such stricter requirements may be more politically difficult to pass and harder to implement in practice. In general, a successful state organic waste ban should:

- **Phase in covered generators:** A phased-in approach, with different dates on which waste generators are subject to the food waste deterrence law or policy, allows generators time to prepare for how they will comply with the ban and allows governments time to build the infrastructure necessary to implement these laws. Often policies include thresholds for the amount of waste entities must generate to be covered, and these thresholds reduce over time to cover more generators. For example, the mandatory recycling law in the city of Mumbai, India, requires facilities that generate a certain amount of organic waste to comply with the law by composting that organic waste.<sup>76</sup> Similarly, the US state of Vermont's organic waste disposal ban originally applied only to generators that produced at least 104 tons of food waste per year and now, after gradually reducing the amount of food waste that must be generated to trigger the ban to include smaller and smaller businesses, the waste ban applies to all people who generate any amount of food waste.<sup>77</sup> Alternatively, some bans phase in generators based on the type of entity they are, first applying the ban to entities that are most likely to produce a high volume of food waste or that have resources to comply with the ban more quickly, such as grocery stores or wholesalers, followed by smaller entities that are likely to produce less food scraps or that need more time to comply with the law. For example, Beijing, China, has a regulation that first applies specifically to restaurants and food retail (as opposed to all food waste generators) and requires them to take steps to prevent food waste at their places of business.<sup>78</sup>
- **Grant only limited waivers and exemptions, if at all.** Some organic waste disposal bans include exemptions based on industry type (e.g., hospitals, schools), distance to the closest composting or anaerobic digestion facility, or cost. Others offer waivers if the requirements would cause "undue hardship." While many laws include these waivers and exemptions, laws that do not or rarely provide them will be strongest, as they maximize compliance and thus increase the amount of food diverted from disposal.
- **Promote education and awareness among covered entities.** Just as with food donation requirements, educating covered entities about the organic waste disposal ban law is key to ensuring the law's success. To comply with the law, those entities must be informed about whether the law applies to them and, if so, how to comply effectively. Ideally, implementing departments and agencies will solicit stakeholder feedback when formulating the ban's implementing regulations to ensure policies are drafted in a way that makes compliance feasible. While strong laws ensure implementing agencies can penalize noncomplying entities should they fail to comply with the law, the strongest ones focus on education and awareness before resorting to financial penalties. For example, the waste ban in the US state of Vermont includes fines up to US\$25,000 and six months in prison for noncompliance.<sup>79</sup> However, the Vermont Agency of Natural Resources focuses on supporting voluntary compliance through coordinated education and awareness about the ban.<sup>80</sup>

Organic waste disposal bans could be passed independently or in tandem with a food donation requirement. Even those jurisdictions that pass a ban without a complementary food donation requirement often experience an increase in donations, as generators voluntarily increase food donations when they are prohibited from otherwise throwing away edible, surplus food. Such was the case in Massachusetts and Vermont when the two US states passed their organic waste disposal bans.<sup>81</sup> As described earlier, Vermont saw a 60% increase in food donations following the implementation of its organic waste disposal ban<sup>82</sup> and food businesses in Massachusetts diverted food waste from landfills at a rate five times higher after the first year of the ban, resulting in a 25,000 ton increase in food donated.<sup>83</sup> By enacting either a food donation requirement or an organic waste disposal ban—or by passing both laws together—countries incentivize food waste generators to reconfigure their practices to prevent food waste, donate edible food to people, and find alternatives to landfilling or incinerating their food waste. These actions across the supply chain will realize significant environmental and social benefits both by reducing the emissions associated with decomposing food waste and by decreasing food insecurity.

## 2.

### IN THE ABSENCE OF A NATIONAL POLICY, PROVIDE SUPPORT FOR STATE, PROVINCIAL, AND LOCAL GOVERNMENTS ENACTING REGIONAL AND LOCAL FOOD WASTE DETERRENCE LAWS.

A national policy like that found in Ecuador is the preferred solution to adopting a food donation requirement or organic waste disposal ban because it creates a uniform response across the country yet allows for implementation on the local scale. However, in the absence of national policies—whether because of lack of political will or lack of authority to enact such policies at a national level—state, provincial, and local governments often enact their own food waste deterrence laws and policies. When this is the case, national governments should support these regional governments to help them enact and implement policies, such as through grants, technical assistance, or other forms of support.

As previously mentioned, in the United States several states adopted independent food waste deterrence policies. Notable among these is Vermont's organic waste disposal ban, which bans the disposal of food scraps.<sup>84</sup> Passed in 2012, the requirements related to food scrap disposal began to take effect on July 1, 2015<sup>85</sup> in a phased approach, gradually including more food waste generators by size on a scheduled time frame, as described above. This provision requires covered food waste generators to separate their food waste from other waste and send food waste to facilities that manage food and other organic waste in an approved manner. It encourages covered generators to prioritize the management of surplus food according to the following order of priority: prevention, donation of food for human consumption, diversion of agricultural use including animal feed, composting and anaerobic digestion, and energy recovery. Unlike other state organic waste disposal bans in the United States, Vermont's food scrap ban was designed to eventually cover all individuals in addition to commercial food waste generators. The law covers "persons," which includes individuals, businesses, corporations, and public entities,<sup>86</sup> and it phases in persons at lower and lower thresholds of food waste generation over time. When generators violate the law, the Vermont government may issue violation fines and notices.<sup>87</sup>

California has both a mandatory recycling law and a food donation requirement, banning generators from sending food to landfills or incineration and requiring certain generators to contract with food recovery organizations and arrange for the pickup and donation of edible food.<sup>88</sup> The mandatory recycling law came into effect in 2016 and phased in generators according to the amount of waste they produce. It now applies to all businesses that generate two or more cubic yards of commercial solid waste per week.<sup>89</sup> The food donation requirement went into effect in January 2022 and phased in generators according to the type of food business, starting with large food waste generators such as wholesale food vendors and grocery stores, followed in January 2024 by other generators such as hotels and state agency cafeterias.<sup>90</sup> Generators subject to the food donation requirement must recover the maximum amount of food practicable and enter into a contract with a food recovery organization that will collect the surplus food.<sup>91</sup> Food recovery organizations that contract with a food waste generator must keep records and regularly report the amount of food donated by that generator.<sup>92</sup>

