The Florida Senate

BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Environment and Natural Resources

BILL:	SB 1336
INTRODUCER:	Senator Polsky
SUBJECT:	Disposal of Food Waste Materials Study
DATE:	April 3, 2023
REVISED:	

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Barriero	Rogers	EN	**Pre-meeting**
2.			AEG	
3.			FP	

I. Summary:

SB 1336 directs the Department of Environmental Protection (DEP) to conduct a study on the disposal of food waste materials and submit a report to the Legislature by July 1, 2024. The study must:

- Determine the current impact and cost of the disposal of food waste materials in landfills and at solid waste facilities;
- Determine what composting facilities, anaerobic digestion facilities, and other recycling facilities currently exist in the state with the capacity to accept food waste;
- Provide legislative recommendations on the feasibility of a pilot program to require certain establishments, facilities, and businesses to recycle food waste;
- Provide legislative recommendations for educational materials on the benefits of alternative food disposal methods; and
- Determine the type and size of establishments, facilities, and businesses that should participate in the pilot program.

The bill appropriates, for the 2023-2024 fiscal year, the nonrecurring sum of $100,000 from the General Revenue Fund to DEP for the purpose of conducting the study.

II. Present Situation:

Food Waste

Approximately forty percent of food in the U.S. goes uneaten.[1] This uneaten food is enough to feed more than 150 million people each year—far more than the 35 million estimated food insecure Americans.[2] According to one study, the U.S. generated 54.2 million tons of food waste in 2019, with 3.93 million tons generated by Florida.[3] The U.S. wastes more food per person per day (measured in calories) than any other country.[4]

Food waste occurs at every stage of the food supply chain.[5] The major stages of the supply chain include:

- Primary production (farming and harvesting of plants and animals, resulting in raw food materials);
- Distribution and processing (packaging, processing, manufacturing, transporting, distributing, and wholesale vending of food and food products);
- Retail (selling food and food products to the public at supermarkets or other stores); and
- Consumption (receiving food at home or away from home, such as at restaurants, cafeterias, institutions, or other locations, regardless of whether the food is ultimately eaten or wasted).[6]

The largest portion of U.S. food waste—about 37 percent of total food waste—is generated in peoples' homes.[7] Restaurants and retail are the second largest source of wasted food at 29 percent of the total. Farms make up 21 percent, and manufacturing represents 13 percent.[8]

There are specific drivers of food waste at each stage of the food supply chain.[9] For the farming sector, food waste is driven by market conditions, buyer standards, the impact of weather and disease on crops, and unpredictable demand.[10] Processing inefficiencies and equipment, packaging, and forecasting errors result in food waste in manufacturing.[11] Drivers of residential food waste include impulse and bulk purchasing, overproduction, poor storage, and confusion

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[1] Harvard Law School and Center for EcoTechnology, *Bans and Beyond: Designing and Implementing Organic Waste Bans and Mandatory Organics Recycling Laws*, 1 (2019), *available at* https://chlpi.org/wp-content/uploads/2013/12/Organic-Waste-Bans_FINAL-compressed.pdf.
[2] U.S. Environmental Protection Agency (EPA), *From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste*, ii (2021), *available at* https://www.epa.gov/system/files/documents/2021-11/from-farm-to-kitchen-the-environmental-impacts-of-u.s.-food-waste_508-tagged.pdf.
[3] ReFED, *Food Waste Monitor*, https://insights-engine.refed.org/food-waste-monitor?view=overview&year=2019 (last visited Mar. 28, 2023).
[4] EPA, *From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste* at ii.
[5] Natural Resources Defense Council (NRDC), *Preventing Wasted Food Across the Food Supply Chain*, https://www.nrdc.org/bio/nina-sevilla/preventing-wasted-food-across-food-supply-chain?mc_cid=085b1e6947&mc_eid=6f5088cbb4 (last visited Mar. 27, 2023).
[6] EPA, *From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste* at 5.
[7] NRDC, *Preventing Wasted Food Across the Food Supply Chain*.
[8] *Id.*
[9] *Id.*
[10] *Id.*
[11] *Id.*

over date labels.[12] In the retail and food service sector, food waste is driven by, among other things, large inventories, date labels,[13] bulk packaging and portion size, expansive menu options, and sales fluctuations.[14]

