

# Massachusetts Food Policy Council

## White Paper on Food Waste Reduction

July, 2017

### I. Executive Summary

Food Waste diversion is fundamental to the Massachusetts Food Policy Council's (FPC) recommendations towards advancing food system goals for the Commonwealth, and deeply important to the overarching goals of the Massachusetts Local Food Action Plan. The Plan includes many recommendations that each offer multiple action items directly related to food waste diversion (Appendix 1). Pathways for food waste diversion include *reduction* of the amount of food waste generation; *donation* of unused food to people through food banks, soup kitchens, and shelters; and *processing* through composting, animal feed, anaerobic digestion, and industrial uses. The Council supports recommendations from the Massachusetts Department of Environmental Protection (MassDEP) in regards to the state's food waste ban and includes highlights from Harvard Law School Food Law and Policy Clinic's recent report on specific food waste policy recommendations for Massachusetts. With this White Paper, the Council can play a role to amplify these recommendations related to food waste and link to larger policies.

### II. Introduction

In **December 2015**, the MA Local Food Action Plan was accepted by the MA FPC. The Plan's two overarching goals related to food waste are as follows:<sup>1</sup>

*"Protect the land and water needed to produce food, maximize environmental benefits from agriculture and fishing, and ensure food safety."*

*"Reduce hunger and food insecurity, increase the availability of healthy food to all residents, and reduce food waste."*

In **November 2016**, the MA FPC advanced its six major priorities based on the Plan to the Administration and General Court, including the following priority with a sole focus on food waste.<sup>2</sup>

*"Reduce food waste through state programs for farmers, restaurants, processors, schools and other institutions, and consumers. A current focus is to support the Commercial Food Waste Ban by developing policies and programs to divert food waste from landfills. Support for donation programs, conversion of food waste to animal feed, composting, and the development of anaerobic digestion facilities are also priorities."*

The MA FPC believes food waste is of concern both at the state and national level. The January 2017 MA FPC Council meeting focused on policies and programs supporting food waste diversion initiatives, including through legislative and regulatory action. Presenters included agency members, private sector representatives, and the Harvard Law School Food Law and Policy Clinic.

Massachusetts has demonstrated a commitment to food waste management practices; the Massachusetts Department of Environmental Protection **2014 Commercial Food Waste Disposal Ban** has had far-reaching effects, and the 2010-2020 Solid Waste Master Plan's call to pursue the diversion of food waste has led to many ongoing initiatives. The FPC agrees that there are additional opportunities for the state to expand and capitalize on its existing successes and encourage further food waste reduction efforts.

In December 2016, the Harvard Law School Food Law and Policy Clinic prepared a report for the MFSC entitled *Moving Food Waste Forward: Policy Recommendations for Next Steps in Massachusetts*. The MFSC supports these key ideas and recommendations, borne out of conversations with food waste experts and stakeholders across the state. The recommendations, which focus on tax incentives, liability protections, date labeling, food safety, school food waste, and the organics waste ban, also support the goals, priorities, and action items of the FPC and MA Local Food Action Plan.

This White Paper is intended to assist with envisioning the next steps in policy change and developing interagency collaboration to support and expand upon MassDEP's comprehensive state food waste reduction and diversion from the solid waste disposal stream.

### III. Problem & Background

#### Why It Matters

Food waste is a growing problem across the country. Over the past 40 years, wasted food in the U.S. has progressively increased per capita by 50%<sup>3</sup>. Now approximately 40% of food produced in the U.S. goes to waste, about 63 million tons annually.<sup>4</sup> Hundreds of billions of dollars are spent to grow, manufacture, process, distribute, and dispose of never-eaten food. Wasted food also takes a toll on the environment: Food waste decomposition in landfills creates large quantities of methane, a greenhouse gas 25 times more potent than carbon dioxide.<sup>3</sup> One-third of the United States' fresh water supply and 300 million barrels of oil go towards the production of food that ends up wasted.<sup>3</sup>

#### Food Insecurity

Food is wasted along the entire food supply chain, from farms, processors, distributors, wholesalers, retailers, food service establishments, and consumers. In the midst of massive food waste, 12.7 percent of U.S. households are unable to regularly put adequate food on the table, and roughly 1 in 10 Massachusetts residents struggle with food insecurity; a number that has doubled in the last 15 years.<sup>5</sup> Every municipality in the Commonwealth is affected by food insecurity to some degree. However notable disparities exist in food security and access across the state; in some communities roughly seven in 10 households live in poverty.<sup>6</sup> The burden of food insecurity is heaviest on communities with residents with lower-incomes, people of color, seniors, and the disabled. Many health problems, as well

as irregular school attendance, poor job performance, and other concerns, can be linked to food insecurity. Timely and effective diversion of healthy and edible, surplus food from the waste stream can maximize food donation to rescue organizations and promote increased access to quality, healthy food across the state.