In Canada, Nova Scotia was the first province to ban organic waste, enacting its law in 1998.<sup>93</sup> The law, outlined in the Solid Waste-Resource Management Strategy, bans any residence or business from sending food or yard waste to a landfill. The strategy identifies composting as a key component of waste diversion.<sup>94</sup> Prince Edward Island also has an organic waste disposal ban, and Ontario levies penalties on sending organic waste to landfills.<sup>95</sup> In South Africa, the province of Western Cape enacted an organic waste disposal ban to divert food waste from landfills.<sup>96</sup> The ban sets a goal to divert 50% by 2022 and 100% by 2027. Because generators will not be able to send their organic waste to landfills, they will need to separate food waste from other waste at the point of generation and make other arrangements for the food waste.<sup>97</sup>

On a smaller scale, cities and municipalities have also enacted food waste penalties or food donation requirements. The city of Mumbai, India, requires facilities of a certain size or that generate above a certain amount of organic waste to compost their organic waste on-site.<sup>98</sup> Hennepin County, Minnesota, USA, adopted a commercial organics recycling requirement.<sup>99</sup> The ordinance applies to businesses that produce at least one ton of trash per week or contract for at least eight cubic yards of trash collection per week.<sup>100</sup> The ordinance requires those businesses to divert food scraps for beneficial use, including donation for human consumption and diversion of food scraps for composting, anaerobic digestion, or animal feed.<sup>101</sup> Although the ordinance acknowledges that donation of surplus food is the highest priority, businesses also source-separate food scraps and either self-haul or subscribe to a service to collect and deliver food scraps to a processing facility.<sup>102</sup> National support of state- and local-level food waste deterrence policies is incredibly effective, as enacting such policies requires resources for planning, building infrastructure needed for food recovery, educating the public about the policy, and enforcing it. To support this work, national governments can offer grants and funding for planning and implementing local or regional food waste deterrence policies.

### **3. EXPERIMENT WITH INNOVATIVE POLICY DESIGNS THAT SIMILARLY FINANCIALLY DISINCENTIVIZE FOOD WASTE.**

Despite being the predominant focus of this issue brief, donation requirements or organic waste disposal bans are not the only effective policy means of reducing food waste. Countries around the world have experimented with innovative solutions to reduce waste, such as through the tax code in Chile and through regulations for restaurants and food businesses in China. Depending on the specific country context, certain policies may be more or less effective. Governments seeking to reduce food waste might consider piloting state- or local-level policies, experimenting with novel policy designs, and continually monitoring policy outcomes—such as through reporting—and iterating where necessary to identify which approach will be more effective for their population.

Although not a traditional organic waste disposal law, Chile has a tax penalty law that operates similarly in financially motivating food businesses across the supply chain to prevent food waste.<sup>103</sup> Chile's law states that any taxpayer that voluntarily destroys food that is unmarketable but still suitable for human consumption is subject to a 40% tax penalty applied to the taxpayer's income.<sup>104</sup> Further, by voluntarily destroying such food that could have been donated free of charge, the taxpayer also forfeits the tax deduction they would ordinarily receive for "business losses," as this food would no longer constitute a deductible expense under the law. Similar to Ecuador's law and other organic waste disposal bans, Chile's law creates a financial disincentive for wasting food fit for human consumption, pushing food businesses to consider ways to reform their business practices and behaviors to prevent food waste and donate food to people whenever possible.

An innovative framework for food waste reduction in China is set forth in their 2020 Anti-Food Waste Law.<sup>105</sup> While not an organic waste disposal ban related to landfill disposal, the law penalizes behavior that instigates food waste, focusing particularly on caterers, restaurants, food businesses, and the media. Under the law, the food and catering industry is required to self-regulate, implement anti-food waste standards, monitor and disclose food waste information to the public, and support government policy development toward food waste

reduction goals.<sup>106</sup> Catering providers are required to mitigate over-ordering and are encouraged to serve individual dishes, rather than the typical buffet or family-style ordering that result in large amounts of food waste.<sup>107</sup> Catering providers are also permitted to either reward consumers for cleaning their plates or charge them for food that is wasted.<sup>108</sup> Further, news and media are banned from producing or disseminating any program that “advocates food waste,” such as video content of individuals eating excessively.<sup>109</sup> Network audio and video service providers have the right to cease providing their services to users that violate this rule.<sup>110</sup> Violations of these rules result in warnings that, if ignored with no corrective action, turn into significant fines.<sup>111</sup> Beyond disincentivizing food waste behavior, the extensive law also includes provisions related to developing food donation networks and infrastructure, short of actually legally mandating food donation.<sup>112</sup>

These examples use varied policy design to financially disincentivize food waste in innovative ways. Governments may employ a thoughtful combination of different food waste deterrence policies to achieve maximum food waste reduction and food redistribution, aligned with national goals and adapted to sociocultural norms.

## **4. INVEST IN FOOD RECOVERY INFRASTRUCTURE AND PROVIDE TECHNICAL ASSISTANCE FOR REGIONAL AND LOCAL FOOD WASTE DETERRENCE LAWS AND POLICIES.**

Perhaps the largest challenge when developing food waste deterrence policies, especially food donation requirements or food waste bans, is the lack of infrastructure to support such policies, particularly among food recovery organizations that receive increased volumes of donated food. In response, governments employ a variety of approaches to fund and develop comprehensive processing, preprocessing, collection, and food recovery infrastructure. To put forward an optimally effective food waste deterrence policy, the government should be prepared to invest in enhancing and expanding food recovery infrastructure, such as building effective food donation networks, funding fleets of refrigerated trucks and cold storage, among others. Food waste deterrence policies can also spur innovation, as they show there is a market for new infrastructure. Their enactment can induce new technology and infrastructure investments and present market opportunities for the private sector.

To best support these policies, national governments can investigate current capacity and fill in gaps with targeted funding, innovation grants, technical assistance, and thoughtful complementary laws that reduce friction for compliance and/or layer on additional incentives. Governments—whether national, state, or local—should undertake capacity planning to understand the current scale of food donation infrastructure, model anticipated increases in volume of food donation and food recycling activity, and map the existing road map of infrastructure from source to destination. After conducting this landscape analysis, governments should provide grants for food recovery organizations so that they can scale to the extent necessary to support the influx of donations that result from the new policy. A donation requirement will hugely benefit food recovery organizations, but it may also burden smaller food recovery organizations with limited capacity. Many smaller food recovery organizations are independent from larger food banks and rely on volunteers, and their costs have been rising due to increasing fuel and staffing costs. To ensure sufficient food recovery infrastructure, relevant governmental departments or task forces should undertake capacity planning and earmark specific funds to help food banks scale and efficiently process increasing amounts of donations, including technology to comply with reporting requirements, scaled-up administrative capacity, and other needs.