Wasted food significantly impacts the environment, the economy, and food insecurity.[15] Approximately twenty-one percent of the U.S. fresh water supply and 300 million barrels of oil are used to produce food that goes to waste. Most of this wasted food ends up in landfills, where food is the largest individual component of municipal solid waste.[16]

Reliance on landfills as a central part of food waste management systems presents challenges.[17] Not only are cities and states are running out of space for landfills, organic materials in landfills decompose and release methane, a powerful greenhouse gas that contributes to climate change. Food waste is responsible for at least 11 percent of methane emissions generated from landfills—an amount equivalent to the emissions of about 3.4 million vehicles.[18] More than 85 percent of greenhouse gas emissions from landfilled food waste result from activities prior to disposal, including production, transport, processing, and distribution.[19]

Food Waste Management

The U.S. Environmental Protection Agency (EPA) encourages the recycling of food.[20] Recycling food waste can reduce methane emissions from landfills and recover valuable nutrients and energy. Anaerobic digestion and composting are two common ways to recycle food waste.[21]

Anaerobic Digestion

Anaerobic digestion is a process through which bacteria break down organic matter—such as food wastes, animal manure, and wastewater biosolids—in the absence of oxygen.[22] Anaerobic digestion for biogas production takes place in a sealed vessel called a reactor, which is designed and constructed in various shapes and sizes specific to the site and feedstock conditions. These reactors contain complex microbial communities that break down (or digest) the waste and produce biogas and digestate.[23]