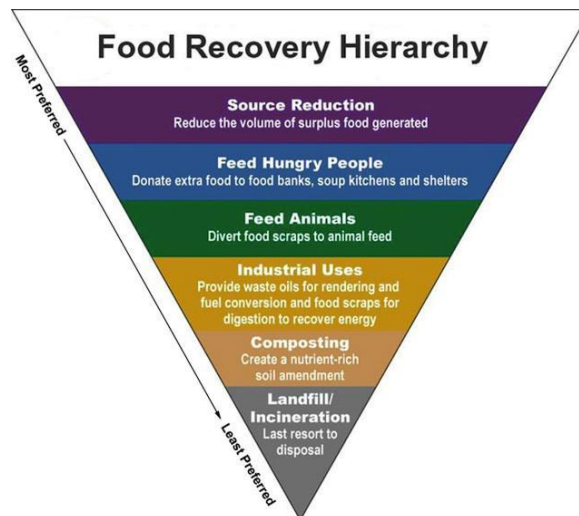
### Food Waste in Massachusetts

In Massachusetts, food waste is the single largest component of landfill waste, accounting for an average of 17% of the municipal solid waste stream after recycling.<sup>7</sup> In 2014 approximately 800,000 tons of wasted food went into landfills. Landfill capacity across the state is steadily decreasing; by 2020, state landfill capacity will be halved, down to an estimated 720,000 tons. Sources of food waste generation include industrial facilities such as food processors and manufacturers; other facilities and institutions including supermarkets, restaurants, colleges and schools, and residential contributions. As part of the Massachusetts 2010-2020 Solid Waste Master Plan, MassDEP has set goals to reduce total solid waste disposal by 30%--about 2 million tons--and divert at least 35% of food waste from disposal by 2020.<sup>8</sup>

MassDEP has strengthened its commitment to more closely track and analyze food waste diversion data with its 2017 Organics Action and Study Plan.<sup>9</sup> Currently, MassDEP estimates that close to 25% of food waste is currently diverted from disposal. Of this food waste, about 25,000 tons goes to donation along with significant amounts to animal feed, anaerobic digestion, and composting facilities. Massachusetts Department of Agricultural Resources (MDAR) is responsible for administering the agricultural composting program.

Massachusetts law permits MDAR to register farms wishing to participate in an agricultural composting program. Registration allows farms to receive agricultural waste material and other compostable material (including food waste) from off-site, to be composted on-farm. Registered farms receive technical assistance from the department and a conditional exemption from MassDEP regulations. Currently, 62 farms are registered in the agricultural composting program, nearly half of which receive food waste for composting. In 2015, approximately 22,000 tons of food waste (pre-consumer, post-consumer, and processing waste) were diverted from the waste stream and composted on Massachusetts farms under the agricultural composting program.

MassDEP's December 2016 economic impact report on the Massachusetts Commercial Food Waste Ban found that Massachusetts haulers and processors handled between six and eight times as much material in 2015 as they did in 2010; an estimated 270,000 tons of food materials are being collected annually, demonstrating significant growth over the state's baseline estimate of 100,000 tons of food waste diversion prior to the ban.<sup>10</sup> The report also highlighted that the ban has led to the creation of 900 jobs and \$175 million in economic activity during its first two years.<sup>10</sup> A concerted effort is still needed to meet food waste goals to reduce and recover food waste from the waste stream.



## **Barriers to Food Waste Reduction**

A variety of barriers exist that inhibit the diversion of more food waste from the waste stream in Massachusetts. The fear of liability and unclear food safety regulations associated with food donation, along with widespread school food waste, financial obstacles, and lack of awareness around reduction efforts all play a part.<sup>11</sup> The MassDEP 2017 Organics Study and Action Plan identified similar barriers towards meeting the state's organic diversion goals, including the lack of information on sources and amounts of food waste; missed opportunities to reduce food waste and donate food; and the lack of collection and separation systems at generators and insufficient collection services and processing capacity.<sup>9</sup>

## **IV. Recommendations & Current Initiatives**

### **MA Local Food Action Plan**

The Plan, accepted by the FPC, includes comprehensive recommendations and action items related to food waste across broad aspects of the food system (Appendix 1). These recommendations emphasize expanding resources and technical assistance necessary to cost-effectively reduce food waste; increasing and supporting food donations and food security initiatives; maximizing anaerobic digestion, industrial food waste use and composting across the state, and--in the areas of fishing and food processing--promoting the recovery and utilization of food waste into value-added products. See Appendix I for list of recommendations and action items in the Plan.