Beyond food donation capacity, governments should also help fund food recovery and recycling infrastructure. Organic waste disposal bans require developing a suite of associated infrastructure, such as composting and anaerobic digestion facilities, equipment such as food depackaging equipment, and organics collection transport services. Governmental departments should assess the capacity of existing facilities and address identified infrastructure or geographic gaps. Without this crucial funding, infrastructure can be prohibitively expensive, making it difficult for generators to comply with the ban.

On the other hand, in South Korea, intentional investment in food recovery infrastructure was extremely effective. South Korea's organic waste disposal ban and the government's subsequent significant investment into widely accessible food waste disposal technology (through advanced technology food waste disposal machines that use radio frequency identification, or RFID) allowed the country to make incredible advancements in diverting food waste from landfills. As a result, in 2019, 96% of South Korea's food waste had been recycled into animal feed, compost, or biofuel, a staggering rise from 2% in 1995.<sup>113</sup>

Beyond support for infrastructure, governments can support the policy's effectiveness through technical assistance to food waste generators seeking to understand how to adjust operations and processes to minimize wasted food. In the United States, many states that introduced food waste deterrence policies (e.g., Massachusetts and Vermont) simultaneously contracted with the local NGO, the Center for EcoTechnology (CET), to ensure that covered food waste generators had support in changing practices and complying with the new regulations.<sup>114</sup> Similarly, California coupled its food waste deterrence law with comprehensive guidance documents that support generators in understanding the requirements of the law and best practices to adopt in response to the changing policy landscape.<sup>115</sup>

Finally, complementary policies and programs could augment the policy's impact. A few examples may include permitting and zoning laws to support the siting of compost and anaerobic digestion facilities; energy policies to better support investment and scalability of anaerobic digestion; and complementary policies to reduce friction for food redistribution, such as Good Samaritan liability protection laws, clear and comprehensive food safety guidance for donated food, or compelling financial incentives for donors.<sup>116</sup> For more information about the myriad policy avenues to enhance food redistribution and reduce food waste, please consult the series of issue briefs on the Atlas project's website ([atlas.foodbanking.org](http://atlas.foodbanking.org)), including issue briefs on date labeling policy, liability protection, food safety, tax incentives and barriers, and more.

## CONCLUSION

Food waste deterrence policies are powerful tools to combat FLW globally. National governments can leverage a suite of food waste deterrence policies, such as food donation requirements complemented with waste ban legislation, to significantly reduce the amount of FLW and simultaneously reduce food insecurity among vulnerable populations. Absent a nationwide policy, states and local governments can pass effective food waste deterrence policies to serve as a pilot to signal demand and efficacy, thereby ushering in future national policies that will reduce food waste and food insecurity at scale. To pass and implement a maximally effective policy, governments should take into consideration the policy design features highlighted in this issue brief. These examples show how this category of policy is a vital step toward a just and circular economy of food. Where these food waste deterrence policies are implemented, food waste generators can no longer rely on "business as usual" waste disposal while suffering a financial burden. Thus, they must use other strategies to reduce their footprint, such as offering smaller portions, donating surplus food, recycling food scraps, or repurposing leftovers. Therefore, the suite of food waste deterrence policies introduced herein is compelling, effective, and environmentally sound. These policy avenues enhance food redistribution efforts and minimize the social and economic costs of FLW worldwide.

# ENDNOTES

- <sup>1</sup> See, e.g., Food & Agric. Org. of the U.N. (FAO), *Food Wastage Footprint & Climate Change 1* (2015), <http://www.fao.org/3/a-bb144e.pdf> [<https://perma.cc/D34N-SNP4>] [hereinafter FAO, *Food Wastage Footprint*].
- <sup>2</sup> FAO, *GLOBAL FOOD LOSSES AND FOOD WASTE—EXTENT, CAUSES, AND PREVENTION 4* (2011), <https://www.fao.org/3/i2697e/i2697e.pdf> [<https://perma.cc/XY94-VA7L>].
