

Takoma Park Climate Change Mitigation and Food Waste Management

- Takoma Park launched **Organic Waste Composting, a Sustainable Maryland Action**, to encourage residents to compost their food scraps and organic waste in order to divert food waste and other organics from disposal at a landfill.
- Composting organic waste reduces **greenhouse gas (GHG)** emissions, saves money, and demonstrates local government leadership. Rotting food waste in landfills emits methane gas, 32 times more potent than CO₂. In recognition TP included food waste in its 2020 Climate Action Framework.
- Early Buy-in was good, but participation in food waste collection has stagnated in Takoma Park.
- **RECOMMENDATION:** Staff and SM Committee (1) launch multi-dimensional public campaign to promote source reduction of wasted food; (2) review available DPW resources to determine how best to scale up organics collection; (3) propose code amendments to require diversion of organics from trash, enabling enforcement.

Food Waste is a National Problem

Annually

- 40% of food produced is lost or wasted- loss of 1.3% GDP
- Food waste accounts for 24% of solid waste
- Food waste in landfills accounts for largest share of methane gas emissions
- Food waste occurs throughout the Agricultural Production Supply Food Chain
 - Uneaten food consumes 22% of fresh water and 16% of cropland used in production
 - Households account for the largest impact:
 - HHs generate an estimated 48% of US total food waste and financially measurable
 - On average, a family of four spends about \$1800 on wasted food

Food Waste is under counted in Climate Action Plans (CAPs)

- Project Drawdown ranks preventing food waste (source reduction) as a top global mitigation strategy, yet it receives limited attention in most CAPs due to GHG Inventory accounting protocols for waste actions they use
- The impact of counting/measuring food waste actions is limited to those occurring in the waste sector. This accounting only captures impact of decisions from product end-of-life to final disposition (i.e. shifting from landfill to composting) in Maryland's CAP and Takoma Park's (MWCOCG).
- Yet an estimated 85% of emissions from avoidable food waste occur in the food supply chain upstream from the disposal decision.
- Attributions to reductions in methane emissions resulting from food waste reduction actions are reflected in Consumption-based accounting of Greenhouse Gas emissions, capturing the full supply chain impacts.

What is Consumption-based GHG Accounting?

- Consumption Accounting expands the impact of food waste on GHG emissions by incorporating an upstream and life cycle analysis of food materials. It includes the GHGs that were created during the production, transportation from farm gate through to end use by businesses/consumers, and finally to the waste stream.
- Composting food waste contributes to the circular economy and to soil productivity when utilized.
- Composting does not negate the upstream effects of wasted food production- whether in MD, another US state, or another country.
- **Food Waste accounts for the largest share of Maryland's waste stream and is the largest source of landfill methane emissions.**

What do we Count as Food Waste and Why does it Matter?

Food Waste is composed of

Food Scraps- Food component that is not intended for human consumption (bones, peels, shells, etc)

Wasted Food- The component that is produced for human consumption and utilizes scarce agricultural resources.

An example: Oregon Food Study

Food waste includes food that could have been eaten at some point, wasted food. Reasons for not eating food: (1)moldy/gone bad; (2)tired of eating it; (3) food was not as good as leftovers.

Wasted food is often the majority of the food thrown away. Oregon found **of the food households throw away:**



70% was edible

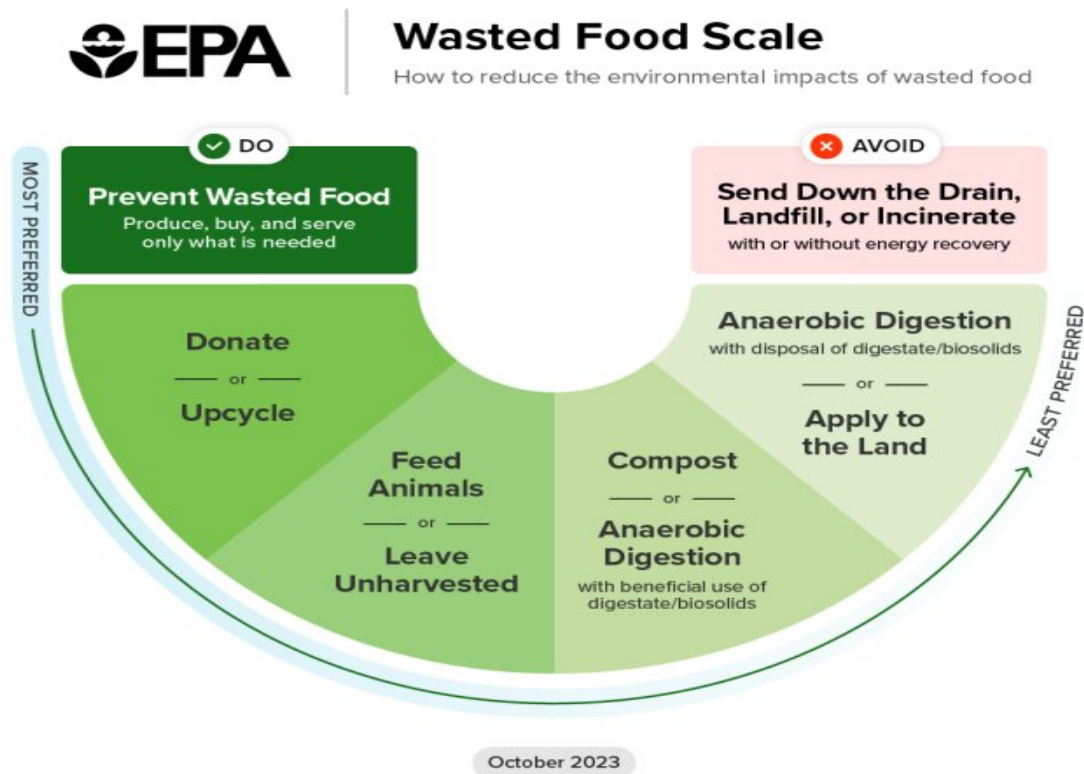


30 % was never edible

Solutions to Addressing Food Waste

Food should be going to its highest and best use

- Addressing Food Waste Requires Actions:



- Preventing wasted food is the highest return action
- Food production requires enormous resource usage-when food is wasted those resources are wasted too
- Composting keeps wasted food out of the landfill and generates soil productivity

Food Waste Reduction Approaches

- Attacking Food Waste Reduction on a Multiple Front includes
 - Source Reduction (prevention)
 - Edible Food Recovery (Small Things Matter)
 - Recycling (composting)
- Many CAPs include strategies and goals to compost or recycle
- Addressing all strategies on a Priority Basis requires intensive and interactive Public Education to inform on the (1) environmental impact; and (2) competency of how individual actions can reduce wasted food.
- ReFED ranks public education campaigns as the most effective food waste reduction solution in terms of net financial and GHG benefits.

Takoma Park Current Actions to reduce Food Waste Impacts

- TP is one of five municipalities in MOCO that collects its own curb-side trash from single family hhs and small multi-family units (<13)
- TP has been a leader in waste management innovations:
 - In 2013 it launched a separate curb-side food waste collection pilot and went to scale to offer voluntary curb-side food waste compost collection
 - 2021 program review: 54% of eligible households participate in curbside food waste collection resulting in about 306 tons of food waste diversion from the land-fill trash.
 - DPW impact: Less trash is being picked up and taken to land-fill, while curb-side compost is being picked up and taken to PG Compost facility.
- However, HH participation in curbside composting has remained about the same since its last Sustainable MD submission. Curbside composting is not provided to large multi-units or commercial establishments.

Takoma Park Curbside Food Waste Collection



Takoma Park Future Actions to reduce Food Waste Impacts

Vision/Goal - Increase food waste collection as a means to divert food waste from Takoma Park's waste stream and decrease its greenhouse gas emissions via

- Public Awareness and Education with external funding (USDA 2023 National Strategy Food Loss and Waste and Recycling Organics- \$30 million over the next 3 years)
- Expanded DPW Program and Resources
- Legislation and Enforcement of DPW households to participate separating organics from landfill trash
- Amend the municipal code to introduce and enforce separation of organics from trash by other parties in TP Code, Section 10. Amend similar to recycling.

Future Actions to Increase Participation of Eligible Households and Other Entities

Launch awareness and information campaign

- Identify who is participating through DPW roster & survey in current curbside food waste collection and why or why not: (1) Participating, (2) Composting at home, (3) Neither. Use survey to gauge initial understanding and awareness of the problem.
- Determine demographics of Participation, Non-participation, target audience
- Use public education to inform the public, influence behavioral change, get buy-in

Put resources in place to scale up organics collection and participation

- Review existing resources and operations to determine how to scale up program
- Set near future effective date of Compulsory Participation for eligible households
- Establish legislation that requires separate food waste collection of larger multi-family households and commercial entities that are out of scope of TP DPW trash collection.

Public Education in Takoma Park can build from national examples

EPA toolkit: Preventing Wasted Food in Your Community

Based on research findings education effectiveness that moves individuals from **awareness to action** requires planning and multi-dimensional engagement*:

- Recruit households to join a food waste challenge of at 6 weeks to measure their food waste and observe their food shopping, storage, prepping and cooking behaviors and how this affects their food waste; results helps to segment on behavior
- Develop an outreach plan based on survey findings
- Create messages that appeal to aversion to wasting food and money
- Provide tools that support specific behaviors
- Provide a platform for asking questions and getting feedback
- Leverage Social networks
- Engage early and often
- Evaluate behavioral impact

(*EPA, 2016 and 2023)

- The breakdown of Solid Waste Division expenditures by functional area is:
 - Trash \$682,476 (53 percent) 3,200 ton (60.4 percent of weight)
 - Recycling \$294,347 (23 percent) 1,400 ton (26.4 percent of weight)
 - Food Waste \$111,740 (9 percent) 300 ton (5.7 percent of weight)
 - Yard Waste* \$189,666 (15 percent) 400 ton (7.5 percent of weight)

* The weight of yard waste does not represent all yard waste collected. It represents the portion taken to the Montgomery County composting facility and does not include materials processed at Public Works.

Examples of Food Waste Reduction Efforts

- California SB 1383: Mandatory edible food waste recovery and diversion of organic waste from landfill
- Oregon : Consumption-based GHG inventory to divert 45% less food waste of 1990 by 2030.
- Oregon Bad Apple Campaign: Consumer education campaign to reduce HH food waste, established in 2017
- City of Laurel: 2019 voluntary curbside food waste collection; July 2025 mandatory participation of food waste compost collection for all entities with escalation of fines for non-compliance