### **MassDEP Organics Study and Action Plan**

The FPC supports MassDEP's 2017 Organics Study and Action Plan, which offers comprehensive and integrative recommendations that outline ongoing initiatives towards achieving the Commonwealth's organics diversion objective in five categories: Data Analysis, Reducing Waste and Donating Food, Collection Infrastructure, Processing Capacity/ Market Development, and Regulatory Reform/Waste Ban. Highlights of some of MassDEP's ongoing activities to reduce food waste and donate food include creating best management practices around food donation through, among other things, partnerships with Harvard Food Law and Policy Clinic and the Department of Public Health (DPH); assessing opportunities to support increased food donation and rescue in the context of the Massachusetts Food Systems Plan; promoting food waste reduction strategies at schools through the Massachusetts Green Team program; and promoting industry best management practices to reduce food waste generation.

### **Recommendations and Complementary Action Items from the Plan**

*Moving Food Waste Forward: Policy Recommendations for Next Steps in Massachusetts*, prepared by the Harvard Law School Food Law and Policy Clinic for the Massachusetts Food System Collaborative, suggests state-specific policy changes that could further activate the reduction and diversion of food waste in the state. This White Paper recognizes the intersection of the recommendations developed by Harvard, MassDEP, and the Local Food Action Plan.

Broadly, recommendations for next steps include the following, with complementary action items from the MA Local Food Action Plan included. *Blue rectangles denote policy recommendations from Harvard, and green arrows indicate MA Local Food Action Plan action items.*

**Offer a Tax Credit to State Businesses who Donate Excess Food**

Inputs 1.3.2

Food rescue organizations, farmers, and other potential donors face an infrastructure and equipment cost barrier related to trucks, refrigeration and other capital expenses needed to expand capacity by geography, quantity or types of food to donate. Federal tax incentives generally favor large, high-income businesses; low-margin businesses, like farms, struggle to claim a deduction.

***"Implement a state tax credit for farmers and others who donate surplus food."***

**Expand Liability Protections and Conduct Education**

Inputs 1.3.1

The Bill Emerson Good Samaritan Act offers federal liability protections to certain food donors, and Massachusetts offers broad civil liability protections to food donors who donate to food recovery organizations. Many donors are unaware that these protections exist. Additional or clearer protection could increase donations, and extending protections to direct donations could increase timely use of perishable food. Education and awareness campaigns of current protections with DPH and MDAR should be undertaken.

***"Increase outreach and education on food donation opportunities, including the Bill Emerson Good Samaritan Food Donation Act, which provides liability protections for donors."***

**Modify and Standardize Date Labeling**

Inputs 1.2.3

No federal law regulates date labels, but Massachusetts requires all perishable and semi-perishable foods to have a date label and allows the sale of past-date food if it is safe for human consumption, is segregated from food that is not "past date," and is marked as being offered past the date on the label. Donation of past-date food is allowable if food packages are in good condition, however, many food recovery organizations decline to accept such food. The state should move to clarify that date labels indicate the shelf life for quality as determined by the manufacturer and may not be indicative of safety, support state-level label education, and change the requirements for perishable and semi-perishable foods, removing sale and donation restrictions unrelated to food safety.

***"Launch an educational campaign to teach consumers about when a product is still safe to eat, even past the expiration or sell by date."***

Inputs 1.2.4

***"Clarify expiration or sell by dates, and reduce the number of foods that require a date label, using information from Harvard Law School's Food Law and Policy Clinic."***

**Clarify Regulations about Food Safety for Food Donations**

Inputs 1.3.6

Food safety regulations focus on the sale and distribution of food, rather than food donation and recovery. Donors and food recovery organizations hesitate to make donations because they don't know the food safety regulations that apply to donations. M.G.L. c. 94 § 328 requires the distribution or service of donated food to be conducted in accordance with state food safety regulations, and prohibits charging a permit fee for the Board of Health inspection. DPH can develop a list of resources regarding food safety for food donations. DPH participated in working groups with MassDEP to inform the education and guidance posted on the RecyclingWorks website.