- <sup>3</sup> Id.
- <sup>4</sup> FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. <https://doi.org/10.4060/cc0639en>.
- <sup>5</sup> FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. <https://doi.org/10.4060/cc0639en>; FAO et al., *The State of Food Security & Nutrition in the World: transforming Food Systems for Food Security, Improved Nutrition and Affordable Healthy Diets for All 10*, 125 (2021), <https://www.fao.org/3/cb4474en/cb4474en.pdf> [<https://perma.cc/TSC9-RM9X>] [hereinafter *FAO State of Food Security 2021*]; see also FAO et al., *The State of Food Security & Nutrition in the World: Repurposing food and agricultural policies to make healthy diets more affordable* (2022), <https://www.fao.org/3/cc0639en/cc0639en.pdf> [<https://perma.cc/ZZ5Z-Y2YW>].
- <sup>6</sup> See *The Global Food Donation Policy Atlas (Atlas Project)*, HARV. L. SCH. FOOD LAW & POL'Y CLINIC (FLPC) & GLOB. FOODBANKING NETWORK (GFN), <https://atlas.foodbanking.org/atlas.html> [<https://perma.cc/Y4YJ-HUNA>] (last visited Oct. 4, 2022).
- <sup>7</sup> The Global Food Donation Policy Atlas was made possible through the funding of the Walmart Foundation. The Walmart Foundation is not responsible for the content of this document or the views contained herein. The findings, conclusions, and recommendations presented in this project and issue brief are those of the Harvard Law School Food Law and Policy Clinic (FLPC). The content of this document should not be interpreted as legal advice. Those seeking legal advice should speak to an attorney licensed to practice in the applicable jurisdiction and area of law.
- <sup>8</sup> G.A. Res. 70/1. at 22 (Oct. 21, 2015) (“By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.”).
- <sup>9</sup> See U.N. ENVIRONMENTAL PROGRAMME (UNEP), *UNEP FOOD WASTE INDEX REPORT 2021 8* (2021), <https://wedocs.unep.org/bitstream/handle/20.500.11822/35280/FoodWaste.pdf> [<https://perma.cc/RDL6-AGQA>]; EMILY BROAD LEIB ET AL., FLPC, *KEEPING FOOD OUT OF THE LANDFILL: POLICY IDEAS FOR STATES AND LOCALITIES 1* (2016), [https://www.chlpi.org/wp-content/uploads/2013/12/Food-Waste-Toolkit\\_Oct-2016\\_smaller.pdf](https://www.chlpi.org/wp-content/uploads/2013/12/Food-Waste-Toolkit_Oct-2016_smaller.pdf) [<https://perma.cc/PYS5-AW37>] [hereinafter FLPC, *KEEPING FOOD OUT OF THE LANDFILL*].
- <sup>10</sup> HARVARD LAW SCHOOL FOOD LAW AND POLICY CLINIC, *KEEPING FOOD OUT OF THE LANDFILL: POLICY IDEAS FOR STATES AND LOCALITIES 1* (2016).
- <sup>11</sup> Id.
- <sup>12</sup> FAO, *FOOD WASTAGE FOOTPRINT*, *supra* note 1; see also FAO, *FOOD WASTAGE FOOTPRINT: IMPACTS ON NATURAL RESOURCES SUMMARY REPORT 6* (2011), <http://www.fao.org/3/i3347e/i3347e.pdf> [<https://perma.cc/EFM9-W968>] [hereinafter FAO, *FOOD WASTAGE FOOTPRINT SUMMARY REPORT*].
- <sup>13</sup> FAO, *The State of Food and Agriculture 2019: Moving Forward on Food Loss and Waste Reduction v* (2019), <http://www.fao.org/3/ca6030en/ca6030en.pdf> [<https://perma.cc/3RQM-4A2A>]; FLPC, *Keeping Food Out of the Landfill*, *supra* note 12.
- <sup>14</sup> FAO, *FOOD WASTAGE FOOTPRINT*, *supra* note 1 (stating that the market value of food products lost is an estimated \$940 billion per year).
- <sup>15</sup> FAO, IFAD, UNICEF, WFP and WHO. 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. <https://doi.org/10.4060/cc0639en>.
- <sup>16</sup> GFN, *Food Banks Prevent 12 Billion Kilograms of Greenhouse Gases from Entering Earth’s Atmosphere: New Research Confirms Food Banks are a “Green” Solution to Hunger*, GLOB. NEWSWIRE (Sept. 29, 2020), <https://www.globalnewswire.com/en/news-release/2020/09/29/2100612/0/en/Food-Banks-Prevent-12-Billion-Kilograms-of-Greenhouse-Gases-from-Entering-Earth-s-Atmosphere.html>.
- <sup>17</sup> GLOBAL FOODBANKING NETWORK, *Advancing the Sustainable Development Goals: Roadmap to 2030: 2020 Update on Waste Not Want Not: Food Banks as a Green Solution to Hunger* (2020), <https://www.foodbanking.org/stateofglobalfoodbanking/advancing-the-sdgs.html> [<https://perma.cc/NT53-DQ9S>].
- <sup>18</sup> Hannah Ritchie & Max Roser, *Environmental impacts of food production*, OUR WORLD IN DATA (Jan. 2020, rev. Jun. 2021), <https://ourworldindata.org/environmental-impacts-of-food> [<https://perma.cc/9XDE-7PVK>].
- <sup>19</sup> UNEP & CLIMATE & CLEAN AIR COAL., *GLOBAL METHANE ASSESSMENT: BENEFITS AND COSTS OF MITIGATING METHANE EMISSIONS* (2021), <https://www.unep.org/resources/report/global-methane-assessment-benefits-and-costs-mitigating-methane-emissions> [<https://perma.cc/QXF8-9H5Y>].
- <sup>20</sup> Seth A. Berkowitz et al., *Food Insecurity and Health Care Expenditures in the United States, 2011–2013*, 53 *HEALTH SERVS. RSCH.* 1600, 1600–01 (June 2018), <https://onlinelibrary.wiley.com/doi/10.1111/1475-6773.12730> (finding that food insecurity is