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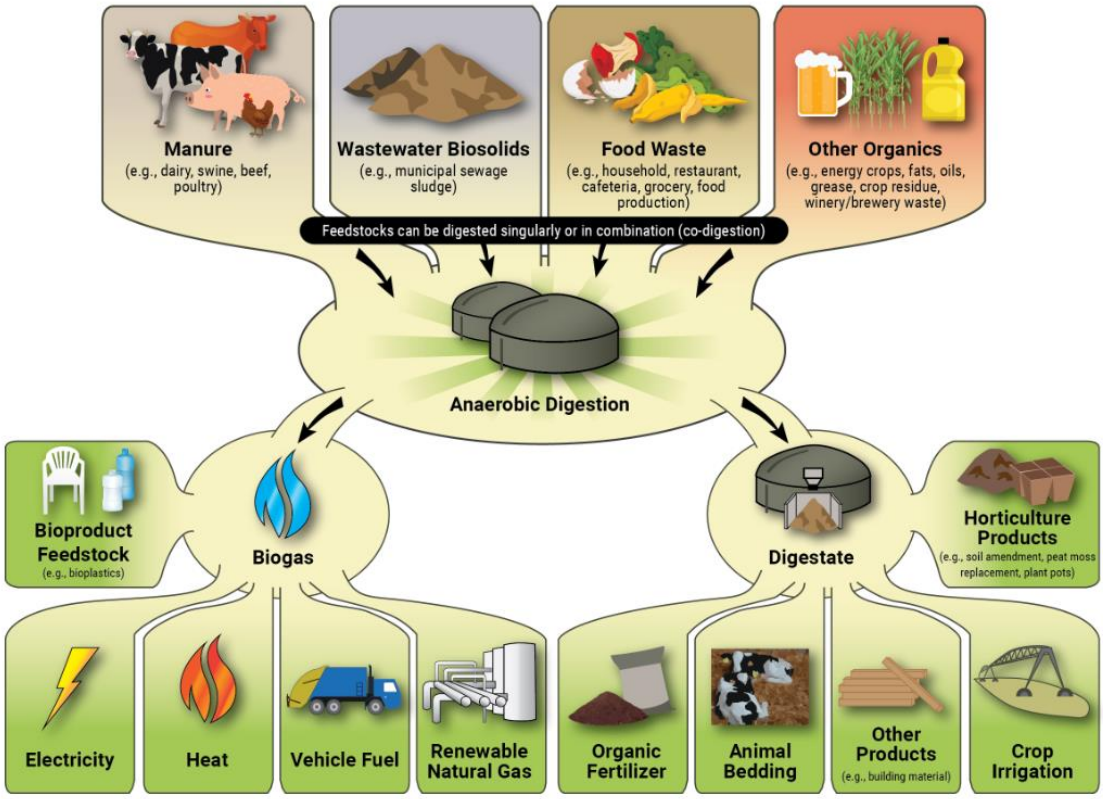
[12] *Id. See generally* Harvard Law School and NRDC, *The Dating Game: How Confusing Food Date Labels Lead to Food Waste in America* (2013), *available at* https://chlpi.org/wp-content/uploads/2013/12/dating-game-report.pdf.
[13] Though still consumable, products within two to three days of the date on their package are removed from shelves. *Id.*
[14] NRDC, *Preventing Wasted Food Across the Food Supply Chain*, https://www.nrdc.org/bio/nina-sevilla/preventing-wasted-food-across-food-supply-chain?mc_cid=085b1e6947&mc_eid=6f5088cbb4 (last visited Mar. 27, 2023).
[15] Harvard Law School and Center for EcoTechnology, *Bans and Beyond: Designing and Implementing Organic Waste Bans and Mandatory Organics Recycling Laws*, 1 (2019), *available at* https://chlpi.org/wp-content/uploads/2013/12/Organic-Waste-Bans_FINAL-compressed.pdf.
[16] *Id.*
[17] *Id.*
[18] *Id.*
[19] EPA, *Sustainable Management of Food*, https://www.epa.gov/sustainable-management-food/united-states-2030-food-loss-and-waste-reduction-goal#footnote1 (last visited Mar. 28, 2023).
[20] EPA, *Food Waste Research*, https://www.epa.gov/land-research/food-waste-research (last visited Mar. 28, 2023).
[21] *Id.*
[22] EPA, *How Does Anaerobic Digestion Work?*, https://www.epa.gov/agstar/how-does-anaerobic-digestion-work (last visited Mar. 28, 2023).
[23] *Id.*



Biogas is composed of methane, carbon dioxide, hydrogen sulfide, water vapor, and trace amounts of other gases.[24] The energy in biogas can be used like natural gas to provide heat, generate electricity, and power cooling systems, among other uses. Biogas can also be purified to generate renewable natural gas, which can be sold and injected into the natural gas distribution system, compressed and used as vehicle fuel, or processed further to generate alternative transportation fuel, energy products, or other advanced biochemicals and bioproducts.[25]

Digestate is the residual material left after the anaerobic digestion process that, with appropriate treatment, can be used in many beneficial applications, such as animal bedding, nutrient-rich fertilizer, organic-rich compost, and bio-based products. [26]

Composting

Compost is created by combining organic wastes, such as food waste, yard trimmings, and manures, in the right ratios into piles, rows, or vessels.[27] Bulking agents are added, such as wood chips, as necessary to accelerate the breakdown of organic materials. The materials must then undergo a curing process to fully stabilize and mature.[28]

[24] *Id.* (showing graphic of anaerobic digestion
[25] *Id.*
[26] *Id.*
[27] EPA, *How Does Anaerobic Digestion Work?*, https://www.epa.gov/agstar/how-does-anaerobic-digestion-work (last visited Mar. 28, 2023).
[28] *Id.*

The benefits of composting include:

- Reducing or eliminating the need for chemical fertilizers;
- Promoting higher yields of agricultural crops;
- Remediating soils contaminated by hazardous waste in a cost effective manner;
- Enhancing water retention in soils; and
- Providing carbon sequestration.[29]

EPA estimates that in 2018, 2.6 million tons of food (4.1 percent of wasted food) was composted.[30]

Food Waste Regulations and Policies

Organic waste bans and food waste disposal policies are becoming increasingly more common among states and municipalities. For example, Connecticut requires food waste generators—including supermarkets, resorts, conference centers, commercial food wholesalers or distributors, and industrial food manufacturers or processors—to source-separate and divert their food waste to an authorized organics processing facility with available capacity to treat the food waste on-site.[31] Massachusetts prohibits commercial organic material from entering solid waste disposal streams.[32] In New York, all designated food scraps generators must donate surplus food for human consumption to the extent possible and requires certain generators to divert remaining food scraps for organics processing.[33] California, Maryland, Rhode Island, and Vermont, as well as multiple municipalities across the U.S., have also implemented restrictions on landfilling food waste.[34]

III. Effect of Proposed Changes:

Section 1 directs the Department of Environmental Protection (DEP) to conduct a study on the disposal of food waste materials and submit a report to the Legislature on or before July 1, 2024. The study must:

- Determine the current impact of the disposal of food waste materials in landfills and at solid waste facilities.
- Determine what composting facilities, anaerobic digestion facilities, and other recycling facilities currently exist in the state with the capacity to accept food waste materials.
- Examine the current cost of the disposal of food waste materials in landfills and at solid waste facilities versus the cost of the disposal of food waste materials at composting facilities, anaerobic digestion facilities, and other recycling facilities.

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[29] *Id.*
[30] EPA, *Reducing the Impact of Wasted Food by Feeding the Soil and Composting*, https://www.epa.gov/sustainable-management-food/reducing-impact-wasted-food-feeding-soil-and-composting (last visited Mar. 28, 2023).
[31] Harvard Law School and Center for EcoTechnology, *Bans and Beyond: Designing and Implementing Organic Waste Bans and Mandatory Organics Recycling Laws*, 5 (2019), *available at* https://chlpi.org/wp-content/uploads/2013/12/Organic-Waste-Bans_FINAL-compressed.pdf.
[32] *Id.* "Commercial organic material" means food and vegetative materials from an entity that is not a residence and that generates for disposal at least one ton of those materials in waste per week. *Id.*
[33] *Id.* at 6. New York defines designated food scraps generators as those that produce over two tons per week of food scraps, including entities such as supermarkets, food service establishments, universities, hotels, food processors, correctional facilities, and entertainment venues. *Id.*
[34] *Id.* at 8, 9-12.

- Provide legislative recommendations on the feasibility of a pilot program to require food outlets, food service establishments, schools or other educational facilities, and businesses to recycle food waste materials and the most efficient method to accomplish the goal of redirecting the disposal of food waste materials in landfills and at solid waste facilities to composting facilities, anaerobic digestion facilities, and other recycling facilities. DEP may provide legislative recommendations for additional goals of the pilot program.
- Provide legislative recommendations for educational materials on the benefits of alternative food disposal methods.
- Determine the type and size of food outlets, food service establishments, schools or other educational facilities, and businesses that should participate in the pilot program.

The bill also appropriates, for the 2023-2024 fiscal year, the nonrecurring sum of $100,000 from the General Revenue Fund to DEP for the purpose of conducting the study.

Section 2 provides an effective date of July 1, 2023.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

The Department of Environmental Protection (DEP) may incur costs associated with conducting the food waste study and preparing a report to the Legislature. However, the

bill appropriates the nonrecurring sum of $100,000 from the General Revenue Fund to DEP for the purpose of conducting the study.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

The bill creates an undesignated section of Florida law.

IX. Additional Information:

A. Committee Substitute – Statement of Changes:
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.