***"Increase education and consistent implementation of public health regulations regarding food donation."***

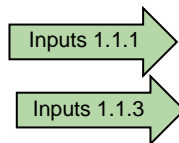
**Create Guidance Documents on School Food Donation & Food Waste**

Nearly 25% of all elementary school lunches are thrown in the trash each year. RecyclingWorks estimates that in Massachusetts, ½ pound food per student per week is thrown away.<sup>12</sup> Students don't have enough time to eat and may be disinterested

in the foods served. Schools do not uniformly engage in waste-reduction or food recovery practices. The Department of Elementary and Secondary Education can work to promote school donation programs, enact mandatory minimum lunch times, switch to trayless dining, and create more appealing menus for students.

**Pass a Resolution in Support of MassDEP's Organic Waste Ban**

The legislature should pass a resolution supporting the organic waste ban, promoting food donation and recovery efforts, and allocating funds to support the ban. Small generators should be discouraged from discarding organic waste. Other agencies should team up with MassDEP to support the waste ban and implement a public education campaign to support awareness of food waste, food recovery and its importance.



***“Promote and leverage the MassDEP technical assistance service, RecyclingWorks, to help food waste generators comply with the waste ban.”***

***“Explore expanding the statewide Commercial Food Waste Disposal Ban to phase in smaller food waste generators and residential food waste over time.”***

### Case Study

Diversion of food waste is taking place in many commercial sectors. In response to the Organic Waste Ban, Stop & Shop Supermarkets, based in Quincy, opened its first anaerobic digester at its Distribution Center in Freetown, MA in 2016. The facility converts inedible food waste from New England Stop & Shop stores into energy that will help power the company's distribution center and contribute to the company's long-term goal to divert 90% of food waste from going to landfills.

The state-of-the-art, 12,000-square-foot facility is expected to process an average of 95 tons of food waste daily, an estimated 34,000 tons per year. Inedible food products from all of the New England stores that can't be sold or donated will go to the facility and be turned into energy via anaerobic digestion. The energy produced will provide as much as 40% of the 1.1 million-square-foot distribution center's energy needs, enough power to run the facility for four months. Once fully up and running, the facility will produce about 1.25 megawatts of clean electricity.

#### How the Collection Process Works:

- Stores collect organic materials and place into collection bin
- Organic materials are removed from facility within 48hours
- Once bins are full, use reverse logistics process through backhauls back to Freetown
- Bins delivered on trailers to facility at distribution center
- Material is maintained under refrigeration as much as possible through the system back to facility
- Once delivered, organic materials are processed within 24 hours



Inedible Food Headed to the Digester



## **V. Conclusion**

The issue of wasted food in Massachusetts is part of a national conversation on food waste that is gaining traction and visibility. A timely subject, issues surrounding food waste weave through many of the Council's membership, for both agency and non-agency members alike.

The Council's interagency collaboration towards achieving food waste goals is a critical factor toward success. The Massachusetts Departments of Environmental Protection, Agricultural Resources, Public Health, Elementary and Secondary Education, and the Executive Office of Housing and Economic Development are key players to potentially achieving significant progress towards comprehensive food waste diversion and reduction.

## **Appendix 1**

### **MA Local Food Action Plan Actions Items Relating to Food Waste**

**<http://mafoodsystem.org/plan/>**

**Land 3.4.3:** Provide more public education on urban food production techniques in community gardens and home gardens, such as growing vegetables, composting, keeping bees, chickens, and other animals.

**Inputs 1.1.1** Promote and leverage the MassDEP technical assistance service, RecyclingWorks, to help food waste generators comply with the waste ban.

**Inputs 1.1.2** Provide technical assistance to municipalities to introduce their own voluntary programs for residential food waste disposal or food waste from institutions disposal below the one ton/week level.

**Inputs 1.1.3** Explore expanding the statewide Commercial Food Waste Disposal Ban to phase in smaller food waste generators and residential food waste over time.

**Inputs 1.2.1** Initiate a statewide food waste reduction campaign similar to the United Kingdom's "Love Food Hate Waste" campaign or California's "Food is Too Good to Waste" campaign to provide consumer education and highlight the environmental benefits of reducing food waste.

**Inputs 1.2.2** Align state initiatives with the USEPA and USDA's national goal to reduce food waste by 50% by 2030.

**Inputs 1.2.3:** Launch an educational campaign to teach consumers about when a product is still safe to eat, even past the expiration or sell by date.