associated with preventable yet costly medical problems such as obesity, type 2 diabetes, and hypertension).

- <sup>21</sup> See, e.g., EMILY M. BROAD LEIB ET AL., FLPC, ATLAS PROJECT: ARGENTINA FOOD DONATION LAW AND POLICY LEGAL GUIDE 1 (2020), <https://www.foodbanking.org/wp-content/uploads/2020/06/Argentina-Legal-Guide.pdf> [<https://perma.cc/X9ER-BY6R>] [hereinafter ARGENTINA ATLAS LEGAL GUIDE]; EMILY M. BROAD LEIB ET AL., FLPC, ATLAS PROJECT: CANADA FOOD DONATION LAW AND POLICY LEGAL GUIDE 1 (2020), <https://www.foodbanking.org/wp-content/uploads/2020/06/Canada-Legal-Guide.pdf> [<https://perma.cc/T7T5-87QV>] [hereinafter CANADA ATLAS LEGAL GUIDE]; EMILY M. BROAD LEIB ET AL., FLPC, ATLAS PROJECT: COLOMBIA FOOD DONATION LAW AND POLICY LEGAL GUIDE 1 (2020), <https://www.foodbanking.org/wp-content/uploads/2021/01/Colombia-Legal-Guide.pdf> [<https://perma.cc/Y9J3-TM6K>] [hereinafter COLOMBIA ATLAS LEGAL GUIDE]; see Berkowitz et al., *Food Insecurity and Health Care Expenditures in the United States*, *supra* note 24; see Haley Swartz, *Visualizing State and County Healthcare Costs of Food Insecurity*, FEEDING AM. HUNGER & HEALTH BLOG (Aug. 5, 2019), <https://hungerandhealth.feedingamerica.org/2019/08/visualizingstate-county-healthcare-costs-food-insecurity> [<https://perma.cc/E9BP-F5LP>].
- <sup>22</sup> Several provinces and territories have passed organic waste bans. For instance, Nova Scotia was the first province to ban organic waste, introducing the law in 1998. The law bans any residence or business from sending food or yard waste to a landfill, identifying compost as a key component of waste diversion. Prince Edward Island similarly employs a province-wide ban on the disposal of food waste to landfills. Several municipalities, such as Vancouver and Montreal, have instituted either full or partial bans on organic waste in landfills or placed other penalties on the disposal of organic waste in landfills. EMILY M. BROAD LEIB ET AL., FLPC, ATLAS PROJECT: CANADA FOOD DONATION LAW AND POLICY LEGAL GUIDE 13 (2020), <https://www.foodbanking.org/wp-content/uploads/2020/06/Canada-Legal-Guide.pdf> [<https://perma.cc/T7T5-87QV>] [hereinafter CANADA ATLAS LEGAL GUIDE].
- <sup>23</sup> Chile's 2020 tax reform indicates that the voluntary destruction of unmarketable food that is still suitable for human consumption may be subject to a 40% tax penalty. MELISSA SHAPIRO ET AL., FLPC, ATLAS PROJECT: CHILE FOOD DONATION LAW AND POLICY LEGAL GUIDE 5-6 (2021), <https://www.foodbanking.org/wp-content/uploads/2021/03/Chile-Legal-Guide.pdf> [<https://perma.cc/7ZVV-E3SK>] [hereinafter CHILE ATLAS LEGAL GUIDE].
- <sup>24</sup> China's Anti-Food Waste Law requires food caterers, food producers, and food dealers to take steps to prevent food waste. Violators may be fined for failure to comply. The law also prohibits media from encouraging overeating and excessive food waste. It also directs the Ministry of Civil Affairs and the State Administration for Market Regulation to connect food recovery organizations with food producers and food dealers. REGAN PLEKENPOL ET AL., FLPC, ATLAS PROJECT: CHINA FOOD DONATION LAW AND POLICY LEGAL GUIDE 12 (2023), [https://www.foodbanking.org/wp-content/uploads/2023/03/The-Global-Food-Donation-Policy-Atlas\\_China\\_LegalGuide\\_3.2.23.pdf](https://www.foodbanking.org/wp-content/uploads/2023/03/The-Global-Food-Donation-Policy-Atlas_China_LegalGuide_3.2.23.pdf).
- <sup>25</sup> Catering businesses in the city of Beijing are required to remind customers when they may be overordering and causing food waste. These businesses may be fined for allowing or encouraging overordering and food waste. REGAN PLEKENPOL ET AL., FLPC, ATLAS PROJECT: CHINA FOOD DONATION LAW AND POLICY LEGAL GUIDE 7 (2023), [https://www.foodbanking.org/wp-content/uploads/2023/03/The-Global-Food-Donation-Policy-Atlas\\_China\\_LegalGuide\\_3.2.23.pdf](https://www.foodbanking.org/wp-content/uploads/2023/03/The-Global-Food-Donation-Policy-Atlas_China_LegalGuide_3.2.23.pdf) [hereinafter China Atlas Legal Guide].
- <sup>26</sup> Ecuador's Law to Prevent and Reduce Food Loss and Waste and Reduce the Hunger of People in Vulnerable Situations obliges everyone along the supply chain to not destroy food unless that food item is no longer fit for consumption. Violators are subject to sanctions. TREVOR FINDLEY ET AL., FLPC, ATLAS PROJECT: ECUADOR FOOD DONATION LAW AND POLICY LEGAL GUIDE 4, 9 (2022), [https://www.foodbanking.org/wp-content/uploads/2022/09/The-Global-Food-Donation-Policy-Atlas\\_Ecuador\\_Legal-Guide.pdf](https://www.foodbanking.org/wp-content/uploads/2022/09/The-Global-Food-Donation-Policy-Atlas_Ecuador_Legal-Guide.pdf) [<https://perma.cc/CJF6-55VR>] [hereinafter ECUADOR ATLAS LEGAL GUIDE].
- <sup>27</sup> The city of Mumbai requires facilities of a certain size or that generate above a certain amount of organic waste to compost their organic waste on-site. Mumbai also requires facilities to segregate and compost their wet waste on-site if they generate more than 100 kilograms (220 lbs) of waste daily or have an area greater than 20,000 sq. meters (215,277 sq. ft). EMILY M. BROAD LEIB ET AL., FLPC, ATLAS PROJECT: INDIA FOOD DONATION LAW AND POLICY LEGAL GUIDE 6-7, 12 (2020), <https://www.foodbanking.org/wp-content/uploads/2020/06/india-legal-guide.pdf> [<https://perma.cc/TP55-KMJJ>] [hereinafter INDIA ATLAS LEGAL GUIDE].
- <sup>28</sup> Several states in Mexico implement food waste deterrence policies. For example, the state of Mexico prohibits individuals and organizations from participating in irrational and unnecessary food waste and maintains the right to sanction violators. EMILY M. BROAD LEIB ET AL., FLPC, ATLAS PROJECT: MEXICO FOOD DONATION LAW AND POLICY LEGAL GUIDE 10 (2020), <https://www.foodbanking.org/wp-content/uploads/2020/06/Mexico-Legal-Guide.pdf> [<https://perma.cc/4UJY-F47Q>] [hereinafter MEXICO ATLAS LEGAL GUIDE].
- <sup>29</sup> Peru requires the donation of food that has lost commercial value. It also requires that in non-emergency time, all donated food should be distributed for free. The law started as a voluntary measure but became mandatory in 2022. EMILY M. BROAD LEIB ET AL., FLPC, ATLAS PROJECT: PERU FOOD DONATION LAW AND POLICY LEGAL GUIDE 4-5 (2021), <https://www.foodbanking.org/wp-content/uploads/2021/01/Peru-Legal-Guide.pdf> [<https://perma.cc/9AM5-XRDG>] [hereinafter PERU ATLAS LEGAL GUIDE]; see Resolución Ministerial N° 179-2019-MIDIS, del proyecto de Disposiciones sobre la donación de alimentos regulada por la Ley N° 30498, agosto 9, 2019, <https://www.gob.pe/institucion/midis/normas-legales/288093-179-2019-midis> (making the food donation law mandatory).
- <sup>30</sup> The Western Cape Province enacted an organic waste ban, which diverts food waste from landfills. ESTHER AKWII ET AL., FLPC, ATLAS PROJECT: SOUTH AFRICA FOOD DONATION LAW AND POLICY LEGAL GUIDE 6 (2021), <https://www.foodbanking.org/wp-content/uploads/2021/04/South-Africa-Legal-Guide-v2.pdf> [<https://perma.cc/D7HQ-ALA8>] [hereinafter SOUTH AFRICA ATLAS LEGAL GUIDE].

- <sup>31</sup> Scotland's Waste Regulations of 2012 requires certain businesses to plan for food collection separate from other waste collection. Food collected in such a manner cannot be sent to landfills or be incinerated. Northern Ireland also requires businesses that generate a certain threshold of food to coordinate for food pickup separate from other waste pickup. JOSEPH S. BECKMANN ET AL., *FLPC, ATLAS PROJECT: UNITED KINGDOM FOOD DONATION LAW AND POLICY LEGAL GUIDE 12* (2021), <https://www.foodbanking.org/wp-content/uploads/2021/04/UK-Legal-Guide-v2.pdf> [<https://perma.cc/KFV9-4A7T>] [hereinafter UK ATLAS LEGAL GUIDE].
- <sup>32</sup> Nine US states have instituted organic waste bans or mandatory organic waste recycling laws: California, Connecticut, Maryland, Massachusetts, New Jersey, New York, Rhode Island, Vermont, and Washington. These laws generally require "food waste generators" (i.e., businesses, institutions, households, and other entities that create food waste) to reduce their food waste and make sure it is not being sent to a landfill. California has both a mandatory food donation requirement and an organic waste ban. Many local municipal governments have also implemented food waste deterrence policies such as organic waste bans or food diversion requirements. CAL. PUB. RES. CODE § 42649.81, 2018; CAL. CODE REGS. tit. XIV (2021); CONN. GEN. STAT. § 22a-226e (2016); MD. CODE ANN., ENVTL. § 9-1724.1; 310 MASS. CODE REGS. 19.017(3) (2016); N.Y. ENV'T CONSERVATION LAW § 27-2201, 2019; N.J. STAT. ANN. § 13:1E-99.123; R.I. GEN. LAWS § 23-18.9-17 (2016); 10 VT. STAT. ANN. tit. 10, § 6605k (2015); WASH HB 1799 (2022); EMILY M. BROAD LEIB ET AL., *FLPC, ATLAS PROJECT: UNITED STATES FOOD DONATION LAW AND POLICY LEGAL GUIDE 7-8* (2020), <https://www.foodbanking.org/wp-content/uploads/2020/06/USA-Legal-Guide.pdf> [<https://perma.cc/RG2F-WDZU>] [hereinafter UNITED STATES ATLAS LEGAL GUIDE].
- <sup>33</sup> Vermeulen, S. Jetal., *Climate change and food systems*, ANNUAL REVIEW OF ENVIRONMENT AND RESOURCES (2012); Jean Buzby, *Food Waste and its Links to Greenhouse Gases and Climate Change*, UNITED STATES DEP'T OF AGRIC. (Jan. 24, 2022), <https://www.usda.gov/media/blog/2022/01/24/food-waste-and-its-links-greenhouse-gases-and-climate-change>. [<https://perma.cc/93LG-NBVD>].
- <sup>34</sup> Silpa Kaza et al., *What A Waste 2.0 A Global Snapshot of Solid Waste Management to 2050*, WORLD BANK GROUP (Sept. 20, 2018), <https://openknowledge.worldbank.org/entities/publication/d3f9d45e-115f-559b-b14f-28552410e90a> [<https://perma.cc/MLK3-4JJT>] (noting landfill capacity issues in South Asia, Sub-Saharan Africa, and other regions while explaining global waste disposal management problems more generally).
- <sup>35</sup> *After One Year, Mass. Commercial Food Waste Disposal Ban Gets Results*, CENTER FOR ECOTECHNOLOGY (Oct. 6, 2015), <https://www.centerforecotechnology.org/after-one-year-mass-commercial-food-waste-disposal-ban-gets-results/> [<https://perma.cc/3C4M-TRKF>]; see also *A Success Story: The Massachusetts Commercial Organics Waste Ban*, ENV'T COUNCIL OF THE STATES (Mar. 24, 2016), <https://vimeo.com/160289284> [<https://perma.cc/Y2MM-D78U>]; 310 MASS. CODE REGS. 19.017 (2017).
- <sup>36</sup> *Results are in: Trash is Down, Recycling is UP!*, VT. DEP'T OF ENV'T CONSERVATION 2 (July 27, 2016), <https://nerc.org/news-and-updates/>; VT. STAT. ANN. TIT. 10, § 6605k.
- <sup>37</sup> EUROPEAN COMMISSION, *Food Redistribution in the EU: Mapping and analysis of existing regulatory and policy measures impacting food redistribution from EU Member States*, Directorate-General for Health & Food Safety, Innovation (2020). <https://op.europa.eu/en/publication-detail/-/publication/189fa4cd-b755-11ea-bb7a-01aa75ed71a1> [<https://perma.cc/2G88-6YMH>]. Draft Ministerial Order (Brussels) amending the Ministerial Order of 5 June 1997 on the environmental permit.
- <sup>38</sup> *Id.* Draft decree (Walloon) amending Decree of 11 March 1999 concerning the environmental license to promote the distribution of food surplus to food charities.
- <sup>39</sup> Stephanie Wunder et. al, *Food waste prevention and valorisation: relevant EU policy areas*. (2018). Report of the REFRESH Project, D3.3 Review of EU policy areas with relevant impact on food waste prevention and valorization. <https://eu-refresh.org/food-waste-prevention-and-valorisation-relevant-eu-policy-areas> [<https://perma.cc/CA63-FYZJ>].
- <sup>40</sup> Czech Republic Ministry of Agriculture. Law no. 180/2016 Coll. Amending the Bill No. 110/1997 Law on Food and Tobacco Products (ZÁKON č. 180/2016 sb., kterým se mění zákon č. 110/1997 Zákon o potravinách a tabákových výrobcích). <https://www.zakonyprolidi.cz/cs/2016-180> [<https://perma.cc/3CJ8-G4JA>].
- <sup>41</sup> République Française, LOI n° 2020-105 du 10 février 2020 relative à la lutte contre le gaspillage et à l'économie circulaire, JORF n°0035 du 10 février 2020, <https://circulaire.legifrance.gouv.fr/jorf/id/JORFTEXT000041553759/> [<https://perma.cc/TTS4-VSNU>].
- <sup>42</sup> République Française, LOI n° 2019-1069 du 21 octobre 2019 relative à la lutte contre le gaspillage alimentaire, JORF n°0246 du 22 octobre 2019, <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000039248716/> [<https://perma.cc/7SGW-5KN6>].
- <sup>43</sup> République Française, LOI n° 2020-105 du 10 février 2020 relative à la lutte contre le gaspillage et à l'économie circulaire, JORF n°0035 du 10 février 2020, <https://circulaire.legifrance.gouv.fr/jorf/id/JORFTEXT000041553759/> [<https://perma.cc/TTS4-VSNU>].
- <sup>44</sup> Proyecto de Ley de prevención de las pérdidas y el desperdicio alimentario. [https://www.mapa.gob.es/es/prensa/anteproyectoleydesperdicio\\_tcm30-620834.pdf](https://www.mapa.gob.es/es/prensa/anteproyectoleydesperdicio_tcm30-620834.pdf) And See Ministerio de agricultura, pesca, y alimentacion, Government approves a pioneering law against food waste for its parliamentary processing, (7 June, 2022). <https://www.mapa.gob.es/es/prensa/ultimas-noticias/el-gobierno-aprueba-una-ley-pionera-contra-el-desperdicio-alimentario-para-su-tramitacion-parlamentaria/tcm:30-620817> [<https://perma.cc/A2Q5-NZKP>].
- <sup>45</sup> Shapiro et al., *Atlas Peru Legal Guide*, *supra* note 29 at 4 (referencing Ley No. 30498, Ley Que Promueve La Donación de Alimentos y Facilita el Transporte de Donaciones en Situaciones de Desastres Naturales, agosto 8, 2016, El Peruano [hereinafter "Food Donation Law"], <http://www.leyes.congreso.gob.pe/Documentos/Leyes/30498.pdf>).

<sup>46</sup> *Id.* (citing Food Donation Law, Ch. II, art. 2(b)). Donating people and entities must adhere to certain procedures, such as preserving the description and expiration date on any packaged food item, and donation-receiving entities are required to maintain records of donated foods and beneficiaries. *Id.* Fourth Final Complementary Provision.