**Inputs 1.2.4:** Clarify expiration or sell by dates, and reduce the number of foods that require a date label, using information from Harvard Law School's Food Law and Policy Clinic. 2

**Inputs 1.2.5** Support increased utilization of food waste tracking/auditing systems at large generators of food waste such as institutions and grocery stores, to improve management practices and better understand the amount of food waste generated and diverted.

**Inputs 1.2.6:** Encourage and support the development of innovative technology to efficiently separate food from packaging so more food can be composted or turned into energy

**Inputs 1.3.2** Implement a state tax credit for farmers and others who donate surplus food. Currently, there is no state tax credit for food donation and only C-corporations are eligible for the federal enhanced tax credits and most Massachusetts farmers do not meet these criteria.[2]

**Inputs 1.3.3:** Explore and implement financial incentives and service fees to support food donation distributors, many of which rely exclusively on charitable donations to fund their work.

**Inputs 1.3.4:** Increase refrigerated storage capacity at food pantries through public funding or connections with under-used, existing, nearby facilities to allow food pantries to accept more donations of fresh, perishable foods.

**Inputs 1.3.5:** Increase participation in existing education and training around the handling of fresh food for those donating, distributing, and serving the food. B

**Inputs 1.3.6:** Increase education and consistent implementation of public health regulations regarding food donation.

**Inputs 1.3.7:** Create a communication network so that farmers can connect with volunteers willing to harvest and distribute a crop in an overly abundant year.

**Inputs 1.4.2:** Maximize opportunities for anaerobic digestion at municipal wastewater treatment facilities that are designed to handle food waste materials.

**Inputs 1.4.3:** Develop a market for solids and liquids produced during the anaerobic digestion process.

**Inputs 1.4.4:** Support infrastructure development for handling and preparing food waste for anaerobic digestion

**Inputs 1.4.5:** Create a network of food scrap transfer stations to provide more efficient delivery of food waste to anaerobic digestion facilities.

**Inputs 1.4.6:** Advance and incentivize smaller-scale anaerobic digestion technology installations for farms, schools, supermarkets, and at other sites such as State prisons and colleges and universities.

**Inputs 1.5.1:** Expand the variety of composting site locations, capabilities (including technologies to separate packaging as well as livestock carcasses), and scales able to handle the range of compost materials.

**Inputs 1.5.2:** Provide technical assistance to increase the prevalence of community scale composting operations, creating high-quality and affordable compost, particularly near farms.

**Inputs 1.5.3:** Support the development of equipment and processes to separate packaging from food waste.

**Inputs 1.5.4:** Train food scrap generators to avoid contamination of food waste.

**Inputs 1.5.5:** Develop compost sites that reduce nuisance conditions, while still producing a viable soil amendment product from the process.



**Inputs 1.5.6:** Create a State procurement preference for Massachusetts-produced compost. State contracts and other large purchasers should specify the type and quality of compost for varying uses (e.g., athletic fields, holding slopes).

**Inputs 1.5.7:** Include Massachusetts-produced compost in marketing efforts for locally produced agricultural products.

**Inputs 1.5.8:** Provide technical assistance to small-scale composters to help prepare and package compost so it is ready for distribution and retail sale.

**Inputs 1.5.9:** Provide more education and technical assistance to homeowners and landscapers for proper methods of composting and proper disposal of yard waste through local boards of health, energy committees or other municipal groups.

**Inputs 1.5.10:** Assist farmers in the conversion of on-farm and local food wastes to be converted into animal feed where appropriate.

**Processing 3.5.3:** Develop opportunities for processing and preserving surplus produce that may otherwise be wasted

**FASH 6.1.4:** Identify capacity and efficiency limitations related to the distribution of locally produced, healthy food in emergency food distribution facilities, such as refrigeration, storage, and timely acceptance of donations that may be limiting the capacity of food pantries and meals programs. Identify funding and implement solutions.

**FASH6.2.1:** Scale existing relationships between hunger relief organizations and farms to increase distribution of locally produced, healthy foods. Identify and support establishment of new partnerships, including provision of public and private support as needed.

**Fishing 2.3.7:** Determine feasibility and develop seafood innovation districts that include elements such as test kitchens, laboratories for developing value-added products and innovative technologies to recover and utilize waste, and start-up accelerators to develop new businesses. Include support systems such as active collaboration with food policy councils, grant writing, marketing studies, business planning, and early-stage financing.

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