<sup>47</sup> *Id.*, art. 4 and 5.

<sup>48</sup> *Id.* Fifth Final Complementary Provision.

<sup>49</sup> Cal. Pub. Res. Code § 42652.5 (West 2022); Cal. Code Regs. tit. XIV, §§ 18982, 18991.3 (2022); Cal. Pub. Res. Code § 42649–42649.7 (West 2022).

<sup>50</sup> Cal. Pub. Res. Code § 42652.5 (West 2022).

<sup>51</sup> Cal. Code Regs. tit. XIV, §§ 18982, 18991.3 (2022).

<sup>52</sup> Cal. Code Regs. tit. XIV, §§ 18982, 18991.3 (2021).

<sup>53</sup> CAL RECYCLE, *Notice of Funds Available: Edible Food Recovery Grant Program (FY 2021–22 and 2022–23)*, <https://calrecycle.ca.gov/climate/grantsloans/foodwaste/fy202123/>

<sup>54</sup> CAL RECYCLE, *Food Waste Prevention and Rescue Grant Program*, <https://calrecycle.ca.gov/climate/grantsloans/foodwaste/>

<sup>55</sup> Activities that constitute recycling include composting, anaerobic digestion, and animal feed/rendering, among others.

<sup>56</sup> Cal. Code Regs. tit. XIV, §§ 18984–18984.14 (2021); *see also Resources for Jurisdictions*, CalRecycle <https://calrecycle.ca.gov/organics/slcp/jurisdictions/> (last visited Apr. 7, 2023) [<https://perma.cc/2YG8-WRYY>].

<sup>57</sup> Cal. Code Regs. tit. XIV, §§ 18984–18984.14 (2021); *see also Resources for Jurisdictions*, CalRecycle <https://calrecycle.ca.gov/organics/slcp/jurisdictions/> (last visited Apr. 7, 2023) [<https://perma.cc/2YG8-WRYY>].

<sup>58</sup> Cal. Code Regs. tit. XIV, § 18991.1 (2022).

<sup>59</sup> Food Redistribution in the EU, *Supra* note 37. Draft Ministerial Order (Brussels) amending the Ministerial Order of 5 June 1997 on the environmental permit; Draft decree (Wallon) amending Decree of 11 March 1999 concerning the environmental license to promote the distribution of food surplus to food charities.

<sup>60</sup> After two years with the food donation law in place, the percentage of food businesses that donated food rose from 66 to 90. Marie Mourad and Steven Finn, *Opinion: France’s Ban on Food Waste Three Years Later*, FOODTANK (June 2019), <https://foodtank.com/news/2019/06/opinion-frances-ban-on-food-waste-three-years-later/> [<https://perma.cc/8K2Z-G5HG>].

<sup>61</sup> FOODTANK, *France’s ban on food waste three years later* (2019). <https://foodtank.com/news/2019/06/opinion-frances-ban-on-food-waste-three-years-later/>.

<sup>62</sup> *See* ICF, *Massachusetts Commercial Food Waste Ban Economic Impact Analysis*, MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION 17-19 (Dec. 2016), <https://www.mass.gov/doc/massachusetts-commercial-food-waste-ban-economic-impact-analysis/download> [<https://perma.cc/DVS4-PSMA>].

<sup>63</sup> *See* ICF, *Massachusetts Commercial Food Waste Ban Economic Impact Analysis*, MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION 17-19 (Dec. 2016), <https://www.mass.gov/doc/massachusetts-commercial-food-waste-ban-economic-impact-analysis/download> [<https://perma.cc/DVS4-PSMA>].

<sup>64</sup> *See* generally Ley Para Prevenir Y Reducir La Pérdida Y El Desperdicio De Alimentos Y Mitigar El Hambre De Las Personas En Situación De Vulnerabilidad Alimentaria, 30 de mayo de 2022 (Ecuador) [hereinafter “FLW Law”].

<sup>65</sup> *Id.* at art. 12 (stating that the obligation applies regardless of whether the specific item is perishable or not). Article 12 requires anyone, whether national or foreign, involved in the “production, processing, distribution, marketing and importation of food products” to not destroy food.

<sup>66</sup> *Id.* at art. 13.

<sup>67</sup> *Id.* at art. 11.

<sup>68</sup> *Id.* at art. 14.

<sup>69</sup> *Id.*

<sup>70</sup> *Id.* at art. 26-28. Note that actors in the solidarity economy, which refers to small-scale food manufacturers and sellers such as street vendors, are exempt from the sanctioning regime. *Id.* at art. 14.

<sup>71</sup> *Id.* at art. 16.

<sup>72</sup> *Id.* at art. 26.

<sup>73</sup> *Id.* at art. 26, 27.

<sup>74</sup> *Id.* at Transitory Disposition no. 4, 12.

<sup>75</sup> *Id.* at art. 21.

<sup>76</sup> INDIA ATLAS LEGAL GUIDE at 6-7, 12.

<sup>77</sup> 10 VT. STAT. ANN. tit. 10, § 6605k (2015).

<sup>78</sup> REGAN PLEKENPOL ET AL., FLPC, ATLAS PROJECT: CHINA FOOD DONATION LAW AND POLICY LEGAL GUIDE 12 (2023), [https://www.foodbanking.org/wp-content/uploads/2023/03/The-Global-Food-Donation-Policy-Atlas\\_China\\_LegalGuide\\_3.2.23.pdf](https://www.foodbanking.org/wp-content/uploads/2023/03/The-Global-Food-Donation-Policy-Atlas_China_LegalGuide_3.2.23.pdf).

<sup>79</sup> VT. STAT. ANN. tit. 10, § 6612(a) (2018).

<sup>80</sup> *Universal Recycling Food Scrap Ban Guidance*, VERMONT AGENCY OF NATURAL RESOURCES (June 2020), <https://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/Universal-Recycling/Food-Scrap-Ban-Guidance.pdf> [<https://perma.cc/64JN-SD2B>].

81 As noted above, Massachusetts experienced a 25,000 ton increase in food donation after one year with an organic waste ban and Vermont saw a 60% increase in food donation after the implementation of its organic waste disposal ban. *After One Year, Mass. Commercial Food Waste Disposal Ban Gets Results*, CET (Oct. 6, 2015), <https://www.centerforecotechnology.org/after-one-year-mass-commercial-food-waste-disposal-ban-gets-results/> [<https://perma.cc/3C4M-TRKF>]; see also *A Success Story: The Massachusetts Commercial Organics Waste Ban*, ENV'T COUNCIL OF THE STATES (Mar. 24, 2016), <https://vimeo.com/160289284> [<https://perma.cc/Y2MM-D78U>]; 310 MASS. CODE REGS. 19.017 (2017); *Results are in: Trash is Down, Recycling is UP!*, VT. DEP'T OF ENV'T CONSERVATION 2 (July 27, 2016), <https://nerc.org/news-and-updates/>; VT. STAT. ANN. TIT. 10, § 6605k.

82 *Results are in: Trash is Down, Recycling is UP!*, VT. DEP'T OF ENV'T CONSERVATION 2 (July 27, 2016), <https://nerc.org/news-and-updates/>; VT. STAT. ANN. TIT. 10, § 6605k.

83 *After One Year, Mass. Commercial Food Waste Disposal Ban Gets Results*, CET (Oct. 6, 2015), <https://www.centerforecotechnology.org/after-one-year-mass-commercial-food-waste-disposal-ban-gets-results/> [<https://perma.cc/3C4M-TRKF>]; see also *A Success Story: The Massachusetts Commercial Organics Waste Ban*, ENV'T COUNCIL OF THE STATES (Mar. 24, 2016), <https://vimeo.com/160289284> [<https://perma.cc/Y2MM-D78U>]; 310 MASS. CODE REGS. 19.017 (2017).

84 *Vermont's Universal Recycling Law*, VT. DEP'T OF ENVTL. CONSERVATION, <http://dec.vermont.gov/waste-management/solid/universal-recycling> (last visited Mar. 14, 2019).

85 VT. STAT. ANN. tit. 10, § 6605k(c) (2018).

86 "'Person' means any individual, partnership, company, corporation, association, unincorporated association, joint venture, trust, municipality, the State of Vermont or any agency, department, or subdivision of the State, federal agency, or any other legal or commercial entity." VT. STAT. ANN. tit. 10, § 6602 (2018).

87 See VT. DEP'T OF ENVTL. CONSERVATION, VERMONT'S UNIVERSAL RECYCLING LAW STATUS REPORT DECEMBER 2016 9 (2016), <http://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/Universal.Recycling.Status.Report.Dec.2016.pdf>; Paris Achen, *Mandatory Recycling? There's Little Enforcement*, BURLINGTON FREE PRESS (July 18, 2015), <https://www.burlingtonfreepress.com/story/news/local/2015/07/17/mandatoryrecycling-little-enforcement/30327889/>.

88 CAL. PUB. RES. CODE § 42649.81, 2018; CAL. CODE REGS. tit. XIV, § 18991.2–18991.5 (2021).

89 CAL. PUB. RES. CODE § 42649.81 (West 2019).

90 CAL. CODE REGS. tit. XIV, § 18991.2–18991.5 (2021).

91 CAL. CODE REGS. tit. XIV, § 18991.2–18991.5 (2021).

92 CAL. CODE REGS. tit. XIV, § 18991.2–18991.5 (2021).

93 *Solid Waste-Resource Management Strategy*, GOV'T OF NOVA SCOTIA (Dec. 10, 2017) <https://novascotia.ca/nse/waste/swrmstrategy.asp>.

94 *Id.*

95 Atlas Canada Legal Guide, *supra* note 22 at 13-14

96 Atlas South Africa Legal Guide *supra* note 30.

97 See WESTERN CAPE GOV'T, DIVERSION TARGETS FOR ORGANIC WASTE IN THE WESTERN CAPE, (July 19, 2018), <https://orasa.org.za/wp-content/uploads/2016/11/DEADP-organic-waste-landfill-ban-letter-July-2018.pdf>; see also Ethan van Diemen, *Waste not, want not: Western Cape to ban organic waste from landfills, starting with 50% reduction in 2022*, DAILY MAVERICK (Sept. 15, 2021), <https://www.dailymaverick.co.za/article/2021-09-15-waste-not-want-not-western-cape-to-ban-organic-waste-from-landfills-starting-with-50-reduction-in-2022/> [<https://perma.cc/LCJ5-85J9>].

98 Broad Leib et al., Atlas India Legal Guide, *supra* note 27 at 12 (citing *12 per cent more solid waste segregated this year*, BMC (Sept. 18, 2019), <https://indianexpress.com/article/cities/mumbai/12-per-cent-more-solid-waste-segregated-this-year-bmc-6004677/>).

99 Hennepin County, Minn., Ordinance 13 (Nov. 27, 2018); *Organics recycling for businesses and organizations*, HENNEPIN COUNTY MINNESOTA, <https://www.hennepin.us/business/recycling-hazardous-waste/organics-recycling#food-waste-recycling-requirements-for-businesses> (last visited Mar. 14, 2019).

100 For a full list of covered entities see Hennepin County, Minn., Ordinance 13, Section IV (Nov. 27, 2018).

101 Hennepin County, Minn., Ordinance 13, Section IV (Nov. 27, 2018).

102 *Id.* Covered businesses must also provide appropriate collection containers for back-of-house food scraps and provide employees with education and training annually.

103 Ley No. 21.256, *Establece Medidas Tributarias que Forman Parte del plan de Emergencia para la Reactivación Económica y del Empleo en un Marco de Convergencia Fiscal de Mediano Plazo*, Sept. 2, 2020, Diario Oficial [D.O.] (Chile)

104 *Id.*

105 Anti-food Waste Law of the People's Republic of China (中华人民共和国反食品浪费法) (promulgated by the Standing Comm. Nat'l People's Cong., Apr. 29, 2021, effective Apr. 29, 2021), art. 7 (China).

106 *Id.*

107 *Id.*

108 *Id.*

<sup>109</sup> *Id.*

<sup>110</sup> *Id.*

<sup>111</sup> Fines are: 1,000 to 10,000 yuan for catering service providers; 5,000 to 50,000 yuan for food producers or dealers; or 10,000 to 100,000 yuan for radio stations, TV stations, or network audio and video service providers.

<sup>112</sup> Anti-food Waste Law of the People's Republic of China, *supra* note 105.

<sup>113</sup> THE GUARDIAN, *South Korea's Zero Food Waste Composting System* (2022). <https://www.theguardian.com/environment/2022/nov/20/south-korea-zero-food-waste-composting-system>.

<sup>114</sup> See Center for EcoTechnology (CET), <https://www.centerforecotechnology.org/>

<sup>115</sup> Cal Recycle, *SB 1383 Education and Outreach Resources*, <https://calrecycle.ca.gov/organics/slcp/education/>

<sup>116</sup> See, e.g., *Bans and Beyond*, sec. V: Beyond the Ban.

© JULY 2023



**THE GLOBAL  
FOOD DONATION  
POLICY ATLAS**

